



Philosophy of Architecture

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Abstract

During the presentation of his work entitled “Vernacular Architecture in Bosnia and Herzegovina” at The First International Conference on Urban and Architectural Heritage in Islamic Countries (FCUAHIC, Riyadh, Saudi Arabia, 23-28 May 2010), the Author met Nader Ardalan, a professor at Harvard University Graduate School of Design (Harvard University Faculty of Design, USA). During a long conversation, the Author learned that Professor Ardalan at Harvard University, among other things, teaches the course “Philosophy of Architecture”. In his fundamental scientific work (doctoral dissertation, 1987), the Author treated philosophy as an important segment of the social environment of Architecturally Defined Space (ADS). However, with Professor Ardalan, philosophy is a subject, part of the unique term Philosophy of Architecture. When the Author asked Professor Ardalan: “Professor Ardalan, what is your understanding of the term sustainability?”, the professor replied: “We all have our parents, and they have theirs, and so on; if we manage to understand this chain, we will also understand the essence of the term 'sustainability'. Since we are all different as individuals, we will also have our own specific understanding of this term. However, what is common in this different understanding is the understanding of life as a continuum”. Although the Author of this work had already developed ‘his general view of the world’ at that time, and of architecture as a part of it, he experienced this understanding of the term 'sustainability' presented by Professor Ardalan as a ‘true philosophy’ that is close to him. From 2010 to the present, the Author has published a number of books whose content approached the term 'philosophy of architecture', and in this book he explicitly placed that term in the title of this work and elaborated on it. The Author suggests that future readers of this work, in parallel with reading its content, also follow the content of the extensive and richly illustrated book: Hadrovic A. (2021). Network of architectural paths: trajectories of bioclimatic architecture and architecture of abstract forms, Faculty of Architecture, University of Sarajevo.

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1. Introduction

As a field of knowledge and practice, architecture has its general theoretical disciplinary references, including a variety of discourses set out over the centuries. Philosophical speculation on architecture has a long history. Philosophical propositions can be seen as a component of architectural practice since its established beginnings in Vitruvius’s “De Architectura libri decem” (“Ten Books on Architecture”). The last decades of the twentieth century saw the philosophy of architecture come into the spotlight. In these periods, architectural theorists and architects embraced ideas derived from philosophy. Such speculations remain indispensable ^[1]. Philosophy and architecture are related and related because they seek to understand some of the fundamental questions of human existence ^[2].

The shelter, as the first architectural gesture, poses a philosophical (ethical) question: how do we aspire to live or what is the aspect of liveability in the built environment? The four fundamental branches of philosophy – metaphysics, ethics, logic and epistemology – have created countless further specializations that appear in architectural thinking. In order to find an outlet (concept) for expressing their designs, architects can often seek an approach by arriving at certain concepts based on philosophical and theoretical works of thinkers. This is exactly where design corresponds to philosophy. Enabling thought and the ability to think, philosophy is a field of knowledge that creates new questions and problems as long as discussions continue. Philosophy is always present, wherever there is an idea. Practicing architecture as an activity independent of thought is not possible. Philosophy lies at the heart of the relationship between architectural practice and theory because philosophy is a diligent and unique form of conversation. It is the aggregation of words in a certain direction, providing a descriptive picture of certain concepts. A person fascinated by philosophy always starts with illusions or speculations and questions the environment, leading to theories. On the other hand, an architect participates in intellectual production by coming up with ideas and concepts through the design process. Philosophy is part of design, and architecture can evolve into a space in which a philosopher can develop thought. The intellectual initiatives that the thinker brings to architects clarify concepts by locating the architect in a broader architectural thought framework. This is why architects and philosophers have contributed immensely to world literature, which has now almost merged into one another. When talking about the connection between architecture and philosophy, one can talk about several different thoughts, movements, concepts, individuals and events because thought retains the creative aspect. Many architects worked on design philosophies that became important milestones in architecture, such as Louis Sullivan's "Form follows function", for example. Some philosophies became unwritten laws or rules. Le Corbusier (1887-1965) formed his philosophy of "5 points de l'architecture modern" ("5 points of modern architecture") which gave rise to

masterpieces such as the Villa Savoye and the Capitol Complex, which reflected the era of modernism. Another such example is the pioneer of organic architecture, Frank Lloyd Wright (1867-1959), who developed the philosophy of 'prairie style' which reflects the landscape of that style with low roofs. Ludwig Mies Van der Rohe (1886-1969) was another modernist who used the phrase "Less is more" by designing multi-functionality and making a connection through the use of glass and steel that showed the factory modernism of the 20th century. Zaha Hadid (1950-2016) had a pragmatic philosophy that denied conventional building types to explore all 360 degrees. Likewise, Frank Gehry (1929) citing "Architecture should speak of its time and space, but yearn for timelessness", developed experimental architecture, giving the most timeless structure like the Guggenheim Museum in Bilbao ^[3]. The author's theory of architecturally defined space (ADS) treats architecture as a system consisting of four essential (and ever-present) components: Environment, Man, Boundaries and Perspectives ^[4]. All four components are dynamic, changeable, in terms of both the natural environment and the social environment. The boundaries of ADS are necessarily dynamic. They are created by man (mostly architects, and sometimes traditional indigenous craftsmen). Perspectives are more or less visible states of architecture in the future. Their appearance from the position of the present, the author sees from the current state of two elements of architecture (Environment, Man). Namely, the author predicts that the concepts and materialization of the ADS Boundaries will follow the 'concepts' of the structure of living organisms, that is, that the appearance (morphology) of architecture will be similar to the appearance of living organisms. The boundaries of ADS will be physically changeable, 'adjusted' by systems that will function autonomously, with sensors that will react to all changes in the natural environment, and are set by the requirements of man (ADS users). The theory of architecturally defined space (ADS) has the advantage of understanding (interpreting) every architectural object (ADS) created at any time in history, and therefore in the future ^[5] (Figures 1,2).



Fig 1: Left: Architecturally Defined Space (ADS), (Hadrovic A. 1987). Right: Appearance of ADS throughout history (Hadrovic A. 2021).

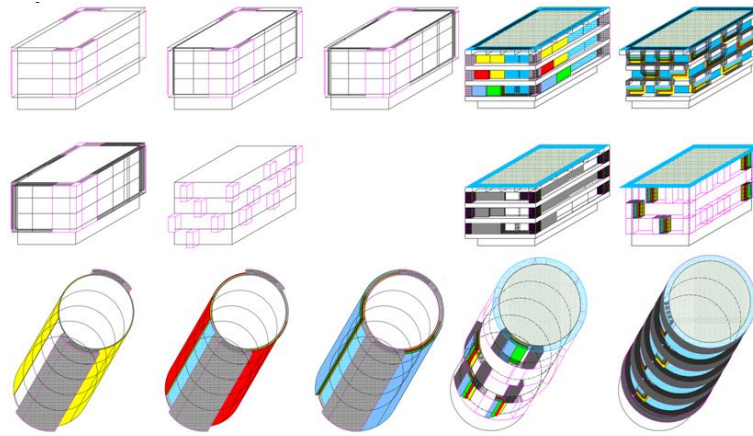
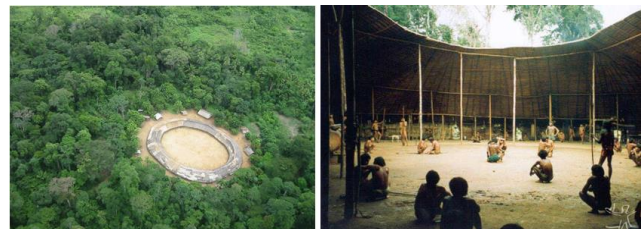


Fig 2: Boundaries (envelope) of an architectural object with 'layer wardrobes' (Hadrovic A. 2019.)

In this work, the Author has shown how the knowledge of people in one part of the world has spread to other parts and how in the end a 'web of knowledge' has been woven as a unique contribution to all of humanity. This opens up the possibility that 'small nations' and 'small states' can be 'visible' on the map of a wide spectrum of world ideas and concrete creations, provided that they are an authentic expression of a concrete natural and social environment; they can affirm the universal values of man and his community. In this way, these creations testify to the existence of a universal energy inherent in all people of planet Earth. It is interesting that some famous architects at the beginning of their professional careers followed the path of bioclimatic architecture, only to later switch to the concept of architecture of abstract forms. An example of such 'upheavals' is the architect Frank Lloyd Wright. On the contrary, there are many architects who have made a departure from the path of the architecture of abstract forms to the path of bioclimatic architecture: Skidmore, Owings & Merrill LLP (SOM), César Pelli, Helmut Jahn, Frank Gehry, Richard Rogers, Renzo Piano, Jean Nouvel... The convergence and intersection of the paths of bioclimatic architecture and the architecture of abstract forms in contemporary architecture is mainly a consequence of accepting the basic architectural agendas of the 21st century: creating energy-efficient architecture with the use of renewable energy sources, concepts of natural ventilation and lighting, materials that can be easily and cheaply recycled... Viewing the 'network of architecture paths' cannot be complete without viewing the 'network of the overall achievement of the human spirit' [6] (Figure 3). There are two fundamentally different philosophical approaches in architecture, bioclimatic and abstract. In the bioclimatic approach, architecture is treated (although artificial, human, creation) as part of the natural environment, and is therefore conceived in accordance with factors of the natural environment (as well as factors of the social environment and the immanent nature of man) and materialized from materials found 'on the spot'. In the abstract approach, architecture is treated in the 'heads of architects' as an expression of their understanding of beauty, mainly in light of dominant social trends. Below is a comparative analysis of examples of bioclimatic architecture and architecture of abstract forms. As selected examples of bioclimatic architecture (folk or traditional architecture), we have chosen the colony of the Yanomami tribe in the Amazon, the Chinese round house in Chengqil, the Kondovan settlement in Iran and the underground city of Derinkoyu in Cappadocia (Türkiye), and

as examples of architecture of abstract forms, the Apple Campus 2 building in Cupertino, USA (2013-2017), Simmons Hall-MIT, Cambridge (USA), the Tianjin EcoCity Museums of Ecology and Planning (China). In addition, the above examples of abstract forms of architecture have their origins in the above examples of traditional bioclimatic architecture.

The colony of the Yanomami tribe in the Amazon is located in the largest rainforest in the world, the Amazon. Its structure is built entirely from materials found on site, wood, leaves and earth (Figure 3). This structure is the habitat of several families of the Yanomami tribe. The basic idea of its spatial arrangement (concept) is to place the families of the tribe in an equal position, in a 'community'. The shape of a circular ring has proven to be the most effective, where the spatial family units are in the ring, while the open space that forms the ring is the common space in which all important ceremonies that define the social life of the tribe as a whole are held [3].



Source: <https://img.socioambiental.org/d/373336-3/demini.jpg>, Accessed: May 25, 2025.

Fig 3: Colony of the Yanomami tribe in the Amazon rainforest

Chinese round houses 'tulou' (literally translated as 'earth buildings') are rural houses, located in several locations in the southeastern Chinese province of Fujian (Figure 4). Most of them were built in the 19th and 20th centuries, as 'community of equals'. Changqilou tulou has long been considered the largest traditional Chinese round house, with a diameter of 62.5 m, until Huang Hanming discovered that Shunyu lou in Nanjing province was larger, with a diameter of 74.1 m. This tulou was built in 1933, and consists of four concentric rings. Its outer wall is 15 m high and 1.6 m thick. This house has 64 residential units. However, the largest tulou currently is the Fushangu lou, built in the village of Chandong in Yongding County, from 1968 to 1981, which has an open base diameter of 77.42 m. They are made with a round or rectangular base, with three to five floors. They can be solved with a single circular ring, when they have a spacious inner courtyard, or

with several concentric rings separated by a narrow street. In this case, the outer ring has a higher number of floors than the inner rings. The Chinese round house is a Chinese solution for collective accommodation of hundreds of people (formerly more than 800). In addition to apartments, they also have other facilities: larger and smaller production facilities, shops, a ceremonial hall, shared bathrooms, a laundry room, various storage rooms... The massive walls of these megastructures (sometimes up to 1.80 m thick) are built of earth to which stones are added. The reinforcements of these walls, in case of uneven subsidence, are made of bamboo and wooden beams. Narrow openings (10 cm ~ 13 cm wide) were left in the walls to defend against possible attackers. The verandas oriented towards the inner courtyard were made of wood and bamboo. The roof covering was mainly shingles. This construction is a typical expression of Chinese culture and worldview. In contrast to the world's manifestation of social hierarchy in all areas of life (including housing), Chinese Fujian tulou-house architecture expresses its attitude towards people as completely equal and equal, with the same living conditions. All rooms in this building were the same size, built of the same material, had the same external decorations, the same windows and doors. A small family had one vertical, from the ground floor to the first floor, while larger families, depending on the number of members, had three or four verticals. There are cases when one entire tulou is inhabited by one large family (or tribe) consisting of several generations. Such a tulou symbolized 'one roof' or family unity. The land around the Tulou belonged to the commune made up of its tenants. The Chinese round house, the Fujian tulou, can be understood even better if compared with similar solutions from different parts of the Earth, as well as from different historical eras [3].



Source: <https://www.trip.com/moments/detail/nanjing-2672-13286199>, Accessed: May 25, 2025.
Source: <https://www.sixthtone.com/news/1963>, Accessed: May 25, 2025.

Fig 4: Chinese round house in Fuyang (left) and Chengqil (right)

Kandovan is a village located in East Azerbaijan Province, near the city of Tabriz, Iran. The village was founded in the 13th century (Figure 5). The climate in Kandovan is cold to temperate (Ds, according to the Köppen climate classification). The winter months are much rainier than the summer months. The average temperature in Kandovan is 6.7 °C. The average annual precipitation is 368 mm/m². The highest temperature is in July (about 19.0 °C), and the lowest in January (about -5.9 °C). The amplitude of annual temperature fluctuations is 24.9 °C. Houses and other buildings that accompany housing in the village are carved into soft volcanic rock (tuff). The spaces are developed vertically, which uses the physical and spatial possibilities of geomorphological forms. The conical shape of natural geological structures allows for efficient drainage of

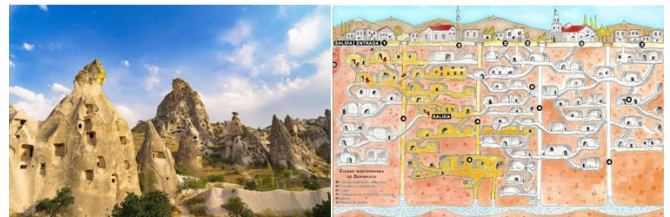
precipitation, and the development of spaces vertically - their efficient natural ventilation. The mass of natural rock ensures 'thermal stability of the space in summer', while the summer heat accumulated in the rocks maintains the relative stability of internal temperatures during winter, which significantly reduces the need for space heating in winter [3].



Fig 5: Kondovan (Iran)

Izvor: <https://www.unwto.org/es/node/11255>, Pristupljeno: May 25, 2025.

An almost identical example of the creation of rock-cut architecture can be seen in the Cappadocia region, in present-day Türkiye (Figure 6).



Source: <https://www.odysseytraveller.com/articles/cappadocia-turkey/>, Accessed: May 25, 2025.

Source: <https://cappadocia4u.com/cappadocia-underground-cities/>, Accessed: May 25, 2025.

Fig 6: Cappadocya, Türkiye (left) and Derinkoyu, an underground city in Cappadocia, Türkiye (right)

Apple Campus 2 in Cupertino is the headquarters of Apple Inc., California, USA (Figure 7). The building was designed by the famous architectural firm Foster & Partners according to the idea of the company's owner Steve Jobs (1955-2011) during his lifetime. The building was built in less than four years (2013-2017). This megastructure is also characterized by its enormous construction (with all the necessary spatial-technical and infrastructural designs) and great efforts to maintain the facility in a 'friendly' relationship with nature, providing optimal comfort for its 12,000 employees. The owner and creator of this facility, Steve Jobs, wanted to build a facility in which employees would be able to achieve joint creativity, cooperation, innovation, development and progress. The building is in the shape of a circular ring, with an external diameter of 461 m, built with 4 above-ground and 3 underground floors, with a total net usable area of 260,000 m². 14,200 parking spaces for cars (2,000 in underground garages) and 2,000 bicycle spaces are provided for employees and guests [3].



Source: <https://arquitecturaviva.com/works/apple-campus-2-en-proyecto-2>, Accessed: May 25, 2025.

Source: <https://www.wired.com/2017/05/apple-park-new-silicon-valley-campus/>, Accessed: May 25, 2025.

Fig 7: Apple Campus 2 in Cupertino, USA, 2013-2017. (Architects: Foster & Partners)

Architect Steven Holl (born 1947) is known for his aesthetic approach to defining architectural space similar to a spongy structure. He developed this concept on several of his architectural projects, the most famous of which are Simmons Hall-MIT in Cambridge (realized in 2002) and Tianjin EcoCity Ecology and Planning Museums (project, 2013). The huge physical structure of the Simmons Hall dormitory was made as a kind of symbiosis of matter and energy. Matter is an artificial parallelepiped composed of spatial modules that are sometimes multiplied in all three dimensions. Through this structure, completely freely, passes the 'flame of life' that revives the static matter^[3] (Figure 8).



Source:

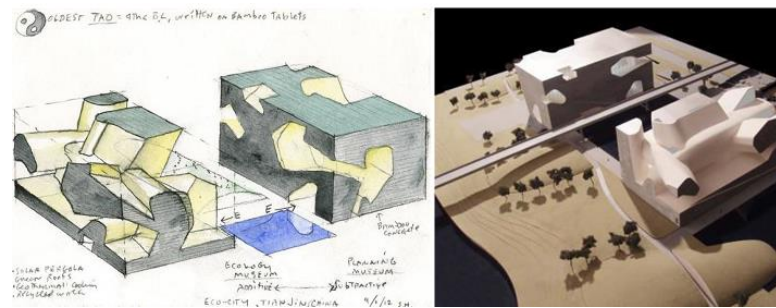
<https://www.flickr.com/photos/sanyambahga/38940685604>, Retrieved: May 25, 2025.

Source: <https://www.archdaily.com/65172/simmons-hall-at-mit-steven-holl>, Retrieved: May 25, 2025.

Fig 8: Simmons Hall-MIT, Cambridge, MA, USA, 2002. (Architect: Steven Holl)

The Tianjin EcoCity Ecology and Planning Museums concept in China is particularly interesting, which was developed on the principle of the unity of two opposites, positive and negative, i.e. yin and yang. In the case of a massive parallelepiped, part of its mass is completely freely limited and thus 'taken' outside the parallelepiped. In this way, a 'twice as big space' is obtained, where the mass of the two parts (which are complementary to the whole) within its imagined parallelepiped possesses the 'energy of life', i.e. a certain function. Placed next to each other at a certain distance, these two hollowed-out parallelepipeds generate an open space in their intermediate space that, like an energy field, connects two material volumes (Figure 9). On the other hand, one cannot escape the impression that similar ideas and architectural achievements were created in different parts of

the planet Earth as a result of the existence of a 'universal world mind'. The power of some architectural achievements (and achievements of other aspects of the human spirit) is so great that they are repeated in times after the original realization, until today^[3].



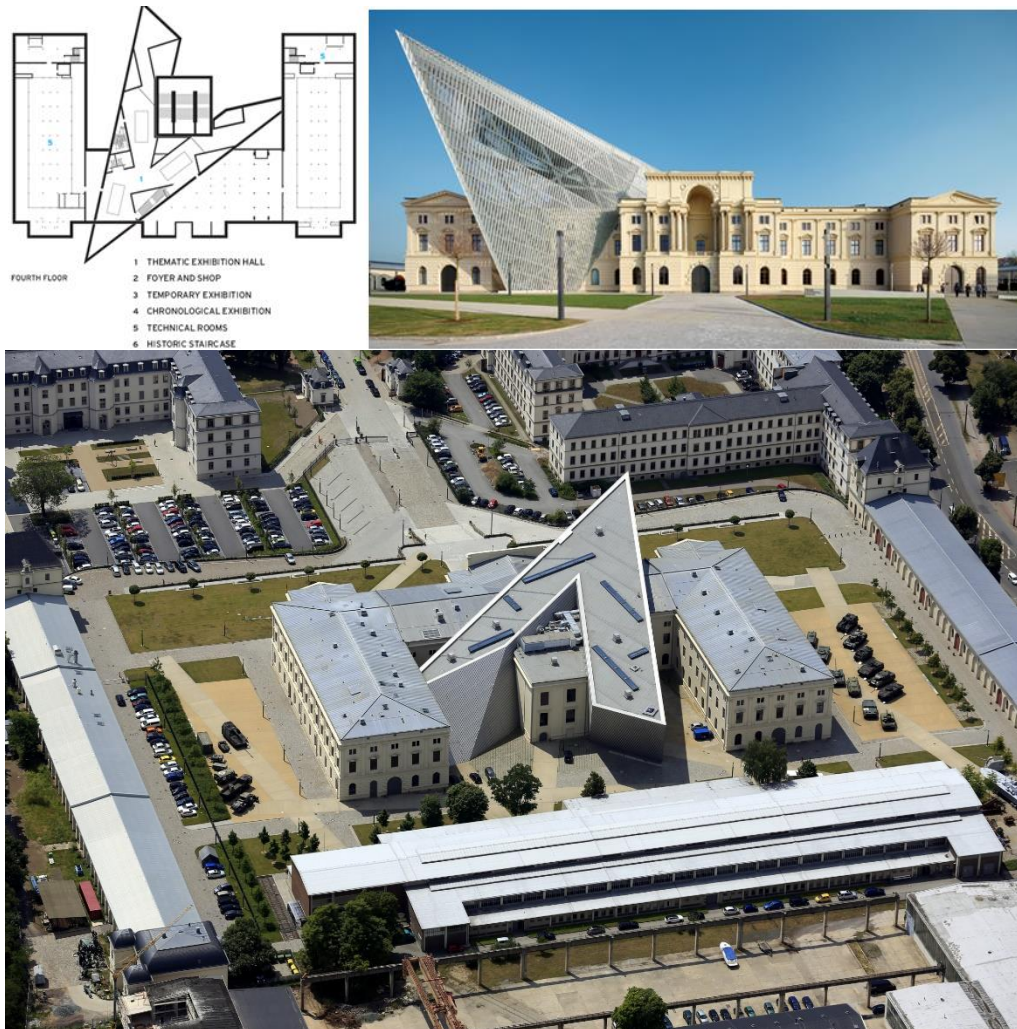
Source: <https://www.metalocus.es/en/news/tianjin-ecocity-ecology-and-planning-museums>, Accessed: May 25, 2025.

Fig 9: Tianjin EcoCity Ecology and Planning Museums, 2013. (Architects: Steven Holl Architects)

The representative examples of abstract architecture presented below were conceived in the minds of architects, as a result of their 'understanding of the beautiful in architecture'^[3]. Now the official museum of the German armed forces (Military History Museum), the Dresden Military History Museum has taken on various and contradictory identities throughout its history (Figure 10). The building began life as an armoury, before becoming the Saxon Army Museum, followed by status as a Nazi military museum, and then a Soviet and East German museum. Unsure of the institution's role in a unified state, the German government closed the museum and launched an international competition to redesign the structure. Studio Libeskind's design for the extension was selected in 2001, after it submitted a bold design outside the competition guidelines. The studio's approach was that the museum had to change its identity in order to achieve the institution's vision. A unique challenge for this project was that the original submission required that the extension not interfere with the historic façade. The design boldly breaks with the classical symmetry of the original building. The extension, a massive five-story wedge of 14,500 tons of glass, concrete, and steel, cuts into

and through the classical order of the former arsenal. A 25-meter-high viewing platform (the highest point of the wedge is 30 meters high) offers a breathtaking view of modern Dresden, while simultaneously pointing towards the triangulation of the area where the firebombing of Dresden began, creating a space for reflection. The iconic form has created a significant national landmark and invigorated the surrounding civic space. The building's lobby and surrounding open spaces were considered key elements in the

design. For larger exhibitions, the public spaces are designed to be activated to display large-scale works and artifacts. The openness and transparency of the facade are intended to contrast with the opacity and rigidity of the existing building. The latter represents the seriousness of the authoritarian past, while the former reflects the transparency of the military in a democratic society. The interplay of these perspectives forms the character of the new Military History Museum ^[3].



Source: <https://www.architecturalrecord.com/articles/7879-military-history-museum>, Accessed: May 25, 2025.
Source: <https://libeskind.com/work/military-history-museum/>, Accessed: May 25, 2025.

Fig 10: Military History Museum, Dresden, Germany, 2001-2011. (Architect: Daniel Libeskind)

The Heydar Aliyev Center is a 57,500 m² building complex in Baku, Azerbaijan, designed by Iraqi-British architect Zaha Hadid, notable for its distinctive architecture and flowing, curved surfaces, and the architecture is labeled Neo-Futurism (Figure 11). The center is named after Heydar Aliyev, First Secretary of Soviet Azerbaijan from 1969 to 1982 and President of the Republic of Azerbaijan from October 1993 to October 2003. Zaha Hadid won the public international competition and was invited to create the main project. The Center has a conference hall (auditorium), a gallery hall and a museum. The project is intended to play an integral role in

the intellectual life of the city. Located near the city center, this place plays a key role in the redevelopment of Baku. The Heydar Aliyev Center represents a fluid form created by overlapping the natural topography of the landscape and blurring the individual functions of the Center. All functions of the Center, including the entrances, are represented by folds on a single continuous surface. This fluid form provides an opportunity to simultaneously connect different cultural spaces, giving each element of the Center its own identity and privacy. As it folds inward, the envelope erodes and becomes an element of the Center's interior landscape ^[3].



Source: <https://www.architecturaldigest.in/content/one-zaha-hadids-iconic-creations-heydar-aliyev-center-baku-philosophy-architecture/>
 Accessed: May 18, 2025

Fig 11: Heydar Aliyev Center, Baku, Azerbaijan, 2007–2013 (Architect: Zaha Hadid)

Man, as a thinking being, in order to build his own identity, first of all needs an understanding of the environment and his position in it. A complex system of coordinates, representations and movements makes up a subjective image that we call the world - more precisely, it is our existential space ^[2]. Time and space are the main factors in the construction of identity, whether it is a person, an object or a place. Our Self, and thus the space we create, is influenced by inheritance, education, understanding, age, and only then by economic conditions, social restrictions and other factors of the external world (Figures 12, 13, 14). Excessive individuality is a philosophical and historical fallacy - human action flourishes from the collective in which it originated. This system of thinking is called phenomenology in architecture. Its most important proponents are theoreticians of architecture: Christian Norberg-Schulz, Maurice Jean Jacques Merleau-Ponty, Gaston Bachelard and almost all psychologists of the Gestalt direction - the psychology of perception. Among the architects, Steven Holl, Peter

Zumthor and, somewhat contradictorily, Daniel Libeskind stand out. In order not to confine the topic to rigid academic frameworks, suffice it to say that 'genius loci' represents the evaluation of the potential of the places that surround us. This is how continuity is created in construction, but also in culture. We will not pay tribute to our parents' house by building the same one half a century later, but by taking over its elements that affect our own lives (placing the dining room in the center of the house as a gathering place for the tenants, the former hearth - the archetype of the cave fire). The 'Genius Loci' (Spirit of Place) is reflected at the level of landscape, urban space and finally the individual house. It's that feeling of romantic atmosphere that cities on the coast carry, the semblance of warmth given off by rural settlements in the mountains, with cramped huts, a cat by the stove, the smell of an old house that you don't know how to reproduce in a new apartment... Self-recognition means self-respect and dignity, and in construction these qualities are expressed through preserving the spirit of the place.

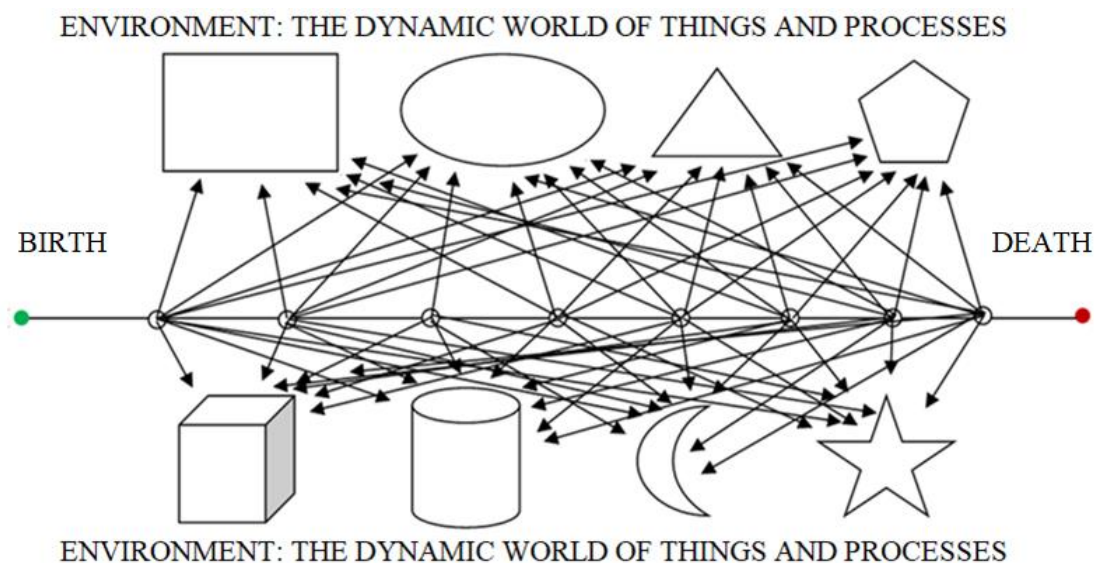


Fig 12: Human perception of objective reality (Hadrovic A. 2019.)

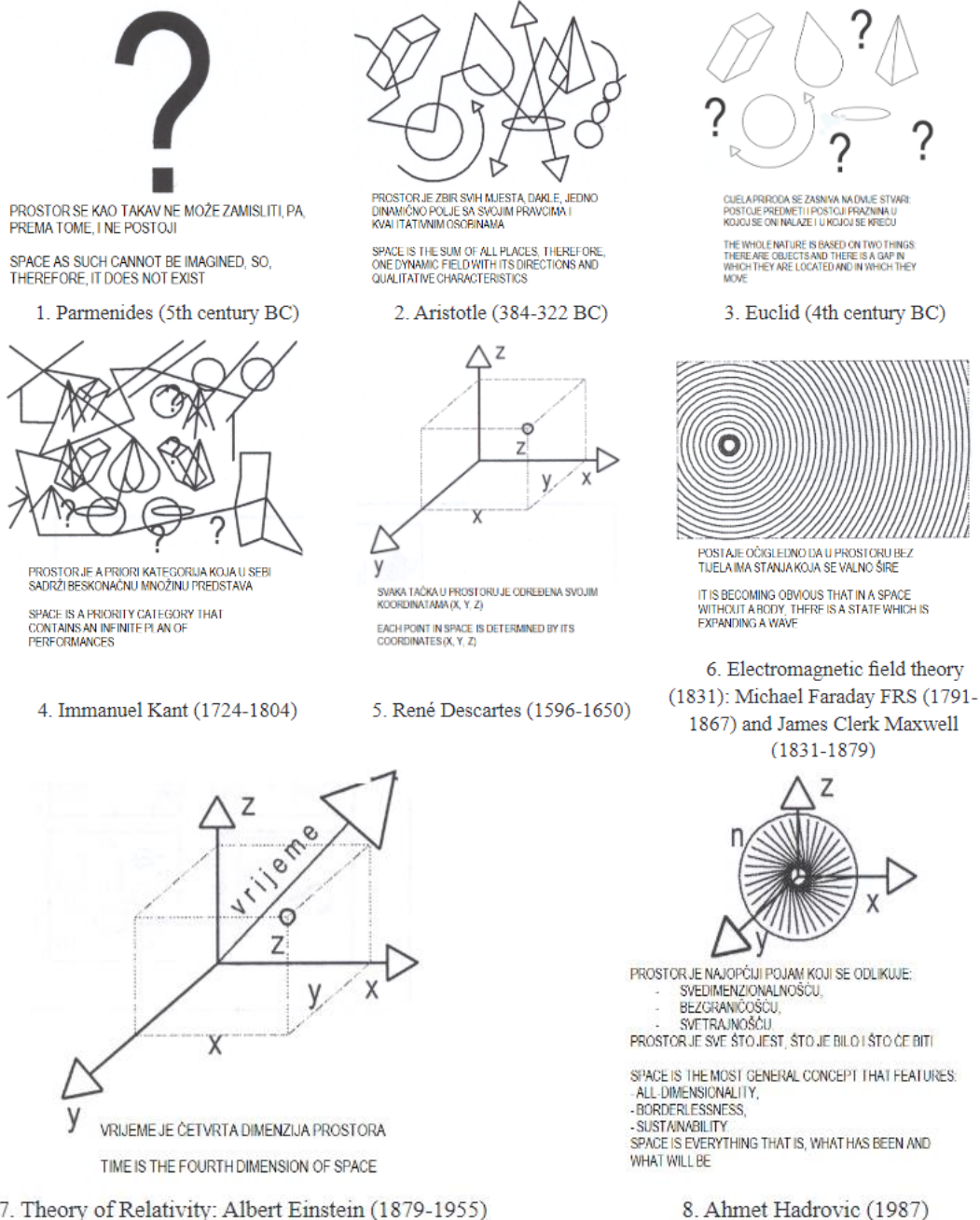


Fig 13: Man's understanding of space through history (Hadrovic A. 1987)



Fig 14: Man - 'something' or 'nothing' (Hadrovic A. 2023.)

Architecture is the 'framework of life' and as such is extremely complex and full of controversy. Individual architectural achievements, which have entered all anthologies of world architecture, were created as a result of the 'architectural credo' of their architects, despite the fact that these achievements do not meet the basic requirements of human comfort - for whom these buildings will serve as the

'framework of his life'. The scientific components of architecture, first of all, provide a comfortable space for man, in accordance with his 'comfort zone'. In architecture there will always be an 'affective approach to its creation', but this approach needs to be recognized and understood ^[1] (Figure 15).

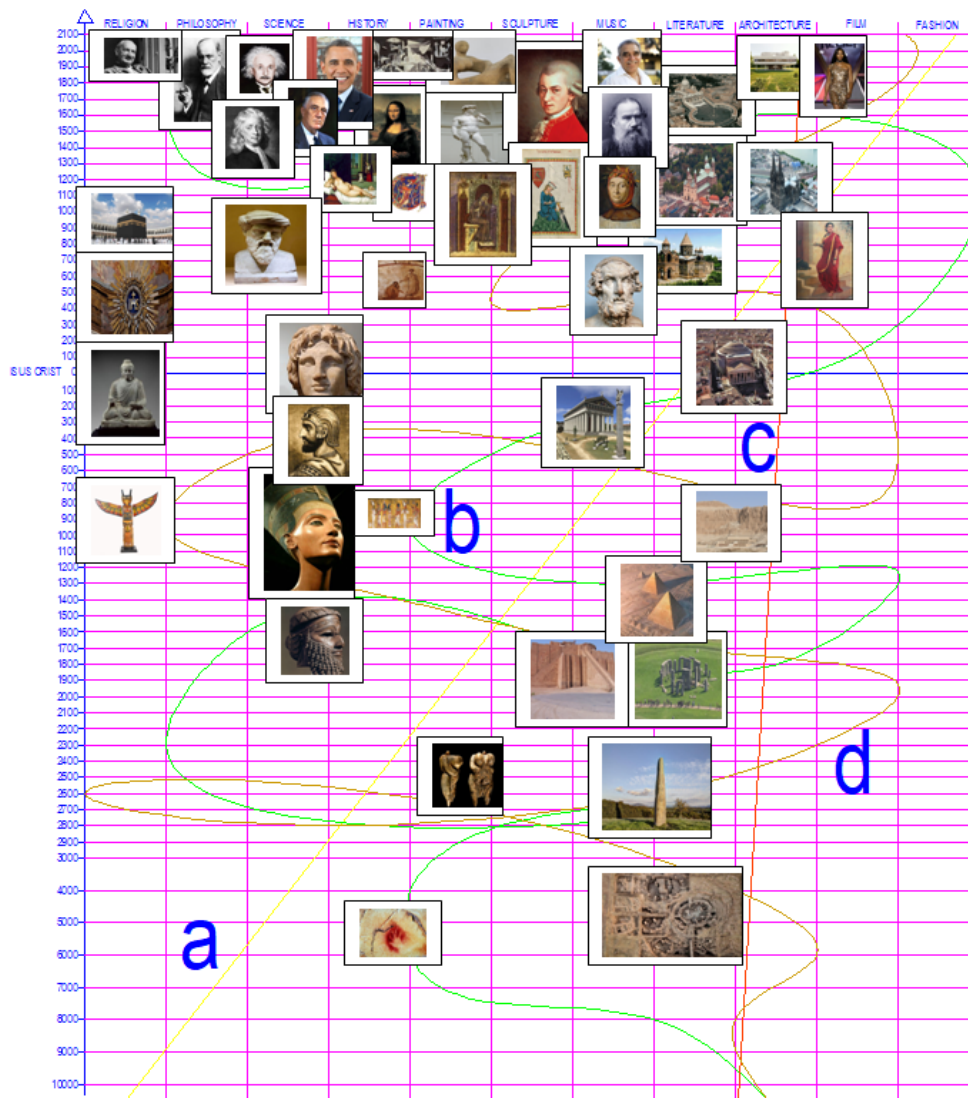


Fig 15: Many designed images of architecture from natural surroundings and from different historical periods can be connected with links - 'paths of architecture' (Hadrovic A. 2011. Updated 2021.)

Philosophy

Philosophy (from the Ancient Greek words φίλος (philos) = 'love' and σοφία (sophia) = 'wisdom') involves the rational, abstract, and methodical consideration of reality as a whole or of the fundamental dimensions of human existence and experience. Philosophical inquiry has been a central element in the intellectual history of many civilizations. Literally, the term 'philosophy' means 'love of wisdom'. In a broader sense, philosophy is the activity that people undertake when they seek to understand fundamental truths about themselves, the world in which they live, and their relationships with each other and the world. Those who study philosophy are constantly preoccupied with answering, seeking, and discussing the most fundamental questions of life. To make such a search more systematic, academic philosophy is traditionally divided into major fields of study [7]: metaphysics, epistemology, ethics, logic, and the history of philosophy.

Metaphysics. At its core, the study of metaphysics is the study of the nature of reality, of what exists in the world, what it is, and how it is ordered. In metaphysics, philosophers grapple with questions such as [2]: Is there a God? What is truth? What is a person? What makes a person the same over time? Is the world strictly composed of matter? Do people have minds? If so, how is the mind connected to the body?

Do people have free will? What does it mean for one event to cause another?

Epistemology. Epistemology is the branch of philosophy that studies knowledge. It is primarily concerned with what we can know about the world and how we can come to know it. Typical questions of interest in epistemology are [2]: What is knowledge? Do we know anything at all? How do we know what we know? Can we rightly claim to know certain things?

Ethics. The study of ethics is often concerned with what we should do and what would be best to do. In grappling with this problem, larger questions about what is good and right arise. So, an ethicist attempts to answer questions such as [2]: What is good? What makes actions or people good? What is right? What makes actions right? Is morality objective or subjective? How should I relate to others?

Logic. Another important aspect of the study of philosophy is the arguments or reasons given for people's answers to these questions. To this end, philosophers use logic to study the nature and structure of arguments. Logicians ask questions such as: What constitutes 'good' or 'bad' thinking? How can we determine whether a particular line of thinking is good or bad?

History of Philosophy. The study of philosophy involves not only forming one's own answers to such questions, but also seeking to understand how people have answered such

questions in the past. Thus, a significant part of philosophy is its history, the record of answers and arguments about these very questions. In the study of the history of philosophy, the ideas of historical figures such as: Aristotle (384-322 BC), Plato (428/427 or 424/423-348/347 BC), Thomas Aquinas (1225-1274), René Descartes (1596-1650), John Locke (1632-1704), David Hume (1711-1776), Immanuel Kant (1724-1804), John Stuart Mill (1806-1873), Karl Heinrich Marx (1818-1883), Friedrich Wilhelm Nietzsche (1844-1900), Ludwig Josef Johann Wittgenstein (1889-1951), Jean-Paul Charles Aymard Sartre (1905-1980), for example. What often motivates the study of philosophy is not just the answers or the arguments themselves, but whether the arguments are good and the answers true. Moreover, many questions and problems in different areas of philosophy overlap, and in some cases even converge. Therefore, philosophical questions arise in almost every discipline. For this reason, philosophy also encompasses areas such as: philosophy of law, philosophy of feminism, philosophy of religion, philosophy of science, philosophy of mind, philosophy of literature, political philosophy, philosophy of art, philosophy of history, philosophy of language, philosophy of architecture...

The major systems of Eastern philosophy include Hinduism, Indian philosophy, Buddhism, Chinese philosophy, Confucianism, Taoism, Jainism, Japanese philosophy, Shintō, and Sikhism. Buddhism is one of the world's major religions and originated in India about 2,500 years ago. Buddhists believe that human life is a life of suffering, and that meditation, spiritual and physical work, and good conduct are the means to achieve enlightenment, or nirvana^[8]. Chinese philosophy dates back to the Spring and Autumn Period and the Warring States Period, during a period known as the „Hundred Schools of Thought“^[9], which was marked by significant intellectual and cultural development. Although much of Chinese philosophy began during the Warring States Period, elements of Chinese philosophy have existed for several thousand years. Some can be found in the I Ching (Book of Changes), an ancient collection of divination, dating back to around 672 BC^[10]. Confucianism is one of the most influential religious philosophies in Chinese history, dating back over 2,500 years. It is concerned with inner virtue, morality, and respect for the community and its values^[11]. Taoism is a religion and philosophy from ancient China that has influenced folk and national beliefs. Taoism is associated with the philosopher Lao Tzu (6th–5th century BC), who wrote the central text of Taoism, the Tao Te Ching, around 500 BC. Taoism believes that humans and animals should live in balance with the Tao, or the universe. Taoists believe in spiritual immortality, where the spirit of the body joins the universe after death^[12]. Hinduism is the world's oldest religion, according to many scholars, with roots and practices dating back over 4,000 years. Today, with over a billion followers, Hinduism is the third-largest religion behind Christianity and Islam. About 94% of the world's Hindus live in India. Since the religion has no specific founder, it is difficult to trace its origins and history. Hinduism is unique in that it is not a single religion, but rather a collection of many traditions and philosophies^[13]. Indian philosophy, the systems of thought and reasoning developed by the civilizations of the Indian subcontinent. They include both orthodox (astika) systems, namely the Nyaya, Vaisheshika, Samkhya, Yoga, Purva-Mimamsa (or Mimamsa) and Vedanta schools of philosophy, and

unorthodox (nastika) systems, such as Buddhism and Jainism. Indian thought has addressed a variety of philosophical problems, including the nature of the world (cosmology), the nature of reality (metaphysics), logic, the nature of knowledge (epistemology), ethics and the philosophy of religion^[14]. Jainism is one of the three oldest religions of India, with roots dating back at least to the mid-first century BCE. It is still an integral part of Indian culture today. Jainism teaches that the path to enlightenment is through nonviolence and minimizing harm to living beings (including plants and animals) as much as possible^[15]. Japanese philosophers throughout history have interacted extensively with a variety of philosophies outside their home borders - most notably Chinese, Indian, Korean, and Western. They have thus benefited from a rich treasury of ideas and theories upon which to draw in developing their own distinctive philosophical perspectives. As a result, Japanese philosophers have always been well-versed in the intimate relationships between culture, ways of thinking, and philosophical worldviews. An island chain twice as far from its continental neighbors as Britain is from its own, Japan avoided a successful foreign invasion until 1945. Accordingly, it has largely negotiated its own cultural, including philosophical, development without a foreign power forcibly imposing its own religion, worldview, or philosophical theories on the archipelago. Academic philosophers of the early twentieth century in Japan, for example, were so well educated in world texts and theories, many in the original languages, that they were among the most internationally informed philosophers of their time^[16]. Shinto (literally 'way of the gods') is the original Japanese belief system and is older than historical records. Many of the practices, attitudes, and institutions that developed into Shinto revolve around the Japanese land and seasons and their relationship with the population^[17]. Sikhism is a religion and philosophy founded in the Punjab region of the Indian subcontinent in the late 15th century. Its members are known as Sikhs. Sikhs call their religion Gurmat (Punjabi: 'The Way of the Guru'). According to Sikh tradition, Sikhism was founded by Guru Nanak (1469–1539) and was later led by nine other Gurus. Sikhs believe that all 10 human Gurus were inhabited by a single spirit. After the death of the 10th, Guru Gobind Singh (1666–1708), the spirit of the eternal Guru was transferred to the holy scripture of Sikhism, the Guru Granth Sahib ('Granth as Guru'), also known as the Adi Granth ("First Volume"), which was thereafter considered the sole Guru. At the beginning of the 21st century, there were nearly 25 million Sikhs worldwide, the vast majority of whom lived in the Indian state of Punjab^[18]. The most famous Eastern philosophers are: Laozi (6th century - 5th century BC), Confucius (c. 551-479 BC), Buddha (Siddhartha Gautama, c. 563 or 480-483 or 400 BC), Xunzi (Xun Kuang, c. 310-238 BC), Han Feizi (280-233 BC), Mencius (372-289 BC), Mozi (c. 470-391 BC), Zhu Xi (1130-1200), Nichiren (1222-1282), Wang Shouren (1472-1529), Dai Zhen (1724-1777), Kitarō Nishida (1870-1945)... The discussion of philosophies related to the main religious traditions of the West can be followed through the topics: Christianity (Christian philosophy), Islam (Islamic philosophy), Judaism (Jewish philosophy). The discussion of the main Western schools, movements and systems can be followed through the topics: atomism, analytical philosophy, continental philosophy, deconstruction, eleatism, empiricism, existentialism, idealism, materialism,

phenomenology, positivism, postmodernism, pragmatism, rationalism, realism, scholasticism, skepticism, stoicism, utilitarianism. Biographies of great Western philosophers and treatment of movements related to them: Aristotle and Aristotelianism, René Descartes and Cartesianism, Epicurus and Epicureanism, Georg Wilhelm Friedrich Hegel and Hegelism, Immanuel Kant and Kantianism, Karl Marx and Marxism, Plato and Platonism, Pythagoras and Pythagoreanism ^[19]. Discussion of other great Western philosophers: Socrates (470-399 BC), Saint Augustine (354-430), Saint Anselm (Anselm of Canterbury, 1033-1109), Peter Abelard (1079-1142), Saint Thomas Aquinas (1225-1274), John Duns Scotus (1265-1308), Benedict de Spinoza (1632-1677), John Locke (1632-1704), Gottfried Wilhelm Leibniz (1646-1716), David Hume (1711-1776), Jean-Jacques Rousseau (1712-1778), John Stuart Mill (1806-1873), William James (1842-1910), Friedrich Wilhelm Nietzsche (1844-1900), Bertrand Russell (1872-1970), Martin Heidegger (1889-1976), Ludwig Wittgenstein (1889-1951), Jean-Paul Sartre (1905-1980), Paul-Michel Foucault (1926-1984), Hilary Putnam (1926-2016), Avram Noam Chomsky (born 1928), Jürgen Habermas (born 1929), Bernard Williams (1929-2003), Jacques Derrida (1930-2004), Saul Kripke (1940-2022)... Individual branches of Western philosophy can be traced through the following topics: aesthetics, epistemology, ethics, ideology, logic, metaphysics, philosophical anthropology, philosophy of biology, philosophy of education, philosophy of history, philosophy of language, philosophy of law, philosophy of logic, philosophy of mathematics, philosophy of mind, philosophy of physics, philosophy of religion, philosophy of science...

Architecture

Architecture is one of the most complex concepts in general, which in its meaning unites a complex and simultaneous understanding of several, also complex, concepts such as: man, environment, boundaries... The word 'architecture' itself comes from the Latin word 'architectura' or the Greek word "ἀρχιτέκτων" (ἀρχι = chief + τέκτων = builder). In the narrowest sense of the meaning, architecture at the same time implies the process of planning, designing and building buildings. It is very important to emphasize two facts related to architecture:

1. Architecture is the work of man. Its creator is, mainly, an educated individual (architect), and also a person without formal education who possesses knowledge and skills acquired in the traditional way of learning (folk craftsmen, mostly anonymous).

2. Architecture is not every built building, both with a known and unknown architect. Only those realizations of buildings (and other physical structures) that possess a distinct architectural and artistic value can be called architecture. Since these dimensions of architecture are not exactly measurable but originate from the human-individual (sometimes from a narrower or wider social group), there is a wide and in many respects controversial debate on this issue in architecture and in life in general. The controversies go so far that the 'artistic component of architecture' overcomes its expediency and empirical dimensions (as essential properties of architecture).

There are few individuals who have designed and built buildings (physical structures in general) that can earn the epithet 'architecture'. On the other hand, all people, as well as

all social groups, have the right to evaluate architecture. At the same time, every assessment is 'correct', the only question is the breadth of its parameters that are assessed. Here are some definitions of architecture given by famous architects:

1. Peter Eisenman: Architecture is definitely a political act. *Longing for the Impossible*, Haaretz, May 12, 2010

2. Zaha Hadid: Architecture is unnecessarily difficult. *The Guardian*, Mon 3 Feb 2003

3. Jacques Herzog: Architecture is merciless: it is what it is, it works or doesn't, and you can clearly see the difference. *What is Architecture?* February 8, 2019. Lecture at Columbia University.

4. Bernard Tschumi: Architecture is always related to power and related to large interests, whether financial or political. *I'm the Designer. My Client's the Autocrat*. *The New York Times*. June 22, 2008

5. Richard Rogers: Architecture is too complex for just one person to do it, and I love collaboration. *The Guardian*, Thu 11 Jul 2013

6. Mario Botta: Architecture is an artificial fact. *Perspecta*, Vol. 20 (1983), pp. 119-138

7. Norman Foster: Architecture is an expression of values – the way we build is a reflection of the way we live. *Norman Foster's Interview with The European: "Architecture is the Expression of Values"*, October 31, 2014

8. Ludwig Mies van der Rohe: Architecture is the real battleground of the spirit. *Ludwig Mies van der Rohe: ID Merger Speech*, July 6, 2013

9. Álvaro Siza: Architecture is geometry. *What is Architecture?* February 8, 2019

10. Rem Koolhaas: Architecture is a very complex effort everywhere. It's very rare that all the forces that need to coincide to actually make a project proceed are happening at the same time. *What is Architecture?* February 8, 2019

11. Jean Nouvel: Architecture is the petrification of a cultural moment. *Newsweek*, 3/29/08

12. Ada Louise Huxtable: Architecture is a form-maker, problem-solver and environment-creator, and the international exposition is its laboratory. *New York Times*, Oct. 10, 1971

13. Nicholas Grimshaw: Architecture is quite a narrow, obsessive business. *The Guardian*, Sun 19 Dec 2004

14. Stanley Tigerman: Architecture is an incredible ego trip. You get things done, you build them, you look at them. That's why I enjoy life and don't have an ulcer. *Chicago Tribune*, February 3, 2007

The main characteristic of architecture is space; architecture, in fact, is an 'enclosed space' whose boundaries are 'enclosed', created by man with the intention of giving it purposefulness in accordance with his needs. In doing so, man tries to create space in a 'beautiful way'. Space is one of those 'eternal concepts' that man has dealt with since his inception through more or less formalized disciplines and practices: religion, philosophy, warfare (defense or attacks on the enemy), natural sciences, social sciences, art... (Figure 14). Below we will present some thoughts on space and architecture by famous philosophers and architectural theorists. „Space is a necessary a priori representation that forms the basis of all external perceptions. One can never create the notion that space does not exist, although it is quite nice to imagine that there are no objects in it. Space, therefore, is considered as a condition of the possibility of external phenomena, and not as a provision that depends on them, and is therefore an a priori representation that necessarily forms the basis of

external phenomena... Space is presented as one given infinite quantity. And indeed, every concept must be imagined as a representation which is contained in an infinite number of possible representations (as their common designation), but no concept as such can be imagined as containing an infinite number of representations (because all infinite parts of space are simultaneous). Thus, an elementary representation of space is a perception, not a concept“^[20]. „Images of our environment are the result of a two-way process between the observer and his environment. The environment suggests differences and relationships, and the observer - with great adaptability and in the light of his own goals and intentions - chooses, organizes and gives a certain significance to what he sees. The resulting image now limits, but also highlights some things in what was seen, and the image itself is subjected to a test: how it behaves during a continuous process of action, and under the flow of filtered perceptions. Therefore, the image of a specific reality can be very mutual noticeably varies between different observers“^[21]. „By projecting from the outside to the inside, as well as from the inside to the outside, the necessary tension is created, which helps us in making architecture. And since the 'inside' is different from the outside, then the wall - that place of me - becomes an architectural event. Architecture takes place at the meeting of internal and external forces of use and space. These forces of the interior and the external environment are both general and special, they are both comprehensive but also dependent on given circumstances“^[22]. „When this science (architecture) is rich and full of so many different and manifold knowledges, I think that only those who have climbed the stairs of various disciplines since childhood, fed on knowledge from several sciences and skills, while climbing to the highest temple - to architecture" can rightly be recognized as architects“^[23]. „The house will be properly planned, if in the first place you pay attention to which regions or climate zones they are built in. It is built differently in Egypt, differently in Spain, on Pontus or in Rome. Who and elsewhere, according to the characteristics of the countries and regions, should build different types of houses, because the land in one part suffers from the sun, in another it stands far from it, in the third it gets moderately warm in the middle... This is how one must artificially correct what nature spoils“^[23]. “The greatest task of the architect – the key to the successful renewal of our environment – will be to strive to gain dominance over the human element”^[24]. “Such an approach expands the vocabulary of architecture beyond the reach of the industrial and mechanical aesthetics of the International Style and the high technology of modernity, and can include in its language local and commercial expressions as well as various historical styles. By freeing itself from consistency, the diversities that now arise are important: they are innately sensitive to place, time, culture, and the registration of multiplicity and relativity of taste”^[25]. “Today, the language of architecture of all centuries, of all civilizations, is ours, and we must measure ourselves with it. But since historical heritage is not only in the minds of architects but also in the minds of all other people, all those who use architecture, addressing heritage is the only possible way to speak clearly to everyone”^[26]. „There is much that we can learn from that architecture, which has not yet grown into the skill of professionals. Uneducated builders...through space and time show an amazing talent to adapt their buildings to the natural environment. Instead of trying to 'dominate' nature (which we

do), they gladly face the wonders of nature and the challenge of topography. While we mostly like the flat, impersonal landscape the most (any undulations in the terrain are easily wiped out with the use of a bulldozer), spiritually mature people are much more attracted to virtuous landscapes. In fact, they do not hesitate to choose extremely complicated terrains”^[27]. The first treatise on architecture (which has been preserved), on the question of its content, controversies, range of meanings (...) as well as on the persons (architects) who deal with it was written by the Roman architect, civil and military engineer and theorist, Marcus Vitruvius Pollio (around 80-70 BC - around 15 AD) under the title “De arhitektura libri decem” („Ten Books on Architecture“). From the time of its first appearance (1st century BC) to the present day, the content of the book as well as the definition of some basic concepts of architecture, as well as understanding the nature of architecture and understanding the professional and artistic profile of architects, have not lost their relevance. One of the interpretations of the concept of architecture was offered (2004) by the author of this book in his book entitled: „Defining architectural space on the example of an oriental-type city house in Bosnia and Herzegovina, Serbia, Montenegro, Kosovo and Macedonia“^[4].

Opinions on architecture by famous philosophers

Architecture is the process and result of planning, designing, and constructing buildings or built environments. Much of the design process involves the idea of ‘what is a good building’. The moment we ask ourselves what a good building should be, it becomes a philosophical question, because a building is ‘a vessel for human activity and a symbol of our civilization’. In this case, we need to ask ourselves how we should live our lives and how our society should function. These questions have been explored and addressed by philosophers throughout our recorded history. Everything that architects perceive – observe through the filter of their worldview – is related to that person’s philosophy of life (Figure 16).

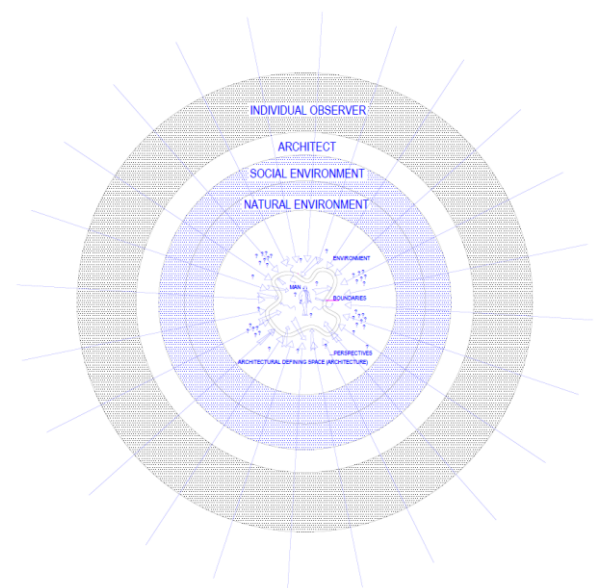


Fig 16: Architecture in context: architect – Architecturally Defined Space (Hadrovic A. 2010.)

Who architects are as individuals, what their cultural and

intellectual influences are, and the impact of current and historical influences on the built environment they experience

are questions to which the answers change over time (Figure 17).

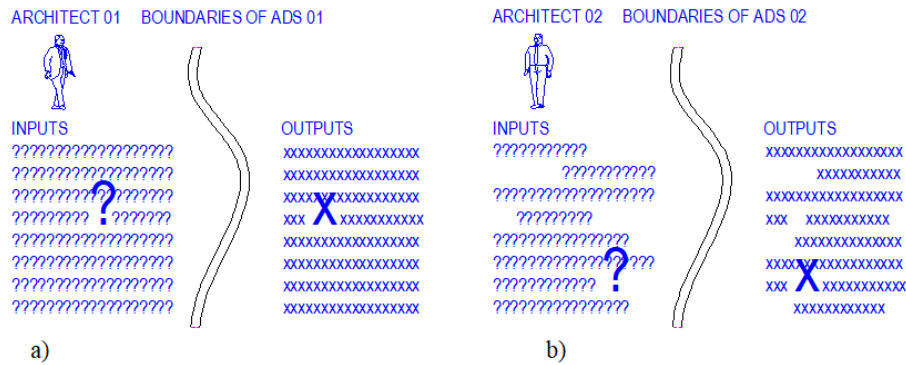


Fig 17: Architect - Architecturally Defined Space (Hadrovic A. 2010)

It is not just 'formal philosophy' that influences cultural beliefs, beliefs about what an environment should be, the architect's inherent aesthetic preferences and experience are all essentially philosophies. Formalized philosophy influences the architect to intellectually and culturally expose himself to different positions in each epoch. In philosophy, we could say that these positions are founded in thought, while in architecture they are made visible and habitable to people. There are parallels between the two, because neither philosophy nor architecture are private games unknown to the public. Philosophy forms the basis of what we think and do, and in the same sense, what we design, look at, imagine, use and live. Any fundamentally new thinking that appears in philosophy is reflected in architecture - insofar as it is possible to build it. Philosophical ideas nurture architectural theory, the concerns and questions that move people at a given moment. Visions and worldviews are mirrored in buildings, because architecture provides useful and practical answers to philosophical questions. But sometimes it is difficult to explain the role of philosophy in architecture because architects often read philosophers, but sometimes they find it difficult to think because architecture is embedded in broader perspectives like culture and is shaped by clichés as much as by ideas current at any given time. Modern philosophical discourse on architectural practice can be traced back to Immanuel Kant (1724-1804), John Ruskin (1819-1900), more directly to Martin Heidegger (1889-1976), Sir Nikolaus Bernhard Leon Pevsner (1902-1983), Sigfried Giedion (1888-1968), and more recently to Sir Roger Vernon Scruton (1944-2020) and Karsten Harries (born 1937).

In the context of the topic 'Philosophy of Architecture', we will first present the views, that is, the understanding of the term 'space' of the philosopher Immanuel Kant, since architecture is one of his possible interpretations: "Space is a necessary a priori representation that forms the basis of all external perceptions. One can never create the idea that there is no space, although it is perfectly possible to imagine that there are no objects in it. Space is, therefore, considered as a condition of the possibility of external phenomena, and not as a determination which of them it depends, and is therefore, a representation that necessarily forms the basis of external phenomena. And indeed, each concept must be imagined as a single representation that is contained in an infinite number of possible representations, but no concept as such can be imagined as containing an infinite number of representations. Therefore, space is imagined as such the idea of space is an a

priori perception, not a concept" [20]. The philosopher Immanuel Kant believes that beauty (architecture has a component of 'the beautiful' at its core) must be independent and not adhere to preconceived concepts. Art and architecture, however, are formed with a certain concept in mind and are intentional. He explains this paradox by the importance of human experience [28]. "(Sculpture) represents bodily concepts of things as they might exist in nature (...); (architecture) is the art of representing, with that intention, but at the same time in an aesthetically purposeful way, concepts of things that are possible only through art, and whose form has not nature as its decisive basis, but an arbitrary goal" [28]. Immanuel Kant's philosophy had a profound influence on architectural theory and is still considered relevant today. He was a German philosopher, born in 1724 during the Enlightenment, who argued that the mind shapes human experience. Kant described the Enlightenment with the Latin phrase: "Sapere Aude" ("Dare to be wise") and firmly believed in being autonomous in one's thinking without being pressured by any external authority. He believed that morality stems from reason and that disinterested judgment is the basis of aesthetics. His work resolved many of the differences between the empirical and rational philosophical movements. The former focused on learning about the world through human senses, the latter on applying logical reasoning to understanding the Universe. Kant, however, suggested that we should rely on both our experience and prior concepts to understand the external world. Kant succeeded in establishing aesthetic theory within a complete philosophical system. He believed that beauty is the consciousness of pleasure, not a specific property of the work of art itself. We do not use cognitive judgment to determine whether a work is beautiful. Beauty and sublimity are subjective, however, the latter establishes a relationship between imagination and reason. He believes that the judgment of beauty comes to us through a universal voice, which does not refer to just one person, but speaks to many people in a similar way. An important factor in understanding Kant's aesthetic principles is the 'concept of free play' [29]. He believes that an object, which can evoke the pleasure of free play, becomes the purpose of its form. This means that the judgment of architecture is based on purely formal beauty. There is no room for considering its function, social aspects and work benefits. The decision is made simply by staring at it. However, there is something more, because we have different types of judgment. One, described above, is pure, free and immediate, while the other is conditioned and

supported by other factors. They are “characterized precisely by the fact that they presuppose a concept of what the object should be... and the perfection of the object in this way” [29]. Kant believed that the function of a building is reflected in its appearance and that beauty is connected with this concept. He does not specify their relationship, but suggests that “the beauty... of a building (such as a church, palace, arsenal, or summer residence) presupposes the concept of its perfection, and is therefore only an associated beauty” [29]... We might believe that he was arguing that if there were a vast dissociation between the function and form of a building, we could not accept it and consider it beautiful. He suggests a very delicate relationship between form, function, and beauty. Kant believes that beauty must be independent and not adhere to preconceived concepts. Art and architecture, however, are formed with a specific concept in mind and are intentional.

In a lecture from 1951, as part of a conversation on 'Man and Space' ('Mensch und Raum') to which he addressed mainly architects, Heidegger starts by considering construction and habitation, not from a narrow engineering and architectural standpoint, but from the need to question 'the domains to which everything that is belongs'. Heidegger first asks the questions of what is habitation and how can construction belong to habitation? Although we are initially led to the assertion that habitation is always conditioned by construction, not all construction is habitation. Regardless of the fact that in the domain of our habitation there are also constructions that do not belong to habitation (a bridge, a stadium, a power plant, for example), Heidegger claims that these buildings are also determined by habitation because man 'inhabits them, although he does not dwell in them'. Heidegger deliberately makes this fundamental distinction in order to shake up our self-explanatory and self-understanding notions of construction and habitation at the very beginning. He accurately describes current apartments based on the reference achievements of modern architecture: 'well-appointed apartments, lighted, airy, and easy to maintain' [30]. This description completely coincides with the ideal apartment of Le Corbusier, who called the harmony and balance of that ideal a 'dwelling machine'. Moreover, Heidegger questions the results of the consensus of the modern architectural discourse about the ideal form of the modern apartment, asking a simple question: do these apartments guarantee the possibility of habitation? Heidegger's question shook the modernist enthusiasm about the adequate choice of housing, as the main solution to the general problem of modern societies. While Le Corbusier emphasized the imbalance of the housing problem, Heidegger emphasized that housing and construction are inextricably linked. At the same time, he does not see construction through the prism of constructive engineering forms, but through the prism of housing as such. According to Heidegger, construction is not only a way to housing 'because it is already housing in itself'. He supports this position by listening to language, finding in language the 'measure' by which we measure the 'essence of dwelling and building'. In order to arrive at the essence of building and dwelling, as well as at the essential changes in the linguistic meaning of building and dwelling, it is necessary to follow spoken language. Starting not from human expression, but from what language communicates to us through the spoken, Heidegger arrives at the meaning of building and dwelling. He starts from the meaning of the word 'bauen' ('to build')

which, already embedded within the fixed meaning of the human term for building, says a lot when speaking the language. Heidegger writes: “In High German (as well as Old English) the word for building is *buan*, which means to dwell. This implies: to stand, to stay in one place. Therefore, it seems that we have lost precisely the true meaning of the verb *bauen* (to build), or to dwell. While one trace of it, and a hidden one, is preserved in the German word 'Nachbar' ('neighbor') (...) because *Nachbar* – *Nachgebar*, *Nachgebauer* – is one who dwells in the neighborhood. The verbs *buri*, *büren*, *beueren*, *beueron* have the meaning to dwell, dwelling, place where one dwells, and therefore they describe dwelling” [31]. Heidegger asks the question: “What then does 'ich bin' mean? The old word 'bauen', to which 'bin' belongs, answers that 'ich bin, du bist' means: 'I dwell, you dwell'. The way in which 'you are' and 'I am' ('du bist und ich bin'), the way in which 'we – humans – are on earth', is *baun*, dwelling” [31]. Regardless of the fact that man's being in the world is connected to dwelling, Heidegger does not use dwelling in the narrow sense as an empty presence in the world. The claim that man is in the world through dwelling points to a deeper understanding of dwelling. Being through dwelling, according to Heidegger, entails many meanings that enable us to fully include dwelling as a way of being. Deciphering 'bauen' in a dual way, on the one hand, as nurturing, preserving and restlessness (as, for example, when it comes to cultivating the land) and, on the other hand, as production (the production or construction of ships and temples), Heidegger writes that both ways of building – building as nurturing, Latin: *colere*, *cultura*, and building as making a building, *aedificare* – are contained in true building – dwelling. In speaking language, the essence of building and dwelling as our being is revealed. As much as this approach seems reductive in deriving the complexity of what architecture projects through construction in order to achieve habitation, it follows that the being of habitation is forgotten on the basis of forgetting the original linguistic meaning of habitation. This position cannot be ignored because, ultimately, for Heidegger, being is encased in language, that is, he understands language 'as the house of being'. The change of meaning when using forgotten words is also supported by the fact that these changes are not without determining consequences for our being. Heidegger writes about this: „This event seems, above all, as if only a change had taken place in the meaning of the words themselves. In fact, something crucial is hidden here, namely, habitation is not experienced as the being (*sein*) of man; habitation is not even imagined as a fundamental feature of being“ [31]. Heidegger does not exhaust the entire problem of habitation and its meaning by defining construction as habitation; not in the existence of mortals on earth through habitation and the maintenance of companies that build apartments. Heidegger continues to expound the essence of habitation by referring directly to language. He asks to go further in listening to what language says about the essence of dwelling and calls for help the meaning of the old Saxon word 'wunon' as well as the Gothic 'wunian'. On this he writes: „Wunian implies contentment (I am content), tranquility, or to be or stand in peace. The word 'Friede' ('peace') means that which is free (*das Freie*, *das Frye*), while 'fry' means: to be protected from harm and threats, to be protected from something, therefore spared from it“ [31]. It seems that here Heidegger interpreted the concept of 'being-there' in terms of dwelling (o-dwelling) in whose freedom the essence of being is stored. This is

because mortals are included in being-there in dwelling in the sense of being/staying on the earth of mortals. Mortals for Heidegger do not represent some desperately isolated entity, because he places them in close connection with the other aspects that constitute the experience of the world in an indivisible quadrature. When speaking of the mortals of the world, Heidegger also derives the self-evident nature of heaven because we on earth are under heaven. And this at the same time means that we are 'before the heavenly', which implies 'belonging to the human community'. The fourfold is always in indissoluble unity. For Heidegger, this simultaneously constitutes the basic structure of our experience of the world, or rather the worldliness of the world. This may be the main part that will characterize the entire later thought of Heidegger. Heidegger's lecture 'on things' begins by listing the latest scientific and technological achievements that have enabled the reduction of distances in time and space. He mentions airplanes that shorten distances, radio that achieves a faster flow of information, film that enables communication with distant cultures, but also television as the culmination point at which distances disappear. However, Heidegger states that „the accelerated abolition of distance does not bring closeness because it is not present in the shortened distance“. Here Heidegger raises the question of proximity, starting from its definition, from the fact that it is essentially proximity or closeness. In order to arrive at a definition or understanding of closeness as such, one must start from what is close to us, what is at hand, which is – a thing. Heidegger, therefore, starts here from things, from man's primary life experience of things. This is also the reason why in his analysis he does not enter into some kind of scientific abstraction, but directly presents the experience of things. In his analysis in which he sought to explain man's closeness to things, Heidegger refers to a jug – a simple earthen vessel. Here Heidegger favors man's direct existential experience of things over the scientific form of interpretation, which he sees as inadequate. He says of a jug „that it is a vessel, or something that as such receives something else in itself“ or contains something else. Heidegger emphasizes that the jug is 'independent', which begins the differentiation between things and objects: “As the independence of something independent, the jug differs from the object. Something independent can become an object if we place it before ourselves – either in direct perception or in the actualization of some representations from memory. However, what is real in things does not rest on what is real in things, nor on their being represented objects, nor can it be determined at all – from the point of view of the objectness of the object”^[32]. The independence of the object in the thinking of things remains obscured because such independence is still understood through objectivity, although the opposition of the produced does not now begin in the perception itself. We can take this into account because the jug is 'independent'; the essence of the jug is in no way completed with its production. At the same time, as Heidegger writes, “the real that is typical of a vessel does not begin in any way with the material of which it is made, but with the emptiness that it encompasses” because “the emptiness, or rather the nothingness of the vessel, is what makes the vessel an embracing vessel”^[32]. And this is precisely where the moment that escapes the scientific view of understanding things is emphasized, because science cannot in any way comprehend the nothingness of the vessel, its emptiness, and consequently is not able to comprehend the

essence of the vessel either. Heidegger specifically refers here to physics and its interpretation when he writes that “we represent the active feature of the vessel, that which encompasses the emptiness, as a cavity filled with air” because the emptiness of the vessel “is imagined physically, indeed what emptiness is; but, nevertheless, it is not the emptiness of the vessel. We have not allowed the emptiness of the vessel to be its emptiness”^[32]. The essence of the emptiness that encompasses is that which at the same time gives something. According to Heidegger, what gives is not just a mere pouring. Giving by pouring also includes giving, because the drink offered is that which is given to mortals. However, in this giving, everything is at once included: the earth, the sky, the deities, and mortals. Namely, what a jug gives us, say water, must be thought of in the following way according to Heidegger: “In the water from the spring dwells the wedding ceremony of heaven and earth. This ceremony dwells in the wine that the fruit of the vine yields, in which earthly food and the heavenly sun are united”^[32]. Giving a jug can also be part of a religious process by which we invoke the divine; “in the gift that is poured dwells the simplicity of the four.” Thus, the characteristic of a thing is the addition of the four into one. And here Heidegger returns again to language. Regardless of the fact that he claims at first glance that he is “dealing with the indeterminacy of the etymological game“, he continues to extract the meaning of 'adding' in the original speech of language. In Old German, adding is called 'thing'. In his presentation, Heidegger elaborates on the meaning of 'thing' and 'dinc', in order to contextualize them in the Latin etymology of the word 'res' (which also contains the meaning of a human problem). In conclusion, Heidegger comes to the conclusion that ... „the jug is not a thing either in the sense of the Roman understood res or in the sense of the medieval imagined ens, or even in the sense of a modern presented object. A jug is a thing insofar as it creates. From the creation of a thing, the presence of what is present as a jug occurs and determines it”^[32]. In the meaningful deduction of the etymological explanation of the word thing, Heidegger presents the essence of closeness to a thing, as that which gathers the fourfold in which the worldliness of the world is spread. He writes: ... „the thing abides as a fourfold. The thing creates the world. Every thing abides as a fourfold, entering into what always is in the simplicity of the world”^[32]. Closeness to a 'thing' is beyond the reduction or shortening of simple distances – such as numerical calculations are mathematical. Heidegger writes that a thing is not in closeness, as if it were some kind of container. Closeness is in approaching as a creation of the world. Being close to a thing implies much more than what science now understands in a traditional way, which has contributed to its destruction. This is why Heidegger emphasizes that the horror of the nuclear explosion occurred before the explosion of the atomic bomb, and this was due to the destruction of things, or the primary, direct existential relationship with things and the world. For Heidegger, the idea of 'closeness as closeness' acquires a special meaning; not as a semantic improvisation in an etymological game, but as the determining one in a necessary relationship with the world. Closeness to things in itself leads us to a closeness to the world that is summed up in the o-creation of things because, Heidegger claims, „only what is made of the world becomes a thing“. Heidegger seeks, with his linguistic and etymological analysis, entirely reserved for the numerical aspects of the model and rational scientific presentations, to

identify the existential preconditions in which mortal beings found themselves as beings capable of death. Hofstadter seems to be right when, commenting on Heidegger's discourse on things, on the world that is gathered in the fourfold as earth, heaven, divine and mortal, he writes: ... „this is not an abstract theorizing of the problem of cognition, value or reality; this is the most concrete discourse and thought about being, the distinction of being from being, as well as the uniqueness of their identity despite all differences“^[32]. Therefore, being, and then dwelling, are always in a relationship of immediacy with things, close to things and with things, and not their opposition. Such a relationship can in no way be understood as some kind of abstraction within which the relationship is almost completely reduced to the power of presenting things. This relationship with things, this original understanding of the relationship with things, results in a fundamental spatial separation between, say, the presence of water in a glass and the relationship of Dasein with the world. This aspect is very well observed by Beistegui when he claims: ... „this is the difference between the two meanings of space: while the first leads us to an understanding of space that is usually acceptable, as a physical enclosure in which things are contained or found as such, or as a set of coordinates by which a material body or dynamic system can be located; the second corresponds to a much more original phenomenon, consistent with the ontological understanding of space“^[33,34]. Therefore, abstracting and reducing the original conception to ontological-existential bases in no way leads to an understanding of the essence of building and dwelling. According to Heidegger, reducing the understanding of space on the basis of defining “physical parameters that mark the difference between the inside and the outside“ does not enable an understanding of the essence of dwelling. After all, architecture has always, from its beginnings, assumed something like this. Therefore, it is no coincidence that Heidegger claims that the question of understanding building and dwelling belongs least of all to architecture. Heidegger's view here presents a reduced concept of space with which architecture, perhaps necessarily, operates; but it uses an exclusively objective conception, geometric and mathematical, in which its exclusively ontological and existential dimension has completely faded. This dimension is extremely significant because on its basis the basic difference between Dasein and other beings and things is constructed. As Beistegui argues: “Dasein is not existentially a thing within the world, despite the fact that it is ‘in’ the world. The sense of ‘in’ in the case of things within the world, as well as that in the case of Dasein's being-in-the-world, differ at the root”^[34]. This distinction, stated in his writing *Sein und Zeit* (Being and Time) in a much more concise form, and one can even say much more concrete due to the use of several concepts that expand the entirety of his thought, is presented in his lectures from the 1950s. In considering construction and housing, Heidegger decisively raises the question of the relationship between space and time as well as the relationship of man with space in his lectures. Event, place, space According to Heidegger, the concept of place and its understanding represent the moment that perhaps most intrigued the architectural debate on modernism. It will encourage the affirmation of an aspect neglected in the architectural discourse of modernism. Heidegger's deepened thinking about being and the essence of being led him to reflect on the original aspects omitted in architectural

practice. This approach in two lectures that he, conditionally speaking, dedicated to architecture, influenced the further expansion of the interpretation of being. Of course, he would extend this type of expansion to housing, where housing was equated with being. Such an equalization would not remain without consequences, especially because of the way in which the idea of housing was simultaneously expanded to include the idea of space. Since housing was thought of mainly on the basis of simple engineering construction or from an analytical starting point, whereby space was treated mainly from a mathematical or geometric aspect, place was completely left in the shadow of arbitrary constructivist modeling. In Heidegger, this approach is completely transformed because the idea of being leads him to transcend all aspects of architectural and constructive modeling, bearing in mind that this is about the purity of being. Perhaps for this reason Heidegger's thought, in its topology or topos, is consistently shifted to the regions of being. The relationship between place and space, or the understanding of place and space, Heidegger derives again from language and the sense/meaning that it gives to the essence of things or, we can say, the being of things, which in this case is both place and space. Here Heidegger offers a kind of definition of the difference between place and space based on language in a concise manner. Heidegger writes: “What the word for space (Raum) signifies is stated in its old meaning. Raum, Rum, means a place freed for accommodation and shelter. Space is something for which a place has been made, something that has been cleared, namely, cleared to a certain limit, Greek – peras. The limit is not that at which something ends, but – as the Greeks understood it – that from which something begins its existence. Hence the term: chorismos, that is, the limit (...). Accordingly, spaces derive their essence from place, not from ‘space’”^[34]. Space does not precede place, but place precedes space, thanks to the boundary that brings something into presence. The ancient Greeks, for example Anaximander, and Heidegger certainly knows this, called it apeiron, that which has no boundary or goal, that which is unlimited and indefinite. The same applies to the idea of space, because as such it is indefinite and unlimited and therefore still remains a kind of nothing and has no possibility of manifestation. However, the moment it is determined, the moment it is allowed to enter its boundaries, it turns into space; that is, therefore, the moment when space becomes a place or a 'permitted place'. Starting from human experience and entering into the ontological-existential solution of space, Heidegger sees the mathematical and algebraic aspects of analysis only as derivatives of the being of place and space. This being is entirely in the 'collectedness' of things, that is, in its realization. Therefore, buildings should also be viewed as things, as those that create a place, open or free up a place for fourness. According to Heidegger, we must not fall into numerical reduction in any case in order to concretize the difference between measurable space, distance, diagonal and the calculation of space as a place because 'numerical scales are not the basis of the battle of space'. Returning again to the bridge, Heidegger explains the essence of space by breaking down the previously mentioned difference starting from the basic human experience of space that goes beyond the mathematical and measurable aspects of space. It is worth quoting a slightly longer quote from Heidegger's writings about such a difference, where he expounds the place-space relationship: „The space occupied by the bridge encompasses a multitude of squares that are more or less distant from it.

These squares, on the other hand, can also be considered as positions between which there is a measurable distance; a distance which in Greek is called a stadium, and which is always set in one space [eingeräumt] between very simple positions. However, what is set here by means of positions is not a simple space but a space of a special kind. As a distance, as a stadium, it is what the word stadium itself tells us: a spatium, an interval. In this sense, both proximity and distance between things and people can be turned into intervals of space^[34]. On the basis of space as an interval, three spatial dimensions are abstracted: length, width and depth. Claiming that we also „describe this as a three-dimensional variety“, Heidegger continues: „However, the space created by this multiplicity is no longer determined by distance, it is no longer spatium, but is still only extensio - expanse. But space, as extensio, can be abstracted once again, namely - reduced to analytic-algebraic relations. What these relations create space for is the possibility of a purely mathematical construction of diversity with an arbitrary number of dimensions. A space created mathematically can be called „that“ space. But space understood in this way does not contain space and areas. We never find places in it, that is, things like a bridge“^[34]. So, with Heidegger, the manifestation of space comes according to the order in which we see the priority of place, because thanks to the place, both space as an interval and what is revealed above this basis as a space of expansion appear in order, on the basis of presentation - spatium and extensio. By presenting this direct understanding of space from direct experience, from its being, in more detail, it is clear that the relationship between space and man can now be outlined. This relationship does not imply that man and space are separated, „as if we have space on one side and man on the other“. Heidegger also believes that space is not an inner experience. This brings us back to his primary understanding based on things, their creation, and the closeness of man to things, given that mortals, that is, people, are mortal within the quadrature and in the vicinity of things. Therefore, Heidegger claims that mortals „dwell, sustain themselves from one end of space to the other thanks to the fact that they stand in the middle of things and places“. The understanding of space here becomes a primordial and primordial understanding, based on primary human experience, overcoming the narrowness of mathematical interpretation on which the original understanding of place and space or their being cannot be relied upon. Heidegger, with his phenomenological elaboration, enables what we previously called a phenomenological turn that contemplates the concept of place at a higher level and a return to architectural discourse. The return of place to architectural discourse has influenced the beginning of a broad debate on the consequences of Heidegger's thought. These debates are mostly known for their restraint and doubts as well as the possibility of ideological and political burdens in relation to place as a romantic demand for the re-positioning of man in his primary ties with belonging. In this, Heidegger's radical critics see a primary connection with 'earth and blood', as a kind of echo of the traditional ideological call of German Nazism. In addition to the harsh criticism that contextualizes Heidegger's thought, mainly on the premises of ideology and politics, we also have an approach that supports the opinion that in the current development of general social mobility the concept of place has disappeared as localism, because we are now already located in delocalizing and mobilizing networks in

which place loses its primacy, which opens up perspectives for new experiences of general mobilization. These approaches probably have a lot of temptations to respond to the great transformations of the new context or what we can call supermodernity, to the extent that we can use Augé's vocabulary^[35]. The new context created on the basis of technological development has largely introduced us into the vortex of modernity, speed, communication through dense networks that function simultaneously, increasing movement and presence in non-places. On these premises, opinions arise that Heidegger's views cannot be contextualized or, moreover, that they are completely decontextualized and cannot find a desirable application in the current epoch of technological development.

Sir Nikolaus Bernhard Leon Pevsner (1902–1983) was a British art historian of German origin. He was a strong supporter of the modern movement, which gave some of his early writings an unmistakable bias, notably the highly influential *Pioneers of the Modern Movement* (1936) from William Morris to Walter Gropius (later reissued as *Pioneers of Modern Design*) and the enormously successful (and again influential) *An Outline of European Architecture* (1942 with many subsequent editions). He had a strong influence on the *Architectural Review* in the 1940s, when it became a force for the pro-modern movement and changed the architectural climate in Britain. He initiated and edited the *Pelican History of Art* (from 1953), one of the most influential series on art and architecture published in the 20th century. His greatest achievement was undoubtedly the guides *The Buildings of England* series (1951), most of which he wrote himself, although some of his highly subjective comments were toned down in later editions. His distinguished collections of essays and papers published as *The Sources of Modern Architecture and Design* (1968) and *A History of Building Types* (1976) are mines of information. He was devoted to the study of architecture (especially churches) of his adopted country and made an invaluable contribution to science. However, the concepts he had adopted as a student in Leipzig (particularly under the influence of his teacher, Georg Maximilian Wilhelm Pinder (1878–1947) who was highly regarded by the National Socialists, not least because of his overvaluation of German art in relation to other European countries, including his beliefs in the *Zeitgeist* (spirit of the times) and in 'national character', led him to make assumptions that may have distorted his sense of history. For example, he claimed that Gropius's architectural predecessors included members of the English Arts and Crafts movement: this is typical of his attempts to create links with the past in order to promote his heroes, for it is well known that Arts and Crafts-Crafts architects (Baillie Scott and Voysey, for example) rejected Gropius and everything he stood for. Gropius and his students did much to destroy building based on traditional crafts (despite Gropius' insistence (to Pevsner) that William Morris was one of his main sources inspiration). Pevsner's observations about architecture are interesting: „A bicycle shed is a building; Lincoln Cathedral is a work of architecture. Almost anything that encloses a space on a scale sufficient for a human being to move in it is a building; the term architecture refers only to buildings designed for aesthetic appeal“^[36]. Pevsner described in his book *An Outline of European Architecture* three ways in which aesthetic appeal can be manifested in architecture: in the facade of the building, material volumes or interior. Pevsner and the team at Penguin Books sourced black and white

plates for the original titles from a range of different archives, most notably local libraries and national record collections. I was commissioned by Yale University Press to produce photographs for this latest revision, showing the churches, civic buildings, houses and monuments of the district in a style I have called 'Pevsner's way of seeing'. The longevity of Pevsner's guides means that every image must be stripped of anything - cars, fashion, captions - that could become obsolete. From a practical point of view, this is often difficult, sometimes almost impossible, without digital manipulation. This raises questions about authenticity and truth. The debate over the morality of removing 'life' from photographs of architecture is well established and ongoing. In 1979, *The Architects' Journal* published a scathing essay by Picton (Sir Thomas Picton, 1758-1815) criticizing editors and architects for commissioning lifeless images that „march across the pages of architectural journals like tombs in a cemetery“. This approach was largely the result of technical limitations. Until the mid-2000s, when digital photography was finally accepted, most architectural photographers used large-format cameras to give the appearance of correct perspective for structures, and exposure times on all analog emulsions (regardless of camera size) were prohibitively long.

Sigfried Giedion (1888–1968) was a Swiss historian and architectural critic of Czech origin. He is best known for his influential work „Space, Time and Architecture“^[37]. In this last work („Architecture and the Phenomena of Transition. The Three Space Conceptions in Architecture“), published posthumously, Sigfried Giedion presents three concepts of space that he believes represent major phases in Western architecture. The first originated in the ancient high civilizations of Egypt and Mesopotamia and continued through the design of Greek temples and gathering places. The emphasis was on volume in space and the interplay of volumes. Giedion's second concept - the development of interior space - was formulated and reached its full glory in Rome, with further manifestations in Gothic cathedrals and extensions in the architecture of the late nineteenth century. With the twentieth century, a third concept of space emerged - a fusion of the first two, which linked the power of volume radiating through space and the sculptural form of interior and exterior space.

Karsten Harries (born 1937) is a German philosopher and professor of philosophy at Yale University, where he taught from 1965 until his retirement. Harries is known for his expertise on Heidegger, early modern philosophy, and the philosophy of art and architecture. Architecture, Harries notes, has a responsibility to the community; its ethical function is inevitably also political. He concludes by examining these seemingly paradoxical functions^[38]. „For many years I taught a course called Philosophy of Architecture, most recently eight years ago. The fact that I taught this course at all was the result of a conversation with Kent Bloomer, who many years ago suggested that such a course could be used as an undergraduate course. Before that I taught a course called Philosophy of Modern Art. The result was *The Meaning of Modern Art*, published in 1968, of course. That book was quite successful, and it also appeared in Japanese, Korean, and Czech translations. It is still in print after all these years. But with its appearance I had lost some of my interest in that course, and I was quite ready to respond to Kent Bloomer's invitation, especially since my interest in architecture dates back to my childhood. And that course eventually resulted in the book *The Ethical Function of*

Architecture (Cambridge, Mass.: MIT, 1997). That, too, was successful, and has been translated into Chinese and Czech, and is currently being translated into Greek and Farsi. But, again, with the appearance of the book I lost some of my interest in the course. My decision to return once more to this material in my final year of teaching reflects the fact that I have continued to think and teach about what I wrote in that book. It is not that I have changed my position in any fundamental way, despite a series of mostly positive but sometimes critical responses. But circumstances have changed; the world has changed. In particular, the way we relate to space today has changed and continues to change. Our understanding of space has changed. And architecture can be understood as the art of delimiting space, which suggests that our understanding of architecture also needs to change“^[39]

The philosophy of architecture of some famous architects

Every architect who plans, designs and realises his architectural projects has 'his own philosophy of architecture'. Some architects (great, world-famous architects, mostly) have communicated their philosophy of architecture in their published books and interviews in well-known world magazines. Even those architects who have not formally communicated their philosophy of architecture (most often they are not even aware of it or are not able to formally define it) have their own philosophy of architecture that the observer can read by looking at their architectural realisations. Similar to all other arts (painting, sculpture, literature, music, film, etc.), architects also reveal themselves (reveal) through their architectural realisations.

The following will present the philosophies of architecture of several great world architects. Frank Lloyd Wright (1867-1959). Born in Richland Center, Wisconsin, Frank Lloyd Wright^[3] began his rich architectural career in Chicago where he worked directly under the guidance of architect Louis Sullivan (1856-1924). His first independent commission was the William H. Winslow House (1894), which represented what would become known as the 'prairie style' (Figure 18). These houses were designed to reflect the low horizontal lines of the American prairie landscape, with long rows of windows, low roofs, and a lack of basements or attics. Interior walls were minimized to create an open plan to encourage a sense of community among the residents and a harmonious connection with the natural world^[40].



Source: <https://franklloydwright.org/site/william-winslow-house/>, Accessed: May 18, 2025.

Fig 18: William H. Winslow House, River Forest, Illinois, USA, 1894. (Architect: Frank Lloyd Wright)

Frank Lloyd Wright helped develop the concept of 'organic architecture', with interiors and exteriors in balanced harmony. In this philosophy, a house could be compared to a

living organism with all parts connected to the whole, making form and function completely intertwined. Fallingwater in rural Pennsylvania is one of Frank Lloyd Wright's most famous works of architecture. Designed for the Kaufmann family in 1935, Fallingwater blends seamlessly into the forest greenery of rural Pennsylvania, towering over a waterfall. Its stacked form, constructed of concrete, reflects the natural pattern of the surrounding rocks (Figure 18).



Source: <https://www.dezeen.com/2017/06/07/fallingwater-frank-lloyd-wright-pennsylvania-house-usa-150th-birthday/>
Accessed: May 18, 2025.

Fig 19: Fallingwater, Laurel Highlands, Pennsylvania, USA, 1935
(Architect: Frank Lloyd Wright)

Taliesin West is another important work from this period, built to serve as a winter retreat for Frank Lloyd Wright in the harsh desert landscape of Arizona. The structure blends into the landscape in this piece, constructed of local stone bound with desert sand and accented with redwood beams and Cherokee red stain (Figure 20).



Fig 20: Taliesin West, Scottsdale, Arizona, SAD, 1937 (Arhitekt: Frank Lloyd Wright)

Izvor: <https://www.architecture.org/programs-events/detail/member-travel-program-taliesin-west-scottsdale-az/>,
Pristupljeno: May 18, 2025.

However, perhaps Wright's most famous work is the Guggenheim Museum in New York, designed in 1943. It is an exciting, innovative open-plan space, with a spiral ramp that gives way to an airy domed skylight that floods the space with natural light (Figure 21).



Source: <https://www.new-york-city-travel-tips.com/guggenheim-museum/>, Accessed: May 18, 2025.

Fig 21: Guggenheim Museum in New York, USA, 1959
(Architect: Frank Lloyd Wright)

During the Great Depression, Wright recognized the need for affordable housing and developed his signature Usonian-style house design with the Herbert Jacobs House in Madison. These properties were modernized, with a simplified approach to construction, proving that beautiful minimal architecture could be affordable (Figure 22).



Source: <https://franklloydwright.org/site/herbert-jacobs-house/>,
Accessed: May 18, 2025.

Fig 22: Herbert Jacobs House, Madison, Wisconsin, USA, 1936
(Architect: Frank Lloyd Wright)

In his essay *Organic Architecture* from 1910, Frank Lloyd Wright wrote: "The organic entity, as the modern building is, as opposed to the earlier unthought-out collection of parts. This is certainly a higher ideal of unity, understood as a clearer expression of man's life through the shaping of his living space. One thing instead of many things; a big thing instead of many things; a big thing instead of a collection of small ones... Accordingly, in organic architecture it is impossible to view a building as one, its furniture as something else, and its position in the environment like something else again"^[41]. This insistence on the integration of architecture with its environment is one of Wright's most important legacies. The texts remain an important expression of the architect's fundamental philosophy and are now being reissued in a new edition to mark the 150th anniversary of Frank Lloyd Wright's birth in 2017. In the lectures, Frank Lloyd Wright discusses several of his recent projects, including his Usonian houses, his houses and studios in Taliesin, Wisconsin and Arizona, Fallingwater, and the Johnson Administration Building. His charismatic, flamboyant character and highly creative intelligence come alive on the pages as he looks to the 'Future', both in terms of the then imminent Second World War and his vision of cities. The new edition^[42] includes a perceptive new essay by the esteemed architectural historian, Professor Andrew Saint (born 1946), who places the lectures in context and highlights

their continuing resonance and appeal. Wright believed in creating environments that were both functional and humane, focusing not only on the appearance of a building but also on how it would connect with and enrich the lives of those within it. Moreover, at its core, his 'philosophy of organic design' stated that architecture has a relationship with its time and place. Frank Lloyd Wright's architecture has left a lasting legacy for today's creators of luxury architecture. His influence can be clearly seen in his thoughtful approaches to natural materials, the merging of interior and exterior spaces, and the rise of environmentally friendly design^[43].

Mies van der Rohe (1886-1969). A characterization of the paradoxical nature of life can be found in the works of the German sociologist George Simmel (1858-1918), who belongs to the school called 'philosophy of life' ('Lebensphilosophie'). Life, according to Simmel, is "a homogeneous process that cannot be divided. Form, on the other hand, is that which binds several elements together into a unity that is distinct from everything that surrounds it. Life is a being that does not limit itself, and in fact every limitation brings life to a dead ally, therefore life always seeks to transcend any given form, whether organic, spiritual, or objective. But life can only be realized through individuals, that is, creatures closed in on themselves and completely separate. While the flow of life flows through all individuals, in any one of them it becomes a certain form, different from any other individual. Life is a continuous flow, but its bearers are individuals, closed in on themselves. In other words, life is something embodied in a sharply defined form, but it constantly seeks to transcend its own limitations. It takes form, but it breaks it. It is complete, but it continues to develop. The greatest ability of life is to transcend itself. Simmel summarizes this by saying that the transcendence of life is immanent"^[44]. When form is the end, there is a striving for order, coherence, unity, and perfection. When life is over, the tendency is toward functionality. Mies emphasized that what he was concerned with was the service of life - that is, the functional side of architecture; yet many of his buildings are nonfunctional and have a quality of coherence and formal perfection. The best example is the Farnsworth House, discussed at the end of this article, which is completely uninhabitable (Figure 23). In this building, Mies achieved such a radical abolition of the separation between interior and exterior space that life could no longer exist there. He failed to take into account that the function of architecture is not only to provide shelter from the elements, but also to provide privacy and intimacy. "Mies, like Hegel, believed that these ultimate truths are revealed over time and in accordance with the 'spirit of the century': the economic order in which we live, discoveries in terms of science and technology, the mass of the population... and the mass of construction... Finally, the role of an architect, just like a scientist and a theologian, is to present these universal truths simply and clearly and to bring order among them for all time. We can create such an order in which all things have their rightful place and we want everything to have its place. which by right belongs to us in accordance with its nature... Mies, for example, creates extraordinary buildings only because he ignores many of the requirements of the building. If he had sought to solve more problems, his buildings would have been much less powerful. Various functionalist approaches to it emphasize this paradox"^[41].



Source: <https://interactive.wttw.com/ten/homes/more/farnsworth-house>, Accessed: 19.5.2023.

Fig 23: Farnsworth House, Plano, Illinois, USA, 1951 (Architect: Mies van der Rohe)

Life itself demands a division between outside and inside, and architecture should satisfy this need. Life demands the ability to shut oneself in to a private domain, and architecture should enable this. Life demands the preservation of the 'memory of the past', which exists 'inside', and architecture is expected to store these memories. Mies' contemporary, Adolf Loos (1870-1933), recognized this fact and considered the very idea of a transparent house to be a mistake. Loos proposed a radical division between the inside, associated with memory, psychology and private matters, which should not be exposed, and the outside, which should function like a suit that hides the private personality of man. Mies' mistake was that he did not recognize that life itself requires form in order to exist. As a modernist, his resistance to form as form reveals a purely abstract concept of life. The very contradiction between life and form is nothing more than an abstraction constructed by the mind, as such belonging more to form than to life. Life itself contains both the concept of life as a formless flow and the form in which that flow is embodied. George Simmel argued that modernist ideology rejects not only existing form, but also form as form. Mies followed the same logic in affirming life as life, rather than some actual embodiment of life. In other words, Mies affirmed life as essence, which is actually a contradictory concept, since life as a continuous flow cannot be understood as a permanent essence. In fact, his search was always for essences, which led him to design architectural situations in an increasingly extreme way. Hence the feeling that Mies designed his buildings in such a pure way that real life could not exist in them. In short, it can be said that his buildings, rather than enabling life, became ideas of the form of life. The opposition between life and form presupposes a spatial expression as the opposition between outside and inside and a temporal expression as the opposition between new and old. Life is sometimes said to be the interior of a living organism, as opposed to the form, which characterizes the inorganic world around it. But, as is often the case with paradoxes, we can turn this around and say that the external is like the current of life, while form is what is inside. In that case, life would be understood as opposed to spirit or mind, which creates rigid formal conceptual structures that stop all flow. In fact, the very opposition between internal and external is understood as part of form, while life, as mentioned above, lacks divisions. In every cultural history, Simmel says, there are two contradictory principles: one is systematic, which

tends to bring a particular form to perfection, and the other is progressive, which tends to adapt to the changing conditions of life. At a certain point in a culture, form, instead of being a means of life, becomes its object. Simmel argued that we see in order to live, but the artist lives in order to see. This is an example of the temporal opposition, mentioned above, between life and form. Mies van der Rohe's architecture exhibited modernist designs by incorporating clean geometric lines, wide spaces that gave a sense of freedom without emptiness, and minimal ornamentation. One of the ways Mies achieved this style was to use a minimal palette of materials and create intentionally open or universal spaces. Mies' choice of materials included steel and glass. This

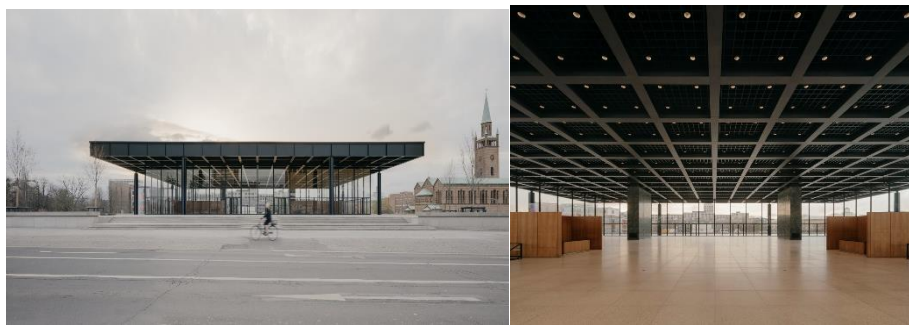
became known as 'skin and bones' architecture, with the steel in his designs representing the bones of the structure which were encased in glass. Another important feature of Mies van der Rohe's building projects was the use of what he called 'universal space'. This architectural concept describes a seamless, column-free long-span space. Examples of this design include the 1958 Seagram Building in New York (Figure 24), the 1968 New National Gallery in Berlin, Germany - it is considered "the most spectacular project of the 20th century" - (Figure 25), and the Martin Luther King Jr. Memorial Library, from 1972 in Washington, DC - his last design (Figure 26). For Mies, the goal of universal space was to connect the outside with the inside.



Source: <https://commercialobserver.com/2023/02/temasek-rfr-holding-seagram-building/>, Retrieved: May 18, 2025.

Source: <https://www.vecteezy.com/photo/16168468-new-york-city-feb-21-2021-what-party-sculpture-at-the-seagram-building-in-midtown-manhattan-new-york-city>, Retrieved: May 18, 2025.

Fig 24: Seagram Building, New York, USA, 1958 (Architect: Mies van der Rohe)



Source: <https://www.archdaily.com/960604/neue-nationalgalerie-david-chipperfield-architects>, Accessed: May 18, 2025.

Figure 25. New National Gallery, Berlin, Germany, 1968 (Architect: Mies van der Rohe)



Source: <https://www.greenroofs.com/projects/martin-luther-king-jr-memorial-library/>, Accessed: May 18, 2025.

Fig 26: Martin Luther King Jr. Memorial Library, Washington, 1972 (Architect: Mies van der Rohe)

At the Barcelona International Exhibition (1929), Germany commissioned Mies to design its pavilion. Indeed, Mies designed the famous German Pavilion, which most architectural historians often refer to as the 'Barcelona Pavilion', which is not entirely accurate, as it was actually the German Pavilion in Barcelona (Figure 27). Its purpose was simply to look worthy of the country it represented, in order to accommodate the German reception of King Alphonse XIII and other government officials. The pavilion was dismantled shortly after the exhibition. However, due to the importance and enormous impact of the design, it was reconstructed according to Mies' plans on its original site in 1986 by the architects Cristian Ciricio and Fernando Ramos [45].



Source: Haris Braic (June 12, 2006)

Fig 27: The author of this article visiting Mies van der Rohe's Barcelona Pavilion

Like most truly talented architects, Mies designed buildings for most of his life, from 1908 to 1958. Unfortunately, most of his designs never made it beyond the 'paper into the real world'. However, from his prolific career and wide range of structures, we begin to understand the adage he made so famous, that 'less is more', and to appreciate his enormous influence on modern architecture.

Le Corbusier (1887-1965). Le Corbusier is considered one of the most influential and perhaps most divisive architects in modern architecture [3]. He was praised for the sculptural quality of his free-form living spaces and reviled for setting the stage for the concrete social housing blocks built in the post-war years of his career. "In addition to his dualistic stance, there was one specific trait in his character that brought Le Corbusier into constant conflict with society, and ultimately led him to assume the role of a 'tragic' figure. This was his ultimate commitment to certain ideals that he sought to impress upon the disinterested society around him. Nowhere is this more evident than in his plans for the Radiant City" [41]. But how did a self-taught architect from a small Swiss town (La Chaux-de-Fonds) achieve such influence, and why is he still relevant today? [46] According to his philosophy, buildings had to be designed with a ground floor on columns, a free-form floor plan and façade, a horizontal

elongated window, and a roof garden. Reinforced concrete pilasters and right angles characterize his design of the Villa Savoy in Poissy, France (Figure 28). Even now, his philosophy is part of every architect's basic education, and his style is referenced in countless designs.



Source:

<https://www.flickr.com/photos/barracuda666/28140122884>, Accessed: 20.5.2023.

Fig 28: Villa Savoye, Poissy, France, 1931 (Architect: Le Corbusier)

Along with Mies van der Rohe and Walter Gropius, Le Corbusier was instrumental in creating the International Style. It was a movement defined by rectilinear forms, open interiors, and 'weightless' structures. Le Corbusier outlined these principles in his "Five Principles of the New Architecture", published in 1927. He advocated [47]:

- Pilots – a network of columns that replace load-bearing walls, allowing architects to make more use of floor space,
- Free floor plans – flexible living spaces that can adapt to changing lifestyles, thanks to the absence of load-bearing walls,
- Roof gardens – a flat roof covered with vegetation, which maintains a constant humidity and regulates temperatures,
- Horizontal windows – pierced through non-load-bearing walls, these strips provide even light and panoramic views,
- Free facades – open and closed sections that allow the facade to actively connect or separate interior and exterior elements.

It is understood that Le Corbusier's philosophy was as much about function as it was about form. Much of his work focused on how good architecture could also influence social landscapes. His principles of 'Unité d'Habitation' outlined his vision: large apartment blocks that offered spacious living, shaded spaces, roof gardens, shopping streets and other amenities. These would be buildings in which people would not only reside, but truly live (Figure 29).



Source: <https://www.flickr.com/photos/denisesakov/40365942273>, Accessed: May 18, 2025.

Fig 29: Unité d'Habitation, Marseille, France, 1945 (Architect: Le Corbusier)

Walter Gropius (1883-1969). Walter Adolph Georg Gropius (1883-1969) was a German architect and founder of the Bauhaus school (1919), who, along with Alvar Aalto (1898-1976), Ludwig Mies van der Rohe (1886-1969), Le Corbusier (1887-1965) and Frank Lloyd Wright (1867-1959), is widely regarded as one of the pioneering masters of modernist architecture. Gropius was the leading architect of the International Style. After his death, his widow Ise Gropius (1897-1983) arranged for his collection of works to be divided into early and late. Both parts were photographed with funds from the Thyssen Foundation. Late papers relating to Gropius's career after 1937 and photographs of early works, stored in the Houghton Library at Harvard University. Early works and photographs of later works have been housed in the Bauhaus Archive, then in Darmstadt, since its re-establishment in Berlin. Mrs. Gropius also bequeathed the Gropius House in Lincoln (Figure 30) to Historic New England in 1980. The Gropius House was added to the National Register of Historic Places in 1988 and is now open to the public for viewing ^[3].



Source: <https://i.redd.it/749usti1t2w31.png>, Accessed: 20.5.2023.

Fig 30: Gropius House, Lincoln, Massachusetts, USA, 1938 (Architect: Walter Gropius)

Walter Gropius was a firm believer in the ideology of 'form follows function'. His designs were simple and efficient. He

firmly believed that form should reflect the function of any building design in order to be fully effective. This theory is confirmed by one of his early designs – the Fagus Factory, Germany ^[3] (Figure 31). He collaborated with Adolf Meyer on the factory facade. The curtain wall and glass elevation are considered a monument to European modernism. He was also later influenced by the Expressionist movement, as evidenced by his participation in the utopian expressionist correspondence Glass Chain in 1929.



Source: https://shop.geo.de/de_DE/geo-pur-abo/4000012.html?pur-int=1, Accessed: May 18, 2025

Fig 31: Fagus Factory, Alfeld, Germany, 1913 (Architects: Walter Gropius and Adolf Meyer)

Gropius believed that all design should be approached through the study of the problems to be addressed, and consequently followed the modernist principle that function should dictate form. Unlike Mies van der Rohe, Gropius showed more sensitivity to man, or rather his complex nature. "The satisfaction of the human soul with beauty is as important to a full, civilized life, perhaps even more important than the satisfaction of our material needs for comfort" ^[48]. "In his later years, Gropius often attacked "the exocentric prima donna-architect who imposes his personal ideas on the intimidated client" but never named whom he had in mind" ^[41]. "What is negative about Gropius is his departure from principles and retreat into pragmatism, his willingness to sacrifice all the values of the totality of society - what Gropius once called the entire community, and sometimes an integrated society. If we ask ourselves what motivated his attitude, the answer would be that it drew its roots from his vision of an integrated community of a

medieval city that erected a collective monument to the glory of an impersonal deity”^[41].

Alvar Aalto (1898-1976). Hugo Alvar Henrik Aalto was a Finnish architect and designer. His work includes architecture, furniture, textiles and glassware, as well as sculptures and paintings. He never considered himself an artist, seeing painting and sculpture as “branches of a tree whose trunk is architecture”. Aalto's early career took place in parallel with the rapid economic growth and industrialization of Finland during the first half of the 20th century. Many of his clients were industrialists, among them the Ahlström-Gullichsen family. The range of his career, from the 1920s to the 1970s, is reflected in the styles of his work, from Nordic Classicism, to rational modernism during the 1930s, to a more organic modernist style from the 1940s onwards. Typical of his entire career was a concern for design as a Gesamtkunstwerk, a complete work of art, in which he – together with his first wife Aino Aalto (1894–1949) – would design a building and give special treatment to the interior surfaces, furniture, lamps and glassware. His furniture designs are considered Scandinavian modern, in terms of their concern for materials, especially wood, and their simplification, but also their technical experimentation, which led him to receive patents for various manufacturing processes, such as bent wood. As a designer, he is celebrated as the inventor of bent plywood furniture. The Alvar Aalto Museum, designed by Aalto himself, is located in his hometown of Jyväskylä^[3] (Figure 32).



Source: <https://larryspeck.com/photography/alvar-aalto-museum/>, Accessed: May 18, 2025.

Fig 32: Alvar Aalto Museum, Jyväskylä, Finland, 1973 (Architect: Alvar Aalto)

At the beginning of the 20th century, the wave of industrialization brought scientific and technological achievements, but also caused numerous problems: the outbreak of an ecological crisis and the lack of humanistic concern, among others. Faced with these increasingly serious problems, people increasingly yearned for the return of the

connection between humanity and nature, and the concept of ecology was increasingly understood and recognized. As early as 1866, the German biologist Ernst Heinrich Philipp August Haeckel (1834-1919) put forward the concept of 'ecology'. In the late 1980s, with the rapid development of ecology as a scientific discipline and its gradual penetration into other related disciplines, ecological aesthetics gradually began to take shape. Ecological aesthetics is an organic combination of ecology and aesthetics. It studies and connects aesthetics with the theories and methods of ecological aesthetics, and also examines the ecological environment in the context of aesthetics, thus creating a completely new theoretical form of aesthetics^[49]. Only by understanding the interaction between nature and society can we create designer products that satisfy the aesthetic needs of both users and designers, and at the same time artistic design products have a lasting life. Alvar Aalto respects nature and stands for the humanization of design, the starting point of which is the physical and psychological experience of the user. Between the 1920s and the 1970s, he designed many architectural works and a large number of furniture, glass and lighting designs that embodied the idea of ecological aesthetics^[50]. Aalto was an advocate of the 'gesamtkunstwerk' ('total work of art'), a concept that manifests itself in his desire to control every aspect of the interior of the Paimio Sanatorium^[3] (Figures 33,34).

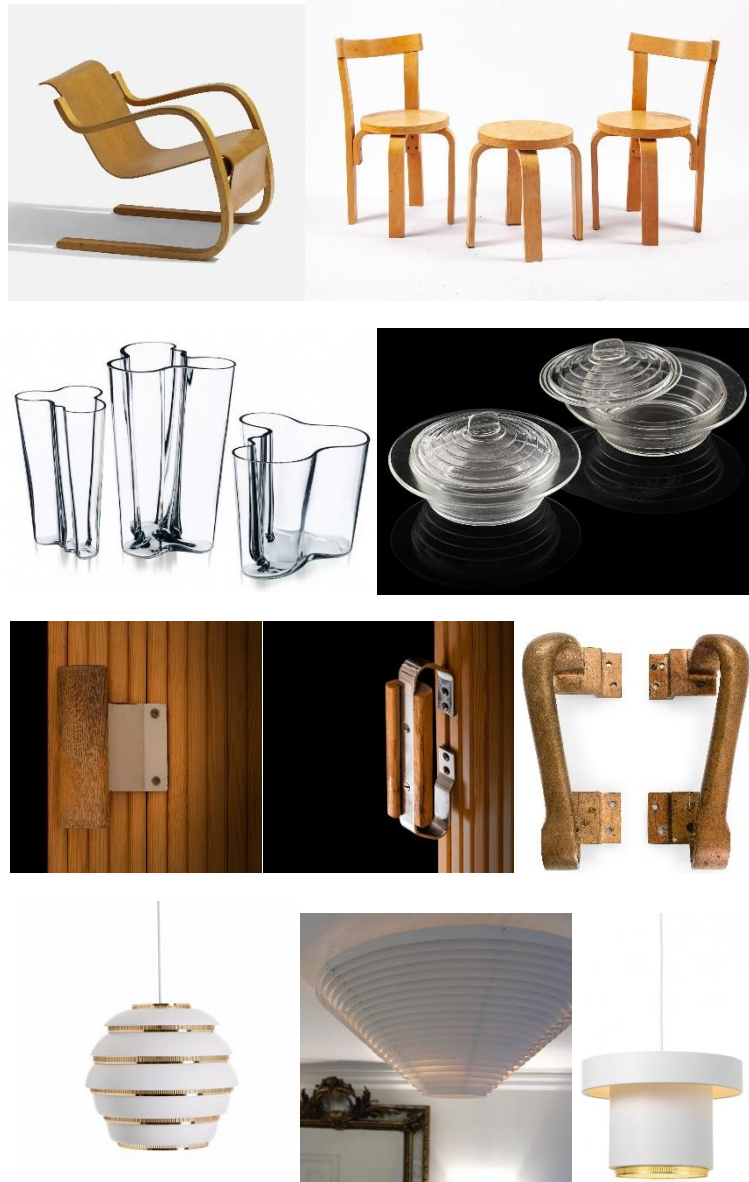


Source: <https://www.metalocus.es/en/news/alvar-aaltos-paimio-sanatorium-now-sale>, Accessed: May 18, 2025.

Source: <https://www.architectural-review.com/buildings/revisit-aaltos-paimio-sanatorium-continues-to-radiate-a-profound-sense-of-human-empathy>, Accessed: May 18, 2025.

Fig 33: Paimio Sanatorium, Paimio, Finland, 1932 (Architect: Alvar Aalto)

He produced everything, from plates and dishes to door handles and hardware for clients in Finland and beyond (Figure 34). Alvar Aalto was a giant of the modernist scene without ever adhering to the strict rules of high modernism. Growing up in the midst of the harsh Finnish forest landscape, he found nature unforgiving but also caring. His design for the Paimio Sanatorium (an isolation hospital for tuberculosis patients in the forest east of Turku, southwestern Finland) is considered the pinnacle of international modernism and one of the most impressive buildings of the 20th century.



Source: <https://www.wright20.com/auctions/2019/05/scandinavian-design/145>, Accessed: May 18, 2025.

Source: <https://www.vinterior.co/furniture/seating/stools/set-with-2-children-s-chairs-stool-by-alvar-aalto-1960s>, Accessed: May 18, 2025.

Source: https://www.ambientedirect.com/en/iittala/alvar-aalto-vase-120mm_pid_3298.html, Accessed: May 18, 2025.

Source: <https://www.mutualart.com/Artwork/A-pair-of-butter-dishes-for-the-Bolgebli/3D7BFA9722716255>, Accessed: May 18, 2025.

Source: <https://www.mutualart.com/Artwork/A-Pair-of-door-handles/5000C289FBFE4B8A>, Retrieved: May 18, 2025.

Source: <http://shopbsen.off-69.gq/products.aspx?cname=alvar+aalto+ceiling+lamp&cid=173>, Retrieved: May 18, 2025.

Fig 34: Some designs of furniture, tableware and interior equipment by architect Alvar Aalto

In 1927, Aalto commissioned many pieces of metal furniture designed by Marcel Breuer for his house. Aalto quickly recognized the limitations of these metal chairs: their ease of heat (cold) transfer, their harsh reflective surfaces, and their lack of comfort. The following year, Aalto designed his first cantilever chair, made of tubular steel legs but with the addition of a plywood seat. Aalto's design is no longer an aesthetic object independent of its users, but an equal existence of interaction and symbiosis between users and products. Aalto's architectural design coordinates the relationship between man and nature and returns to ecology, with its eternal value. Aalto designed in a 'natural way', and in his designs he sought to blur the boundaries between human life and the natural environment^[51]. He pioneered the ecological direction of design aesthetics. The Italian designer Gianluca Gelmini notes that "Alvar Aalto does not only seek

simple balance and space, and the relationship between architecture and the city"^[52]. The foundation of ecological aesthetics is human life, the experience of integrating nature, which comes from the union of heaven and man, the union of heaven and earth, nature and heart, and makes the beauty of artistic conceptions and rhythm in space and time. Alvar Aalto finds beauty in nature and integrates the inspirations and inspirations that nature has brought into his design, so that his design functions on the principles of ecological aesthetics. In short, the ecological-aesthetic significance of Aalto's design is as follows: on the one hand, it reflects the close relationship between man and nature in the material, modeling and function of the product; on the other hand, the design shows the harmony of the coexistence of man and nature (Figure 35).



Source: <https://www.weranda.pl/galeria/villa-mairea-jedna-z-najpiekniejszych-w-finlandii/33069>, Accessed: May 18, 2025.

Source: <https://www.centoventi.com/en/portfolio/villa-mairea-alvar-aalto/>, Accessed: May 18, 2025.

Source: <https://yle.fi/a/3-10221421>, Accessed: May 18, 2025.

Fig 35: Villa Mairea, Noormarkku, Finland, 1939 (Architect: Alvar Aalto)

Norman Foster (born 1935). Norman Foster's architecture incorporates adaptive reuse, flexibility, and social values, but not the principle of revivalism. His stated values include adaptability, ecology, environmental awareness, flexibility, integration, regeneration, reuse, social sensitivity, and technology^[3]. "Architecture is really about people's needs, material needs, things that you can measure, keeping us warm when it's cold, keeping us cool when it's hot, protecting us from the elements, but it's also about the spiritual dimension, things that move us, that make us feel happy, comfortable, you can call it any word, you can call it beauty, you can call it aesthetics, you can call it welcoming, friendly. Or something that makes us feel good. Architecture is about a social agenda"^[53]. Norman Foster wants his buildings to be environmentally friendly, but at the same time to be pleasant places for people to be in and to look at. Its design takes full advantage of the latest technologies, seeking great energy efficiency with excellent integration with the environment and creating a user-friendly atmosphere. Foster believes that "it has become apparent that a political initiative is needed to create a holistic approach to design. The question is whether we get the message out early enough, as we see many of these deadlines pass and are not met, or will they end up being too late for our environment. That's why I say it's not a matter of

fashion, it's really a matter of survival"^[53]. Foster is known for creating the shapes of buildings into works of art. Foster says: "More and more people are inhabiting cities, most of the planet, so if we create new cities, which we must, they must be sustainable, clean, attractive, great places to live, without pollution, energy harvesting, energy conservation and if this is true for new cities, it is also true for existing cities. They must transform into improved public spaces, a richer mix of activities, safer and of course more sustainable. It's a dream, but it's a practical dream"^[53]. Foster achieves its goal of 'environmentally friendly buildings'. The Gherkin (30 St Mary Axe) in London (2004) exploits this effect (Figure 36). The shafts extract warm air from the building in summer and heat the building in winter using passive solar heating; the shafts allow sunlight to pass through the building, making the working environment more comfortable and reducing lighting costs. The building uses energy-saving methods that allow it to use half the energy that a similar tower would normally consume. The voids in each floor are created by six shafts that serve as a natural ventilation system for the entire building, although the necessary fire escapes at every sixth floor interrupt the 'chimney'. Environmental aspects are present throughout Lord Foster's architecture.



Source: <https://www.archute.com/gherkin-london/>, Accessed: May 19, 2025.

Fig 36: The Gherkin Tower (30 St Mary Axe), London, England, 2004 (Architect: Norman Foster)

Renzo Piano (born 1937). The works of architect Renzo Piano are generally characterized as 'high-tech' architecture. This was foreshadowed by his first major project, the Pompidou Center

in Paris (1971-1977), which he worked on together with the great architect Richard Rogers^[3] (Figure 37).



Source: <https://www.surface.com/articles/centre-pompidou-renovation/>, Accessed: May 19, 2025.

Fig 37: Pompidou Centre, Paris, France, 1977 (Architects: Renzo Piano and Richard Rogers)

The renovation and expansion of the Morgan Library and Museum in New York (2006) shows that Renzo Piano has

more than one style. The interior is open, light, modern, natural, old and new at the same time (Figure 38).



Source: <https://www.themorgan.org/architecture/renzo-piano/expansion>

Source: <https://architizer.com/projects/renovation-and-expansion-of-the-morgan-library/>, Accessed: May 19, 2025.

Fig 38: Morgan Library and Museum, New York, USA, 2006 (Architect: Renzo Piano)

Renzo Piano believes that architecture is one of the ways in which people tell stories and that we should never be satisfied with just one result, but should continually strive for more. He has avoided any recognizable signature so as not to be limited by expectations, but he firmly believes in coherence, and a common thread throughout his various projects is that

they are light and contemporary structures. With attention to detail and maximizing the use of natural light, many of Renzo Piano's projects demonstrate how massive structures can maintain a sense of lightness and airiness. Examples include the 1990 San Nicola Stadium in Bari, Italy, designed to appear to open like the petals of a flower (Figure 39).



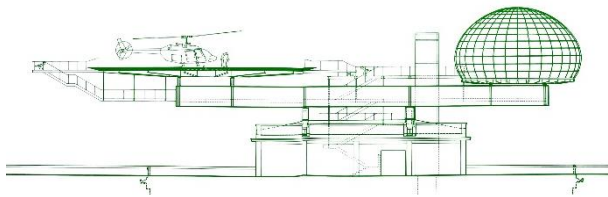
Source: <https://www.tensinet.com/index.php/component/tensinet/?view=project&id=3762>, Accessed: May 19, 2025.

Source: <https://www.stadiumconsultancy.com/new-future-for-stadio-san-nicola/>, Accessed: May 19, 2025.

Fig 39: Stadio San Nicola, Bari, Italy, 1990 (Architect: Renzo Piano)

Similarly, in the Lingotto district of Turin, Italy, a 1920s automobile factory now has a transparent meeting room with bubbles on the roof - a light-filled space built (1994) for

employees in the building's conversion. The exterior facade remains historic while the interior is completely new (Figure 40).



Source: <https://www.atlasofplaces.com/architecture/lingotto-factory/#figure-3>, Accessed: May 19, 2025.

Fig 40: Meeting room in a Car manufacturing plant, Turin, Italy, 1994 (Architect: Renzo Piano)

Unanimously recognized as unique, Renzo Piano's architecture cannot be traced to any school, movement or style. His design idea is not based on theory, but on the way of relating to the project, with constant interaction between construction aspects (technological, scientific, production) and poetic content. Nevertheless, four themes can be observed in his professional development: his interest in the 'piece' (organism, building system), design for industry, the problem of housing and cities, and a large project. Renzo Piano's works are characterized by a unique interplay of functional, technical and aesthetic aspects. An architect

without a recognizable style, Renzo Piano nevertheless designed some of the most famous buildings in the world; among them are the Pompidou Center in Paris, 1977 (Figure 37), the New York Times Building, 2007 (Figure 41), the Shard Tower in London, 2012 (Figure 42), the Whitney Museum in New York, 2015 (Figure 43) and the Palais de Justice in Paris, 2017 (Figure 44). Known as a master of construction technology, Renzo Piano uses a wide variety of materials and construction methods to create buildings whose designs are inspired by location and function ^[3].



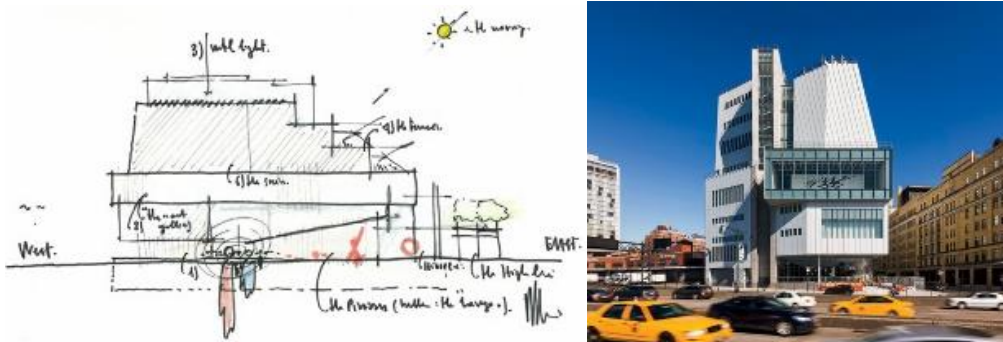
Source: <https://www.brookfieldproperties.com/en/our-properties/the-new-york-times-building-554.html>, Accessed: May 19, 2025.

Fig 41: New York Times Building, New York, USA, 2007 (Architect: Renzo Piano)



Source: <https://www.designboom.com/architecture/renzo-piano-the-shard-in-london-now-complete/>, Accessed: May 19, 2025.
 Source: <https://www.timeout.com/london/attractions/the-view-from-the-shard>, Accessed: May 19, 2025.

Fig 42: Shard Tower, London, England, 2012 (Architect: Renzo Piano)



Source: <https://www.architecturalrecord.com/articles/7529-whitney-museum-of-american-art-by-renzo-piano-building-workshop> Accessed: May 19, 2025.

Fig 43: Whitney Museum, New York, USA, 2015 (Architect: Renzo Piano)



Source: <https://www.architectural-review.com/buildings/stack-effect-tribunal-de-paris-in-france-by-renzo-piano-building-workshop> Accessed: May 19, 2025.

Fig 44: Palais de Justice, Paris, France, 2017 (Architect: Renzo Piano)

Richard Rogers (1933-2021). Richard George Rogers is an Italian-British architect known for his modernist and functionalist designs in high-tech architecture. Rogers is best known for his work on the Pompidou Centre in Paris, with Renzo Piano (1977), the Lloyd's Building, 1986 (Figure 45) and the Millennium Dome in London, 1999 (Figure 46), the Senedd in Cardiff, 2001 (Figure 47) and the European Court of Human Rights building in Strasbourg, 1994 (Figure 48). He has received the RIBA Gold Medal, the Thomas Jefferson

Medal, the RIBA Stirling Prize, the Minerva Medal and the Pritzker Prize. In his long and successful design career he has collaborated (been a team member) with: Team 4492, Richard and Su Rogers Architects (with John Young and Laurie Abbott), Piano + Rogers, The Richard Rogers Partnership and Rogers Stirk Harbour + Partners^[3]. Architect Richard Rogers outlined his philosophy of architecture in a book that says it all with its title: A Place for All People: Life, Architecture and the Fair Society.



Source: <https://www.architectsjournal.co.uk/news/rogers-grade-i-listed-lloyds-building-set-for-once-in-a-generation-redesign>
Accessed: May 19, 2025.

Fig 45: Lloyd's Building, London, England, 1986 (Architect: Richard Rogers)



Source: <https://www.britannica.com/topic/Millennium-Dome>, Retrieved: May 19, 2025.

Fig 46: Millennium Dome, London, England, 1999 (Architect: Richard Rogers)



Source: <https://rshp.com/projects/civic/senedd-cymru-welsh-parliament/>, Accessed: May 19, 2025.

Fig 47: Senedd Cymru, Welsh Parliament, Cardiff, England, 2001 (Architect: Richard Rogers)



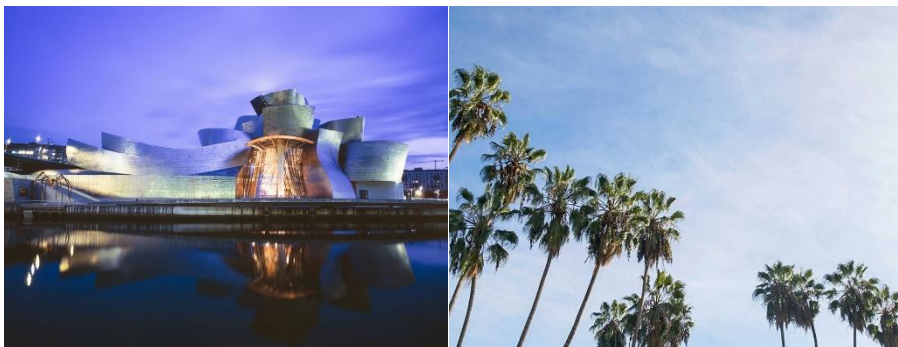
Source: <https://www.coe.int/en/web/civil-society/european-court-of-human-rights>, Accessed: May 19, 2025.

Fig 48: European Court of Human Rights building, Strasbourg, France, 1994 (Architect: Richard Rogers)

Speaking about the design of the Pompidou Centre in Paris, which he worked on with architect Reza Piano, Richard Rogers says that “this would not be a temple of high culture; rather, it would be what our submission called a place for all people, young and old, poor and rich, of all faiths and nationalities, a cross between the vitality of Times Square and the cultural richness of the British Museum, a place for two-way participation rather than passive consumption, a part of the urban infrastructure rather than a building, a project driven by social and political responsibility. These were strong political statements, but architecture is inevitably social and political. I have always believed that there is more to architecture than architecture. The first line of the constitution of my practice is: ‘Architecture is inseparable from the social and economic values of the individuals who practice it and the society that sustains it’...” Architects are both scientists and artists, solving problems in three dimensions, using structure and materials to create scale and humanize space, capturing the play of light and shadow and achieving aesthetic effect. From the primitive hut to the Athenian Agora, from the medieval palace to the city hall, from the street bench to the grand plaza, architecture shapes our lives. Good architecture civilizes and humanizes, bad architecture brutalizes”... “But architecture also structures cities with buildings and public spaces, all the defining inventions of civilization. Cities are the places where human beings first came together, where we evolved from social to political animals—from pack animals to polises. The first cities were sanctuaries, offering numerical safety in a hostile world, but they soon grew into something more complex and

creative. City dwellers gathered to exchange ideas and goods, to meet friends and strangers, to discuss, debate, trade, and collaborate. For 6,000 years, cities have transformed human history, providing the foundation for an astonishing surge of creativity and discovery”^[54].

Frank Gehry (born 1929). Frank Owen Gehry is a Canadian-born American architect and designer, currently residing in Los Angeles. Gehry's most famous works include the Guggenheim Museum in Bilbao, Spain, 1997 (Figure 49, left), the Walt Disney Concert Hall in Los Angeles, California, 2003 (Figure 49, right), the Louis Vuitton Foundation in Paris, 2014 (Figure 50, left), the MIT Ray and Maria Stata Center in Cambridge, Massachusetts, 2004 (Figure 50, right), Vontz Center for Molecular Studies on the University of Cincinnati campus (Vontz Center for Molecular Studies on the University of Cincinnati), Cincinnati, Ohio, USA, 1999 (Figure 51, left), Museum of Pop Culture in Seattle, USA, 2000 (Figure 51, right), New World Center in Miami Beach, USA (2011), Weisman Art Museum at the University of Minnesota (Weisman Art Museum at the University of Minnesota) in Minneapolis, USA (1993), Dancing House in Prague, Czech Republic (1996), Vitra Design Museum and the MARTa Herford museum in Herford, Germany (2005), Art Gallery of Ontario in Toronto, Canada, 2008 (Figure 52), Cinémathèque Française in Paris (1994), and 8 Spruce Street (8 Spruce Street) in New York, USA, his private residence (Frank Gehry's private residence) in Santa Monica, California (1978). Gehry is also the designer (2020) of the National Dwight D. Eisenhower Memorial (National Dwight D. Eisenhower Memorial)^[3].



Source: <https://www.guggenheim-bilbao.es/en/the-building#gallery-5>, Retrieved: May 19, 2025.

Source: <https://www.discoverlosangeles.com/visit/the-top-10-must-sees-hidden-gems-of-walt-disney-concert-hall>, Retrieved: May 19, 2025.

Fig 49: Left: Guggenheim Museum, Bilbao, Spain (1997). Right: Walt Disney Concert Hall, Los Angeles, California, USA (2003)



Source: <https://archello.com/project/foundation-louis-vuitton-museum>, Accessed: May 19, 2025.

Source: <http://www.inquiriesjournal.com/articles/929/mits-stata-center-the-static-soul-of-a-dynamic-body>, Accessed: May 19, 2025.

Fig 50: Left: Louis Vuitton Foundation, Paris, France (2014). Right: MIT Ray and Maria Stata Center, Cambridge, Massachusetts, USA (2004)



Source: <https://waltekltd.com/portfolio/ucvontz/>, Accessed: May 19, 2025.

Source: <https://www.azahner.com/works/mopop>, Accessed: May 19, 2025.

Fig 51: Left: Vontz Center for Molecular Studies at the University of Cincinnati, Cincinnati, Ohio, USA, 1999. Right: Museum of Pop Culture, Seattle, USA (2000)



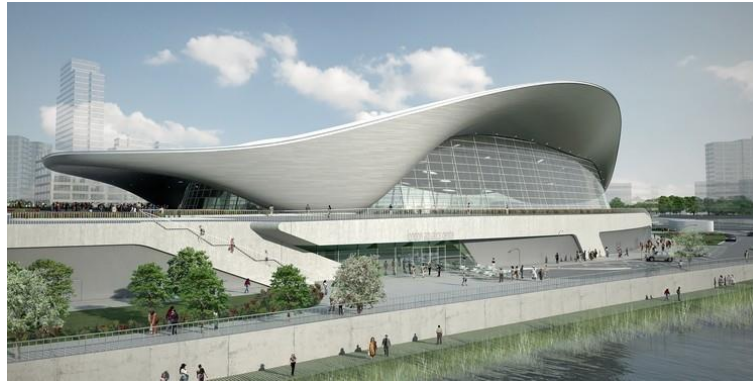
Source: <https://obe.com/projects/art-gallery-of-ontario-ago/>, Accessed: May 19, 2025.

Fig 52: Art Gallery of Ontario, Toronto, Canada, 2008 (Architect: Frank Gehry)

Gehry sees the world as a collision of ideas represented through buildings, music, and art that is not properly expressed through the simplicity of the neat, clean squares of modernism. The white boxes that are the architectural hallmarks of the twentieth century—while beautiful—can be hostile. Gehry sees this type of architecture as overpowering to the lives of the people who live in it, and instead advocates buildings and interiors that serve as a backdrop for life. According to Gehry, his mission as an architect is clear: “To design something that someone would want to be a part of, something that they would want to visit and enjoy in an attempt to improve the quality of their life”^[55]. Gehry believes that “architecture is the quest to convey a sense of humanity through inert materials. You want to create a feeling or an emotional response that is not just comforting but enlightening”^[55]. According to Gehry, “the goal of an architect is to produce a stimulating and positive experience through his design”^[55]. Gehry attempted this with the Walt Disney Concert Hall, creating a space in which a reciprocal relationship between the feelings of the musicians and the audience could flourish. He also considered the setting of the Walt Disney Concert Hall, as he wanted the building to connect with its neighboring buildings. Gehry advises architects to study architectural greats such as: Le Corbusier, Zaha Hadid, Lina Bo Bardi, Borromini, Bernini, Michelangelo, Brunelleschi, Oscar Niemeyer, Louis Kahn, Julia Morgan, Ludwig Mies van der Rohe, Eliel Saarinen, Louis Sullivan, Frank Lloyd Wright. But remember: it is your conscience, your talent, and your mind that have a responsibility to others^[55].

Zaha Hadid (1950-2016). Zaha Mohammad Hadid was a British-Iraqi architect, artist, and designer, recognized as a major figure in late 20th and early 21st century architecture.

Born in Baghdad, Iraq, she studied mathematics as an undergraduate and then enrolled at the Architectural Association School of Architecture in London in 1972. In search of an alternative system to traditional architectural drawing, influenced by Suprematism and the Russian avant-garde, Hadid accepted painting as a design tool and abstraction as a research principle to re-investigate interrupted and untested experiments of modernism in order to discover new fields of construction. Her major works include the London Aquatics Center for the 2012 Olympics (Figure 53), the Broad Art Museum in East Lansing, USA, 2012 (Figure 54, left), Rome's MAXXI Museum in Rome, 2010 (Figure 54, right) and the Guangzhou Opera House, China, 2010 (Figure 55). Hadid is the first woman to receive the Pritzker Architecture Prize in 2004. It received the most prestigious British architectural award, the Stirling Prize, in 2010 and 2011 and 2012. Queen Elizabeth II named her a Dame for services to architecture, and in February 2016, the month before her death, she became the first woman to be awarded the Royal Gold Medal from the Royal Institute of British Architects^[3]. Zaha Hadid is an architect whose works are a combination of the culture, identity of Iraq and new thought, architectural and artistic schools such as Suprematism, Deconstructivism and the fluidity of Arabic calligraphy. Her early projects reflected deconstructivism, a non-Derridean philosophy based on ideas from various sources such as Suprematism, constructivism, parametric architecture and sculptural image making. She was influenced and inspired by Rem Koolhaas, Elio Zenghelis, Kazimir Malevich, Russian Constructivism, Chinese and Japanese architecture; nature was a dominant source of her inspiration.



Source: <https://www.archdaily.com/161116/london-aquatics-centre-for-2012-summer-olympics-zaha-hadid-architects>
Accessed: May 20, 2025.

Fig 53: London Aquatics Centre for the 2012 Olympics, London, England, 2012 (Architect: Zaha Hadid)



Source: <https://www.bartonmalow.com/projects/eli-and-edythe-broad-art-museum/>, Accessed: May 20, 2025.

Source: <https://www.bdonline.co.uk/zaha-hadid-architects-maxxi-museum-in-administration/5035510.article>, Accessed: May 20, 2025.

Fig 54: Left: Broad Art Museum, East Lansing, USA (2012). Right: Rome's MAXXI Museum, Rome, Italy (2010)



Source: <https://sworld.co.uk/02/2238/photoalbum/guangzhou-opera-house-by-zaha-hadid>, Accessed: May 20, 2025.

Fig 55: Guangzhou Opera House, Guangzhou, China, 2010 (Architect: Zaha Hadid).

In outlining her philosophy of architecture, Zaha Hadid stated that “architecture must contribute to the progress of society and ultimately to our individual and collective well-being”^[56]. The buildings that emerged from her vision and the collective genius of her firm, Zaha Hadid Architects, can sometimes seem fantastical, triumphant, and even a little loud, but they all stem from the fundamental function of architecture – to facilitate, and even carry out, everyday life. The accomplished architect is a polarizing figure, with outspoken proposals to pedestrianize vast swaths of London, a plan that aims to alleviate problems such as pollution and road safety. Zaha Hadid Architects’ plans for two high-rise towers in Vauxhall have also met with opposition as well as

support. Whether it’s her more controversial designs, her dreams unfulfilled, or her masterpieces realized, Zaha Hadid’s style is rightly recognized globally, and she has earned the status of a legendary architect since her death in March 2016.^[57] Among the key works created by Zaha Hadid, the Heydar Aliyev Cultural Center in Baku, Azerbaijan, 2012 (Figure 56) is particularly noteworthy. The artwork features characteristic elements of Zaha Hadid’s style, including sharp angles and curves, as well as new materials such as glass-fiber reinforced concrete and glass-fiber reinforced polyester. The Heydar Aliyev Cultural Center is particularly emblematic of her style, as it embodies not only technological progress but also luxury.



Source: <http://www.insplosion.com/blog/posts/inside-heydar-aliyev-centre-zaha-hadid-architects/>, Accessed: May 20, 2025.

Fig 56: Heydar Aliyev Centre, Baku, Azerbaijan, 2012 (Architect: Zaha Hadid).

Looking back at the changes that Zaha Hadid brought to art and industry, it could be argued that she coined the term 'luxury architecture'. Embracing unfettered originality and the possibility of future innovation, Hadid's designs are imbued with meaning and stimulate the imagination of the visitor ^[57]. Although she has been called a twenty-first century female modernist, she understood the roots of modernism, believing in new structures, seeing things in new ways, and representing the realities of modernity, but she did

not like the principle of repetition of modernism, which she portrays as the mass production of the industrial period. Her designs are a continuation of modernism's breaking down of inherited rules of architecture, which represents freedom in design. At first glance, her architecture gives the impression of a strong and elegant form that is given priority to external appearance, followed by functional achievements, circulation, lighting, for example. She sees architecture as an art that deals with human emotional experiences such as excitement, joy, and adventure. She has pushed the boundaries of design, defied architectural rules and conventions, and built what was once unbuildable. She created her own radical design rules from her own experience and rationalism. She seeks aesthetics in art, nature and applies them to design. This desire to search helps her diligently acquire some primary skills that have become her own design techniques. Zaha Hadid's buildings are now considered one of the most attractive architectural styles in the world such as Guangzhou Opera House (2010), Heydar Aliyev Culture Center in Azerbaijan (2012) and Galaxy Soho in China, 2012 (Image 57). Her architecture attracts people and media and is considered an indicator of the economic strength of the country. Full of creative rebellion, mysterious thoughts, rejection of what is the norm and a strong will to achieve success, Zaha Hadid is now considered a new architectural school in the 21st century followed by a generation eager for scientific innovation and artistic creation.



Source: <https://urbandedesignforum.org/event/galaxy-soho-beijing/>, Accessed: May 20, 2025.

Fig 57: Galaxy Soho, Beijing, China, 2012 (Architect: Zaha Hadid)

Rem Koolhaas (born 1944). Remment Lucas Koolhaas is a Dutch architect, architectural theorist, urbanist, and professor in the practice of architecture and urban design at the Graduate School of Design at Harvard University. He is often cited as a representative of deconstructivism, and is the author of the book *Delirious New York: Retroactive Manifesto for Manhattan*. Some see him as one of the most important architectural thinkers and urban planners of his generation, while others see him as an iconoclast in his own right. In 2000, Rem Koolhaas received the Pritzker Prize for Architecture. He was elected to the American Philosophical Society in 2014 ^[3]. Rem Koolhaas has expressed his understanding of architecture: "The reason I am interested in architecture is the possibility of working in different places, projects and scales. If this were nurtured, architecture could

evolve significantly. Architects continue to build certain types of buildings in which they were trained, they have probably exhausted their ideas. If they do not change, they do not develop and therefore eventually stop thinking" ^[58]. Unlike many of his contemporaries, who developed a distinctive aesthetic, Koolhaas did not establish a fixed look from project to project. Instead, he created architecture that, using the best of modern technology and materials, responded to the needs of a particular place and client. "His art, his words and his vision – there are so many reasons to respect Rem Koolhaas" ^[59]. Rem Koolhaas was uncompromising and many of his projects remained unbuilt. He discovers the future before anyone else through a process that rapidly brings new ideas and maintains a high level of complexity throughout each project and within the studio. Therefore, it is

not buildings, models, books, exhibitions or magazines that are Koolhaas' greatest achievement, but the creation of a structure capable of producing and maintaining a constant flow of ideas. "Most of our work for competitions is automatically lost. No other profession would accept such conditions. But you cannot look at these designs as waste. They are ideas; they will survive in books... Today's architecture is subordinated to the market and its conditions. The market has displaced ideology. Architecture has become a spectacle. It has to be packaged and no longer has any significance other than as a landmark... Architecture itself is not to blame. The more important factor, in my opinion, is the political neglect of these areas, which are essentially cut off from other neighborhoods. It was always more of a slogan than a program. I don't think anyone believes in it anymore. I see a lot of superfluous things in today's design. It is possible that the pendulum will swing back and a strict aesthetic will return... The beauty of my profession lies in its randomness and surprise. And don't think that I can choose

my projects. I have to build what is offered to me" [60]. The McCormick Tribune Campus Center (MTCC) is a building on the main campus of the Illinois Institute of Technology, in the Bronzeville neighborhood of South Chicago. The single-story, 1,000-square-foot building was the first building designed in the United States by architect Rem Koolhaas. The design of the building began in 1997 during an international architectural design competition organized by the school. Finalists included Peter Eisenman, Helmut Jahn, Zaha Hadid, Kazuyo Sejima, and the winner, Rem Koolhaas. The site was previously a heavily used student parking lot with the Green Line tracks running overhead. Koolhaas traced the movement of students across the lot, resulting in diagonal walkways as the center's internal thoroughfares. A major design challenge was the noise from the Green Line, which ran through the lot. The solution was to enclose a 520-foot section of the tracks in a stainless steel tube. The pipe support structure is completely independent of the building to minimize vibrations passing between them (Figure 58).



Source: <https://arquitecturaviva.com/works/centro-de-estudiantes-mccormick-tribune-8>, Accessed: May 20, 2025.

Fig 58: McCormick Tribune Campus Center, Illinois Institute of Technology, Chicago, USA, 2003 (Architect: Rem Koolhaas).

The Seattle Central Library is the flagship library of the Seattle Public Library System. The glass and steel building (56.9 meters high) in downtown Seattle, Washington opened to the public on May 23, 2004. Rem Koolhaas and Joshua Prince-Ramus of OMA / LMN were the lead architects and Magnusson Klemencic Associates was the structural engineer for Arup. Arup also provided mechanical, electrical and plumbing, as well as fire safety, IT and communications and audiovisual consultancy. Hoffman Construction Company of Portland, Oregon was the general contractor. The National Library on 33,723 m² has the capacity to house

about one and a half million books and other materials. It offers underground public parking for 143 vehicles and over 400 computers available to the public. During the first year of operation, the library was visited by over two million people. It is the third Seattle Central Library building located on the same site at 1000 Fourth Avenue, the block bounded by Fourth and Fifth Avenues and Madison and Spring Streets. The library has a unique, striking appearance, consisting of several discrete 'floating platforms' seemingly wrapped in a large steel mesh around a glass skin. Architectural tours of the building began in June 2004 (Figure 59).



Source: <https://lmnarchitects.com/lmn-research/seattle-central-library-curtain-wall-design>, Accessed: May 20, 2025.

Fig 59: Seattle Central Library Seattle, USA, 2004 (Architects: Rem Koolhaas, Joshua Prince-Ramus/The Office for Metropolitan Architecture, OMA)

CCTV is the headquarters of China Central Television (CCTV), which was previously located in the old China Central Television Building located at 11 Fuxin Street, some 15 km west of the new headquarters (Figure 60). The tower is 234 meters high with 51 floors. Construction began in 2004, and the building's facade was completed in 2008. Due to a fire that destroyed the neighboring Television Cultural Center (2009), the CCTV headquarters was completed in 2012 and officially opened in 2013^[61].



Source: <https://www.chinahighlights.com/beijing/attraction/cctv-headquarters-building.htm>, Accessed: May 20, 2025

Fig 60: CCTV Headquarters, Beijing, China, 2012 (Architects: Rem Koolhaas and Ole Scheeren from OMA, designer - Cecil Balmond from Arup)

Tadao Ando (born 1941). Although self-taught, Tadao Ando is recognized as one of the leading Japanese architects and among the best followers of the minimalist approach in contemporary architecture. After numerous educational trips to all continents, he opened his own studio in 1969, with which he would work on a large number of projects. He also taught at the University of Tokyo and at Yale, Harvard and Columbia Universities. His first architectural project (in 1973) was the detached house Tomishima, the first in a series of houses with similar features. The most significant of them is the Azuma House in Osaka (1976), which won awards in Japan and provided a springboard to international recognition. The minimalist style of the house, limited by wooden town houses, is the negation of the clear boundary between the courtyard space and the interior, transferred from the Japanese tradition of house building. The Small House reveals a number of recurring features of Ando's work, including the effects of light, the importance of main and partition walls (which also include materials), and the relationship between pure geometry and natural elements. This latter aspect is particularly evident in the eponymous residential buildings Rokko I and II (built between 1978 and 1993), where Ando took advantage of the natural slopes of Mount Rokko to build houses overlooking Osaka Bay. Regarding his profession, Ando has said: "I believe that architecture is not about building buildings, but about creating spaces. I always try to reduce all material elements as much as possible so that the space itself can become rich and stimulating"^[62]. His designs include places of worship (Church of Light in Ibaraki, 1989, and Chapel on the Water in Tomamo, 1991), as well as shopping malls in Kyoto and Tokyo. The strictly geometric lines with which he expresses the evocative spatial features of a typical Japanese interior lead him to the creation of exhibition centers, fair halls,

research centers (including Benetton's "Fabric" in Villorba) and, most importantly, a series of museums, including the Museum of Wood (Hyogo, 1994), the Museum of Culture (Gojo, 1995) and the Museum of Modern Art (Kobe, 2001). Other significant projects are the restoration of Palazzo Grassi (2005) and the Contemporary Art Center (Punta della Dogana, 2009) in Venice. In the 21st century, Ando worked on detached houses. The 4x4 House in Kobe (2003) is "a small tower made of reinforced concrete (...) that examined the theme of reducing living space to a minimum, imposed by the scarcity of available land" (Domus)^[63]. Ando is highly regarded for his unparalleled work with concrete, his sensitive treatment of natural light, and his strong engagement with nature. His works have become local landmarks around the world, impacting people's lives. Ando's architectural style creates a 'haiku' effect^[64], emphasizing nothingness and empty space to represent the beauty of simplicity. He prefers to design complex spatial circulation while maintaining the appearance of simplicity. Le Corbusier, whose work is characterized by square geometric shapes and basic forms, influenced the work of Tadao Ando, while Louis Khan strongly influenced his interior space with his attention to natural lighting. Natural lighting is a form of silence and light that unites the measurable and the immeasurable, called to order. In his first building, the Sumiyoshi Row House (1976)^[65], natural elements such as rain, wind, and natural light are visible (Figure 61). It is located within a dense row of houses with openings in the middle of the building, indicating that Ando, in addition to being influenced by architects Le Corbusier and Louis Khan, also incorporated natural elements into the building. Tadao Ando's concept, although influenced by Western architects, still takes into account natural elements such as light, rain, and wind. The natural element is one of the characteristics of Japanese culture and Confucius^[3].



Source: <https://www.architravel.com/project/row-house-azuma-house/>, Accessed: May 21, 2025

Fig 61: Row House of Sumiyoshi, Sumiyoshi-ku, Osaka, Japan 1976 (Architect: Tadao Ando)

A small wedding chapel sits high above Kobe, Japan, on Mount Rokko, discreetly nestled behind a neighboring hotel. Architect Tadao Ando uses materials-concrete, glass-and light (which he also treats as a material) to create a powerful spiritual place through a rich spatial sequence of light and dark, direct and indirect natural light. The chapel is a nearly square concrete volume flanked by a vertical bell tower and a clear glass tunnel. Access to the chapel is from the hotel's

rear exit, past a small pond and into a long frosted glass tunnel flooded with milky-white light. The end of the tunnel is open to a view of nature, but there is no sign of the chapel. To the right of the tunnel's end is the chapel's entrance. Entering into a dark lobby with a curved concrete wall that directs the visitor into the chapel, a hint of light spills from a vertical slit in the curved concrete wall that marks the threshold between the hallway and the worship space. This main concrete volume opens with its high ceiling and a side wall of natural light that is open to the outside space bounded by the outer concrete wall. There is an unlimited space between the

interior and the exterior. Although this outside space can be seen, it cannot be entered physically, only spiritually. The altar space seems to be magically illuminated by light falling from an invisible slit in the ceiling above it and a long and thin vertical window. The concrete walls bathed in light change shape with time, through the passage of light, constantly animating and redefining the space. The dialogue between the hard, direct light from the outside 'room' and the soft, abstract light creates a space that has the power to transcend and transform, and then return it to the physical world (Figure 62).



Source: <http://architecturalmoleskine.blogspot.com/2011/09/tadao-ando-chapel-in-mt-rokko.html>, Accessed: May 21, 2025

Fig 62: Chapel on the Mount, Rokko, Japan, 1986 (Architect: Tadao Ando)

In the small town of Ibaraki, 25 km outside of Osaka, Japan, stands one of Tadao Ando's architectural works, the Church of Light. The Church of Light embraces Ando's philosophical framework between nature and architecture through the way light can define and create new spatial perceptions as much, if not more, than his concrete structures. Completed in 1989, the Church of Light was renovated into an existing Christian complex in Ibaraki. The new church was the first phase of a complete redesign of the site - later completed in 1999 - according to Ando's design aesthetic. For Tadao Ando, the Church of Light is an architecture of duality - the dual nature of existence - solid/emptiness, light/dark, harsh/tranquil. The coexisting differences leave the church void of any ornamentation, creating a pure, uncluttered space. The intersection of light and solidity raises the traveler's awareness of the spiritual and the mundane within. The use of simplified materials reinforces the duality of the space; the concrete construction removes any distinction between traditional Christian motifs and aesthetics. Apart from the extruded cross on the east-facing façade, the church is composed of a concrete shell; the concrete adds to the darkness of the church, creating a more humble, meditative place of worship. As a testament to minimalist architecture, the empty crosses on the east-facing wall are the only prominent religious symbols present in the church. Ando's Church of Light is formally minimalist, reducing religious paraphernalia to a simple cross extrusion, which is often criticized as disturbingly empty and undefined. Although it has been said that it is nothing more than six walls and a roof, there is a whole level of design aesthetic implemented by

Ando and his contractors that is misread and unrecognized by the occupants. As a modern, minimalist structure, the Church of Light exudes an architectural purity found in the details. The reinforced concrete volume is devoid of any ornamentation that is not part of the construction process. The seams and joints of the concrete were precisely and carefully constructed by Japanese carpenters, together with Ando, who worked to create a flawlessly smooth surface and precisely aligned joints, so much so that the seams of the concrete formwork perfectly match the extrusions of the crosses on the east side of the church. The concrete construction is a reinforcement of Ando's main goal of simplicity and minimalist aesthetics; however, the way the concrete is poured and shaped gives the concrete a luminous quality when exposed to natural light. Ando's decision to place the cross on the east facade allows light to flow into the space during the early morning and throughout the day, which has a dematerializing effect on the interior concrete walls, transforming the dark volume into a luminous box. Ando's approach to light and concrete in the Church of Light, as in his other projects, has a surreal effect that perceptually changes material into immaterial, dark into light, light into Space. "In all my works, light is an important controlling factor. I create enclosed spaces mainly by means of thick concrete walls. The primary reason is to create a place for the individual, a zone for oneself within society. When external factors of the urban environment demand that the wall be without openings, the interior must be particularly full and satisfying" (Tadao Ando)^[66] (Figure 63).



Source: <https://www.zenitaka.co.jp/english/works/achievements/14-03.html>, Accessed: May 21, 2025.
 Source: <https://www.metalocus.es/en/news/shaping-light-church-light-tadao-ando>, Accessed: May 21, 2025.

Fig 63: Church of Light, Ibaraki, Osaka, Japan, 1989 (Architect: Tadao Ando)

Architect Tadao Ando is known for his extraordinary attention to nature, more precisely to the relationship between people and their architecture on the one hand, and natural elements and landscapes on the other. This attention is sometimes revealed in small details, such as the small cherry leaf that Ando wanted to imprint on the concrete wall of his conference pavilion at the Vitra Camp in Weil am Rhein in memory of the tree that he was forced to remove during construction, sometimes in monumental buildings, such as the famous Museum of Wood Culture in Japan (Figure 64).

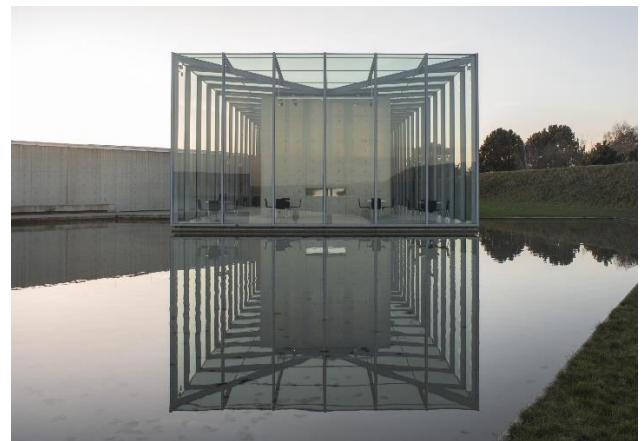


Source: <https://www.amusingplanet.com/2015/08/the-100-stepped-garden-of-awaji.html>, Accessed: May 21, 2025.

Fig 64: Awaji-Yumebutai, Hyogo, Japan, 2000 (Architect: Tadao Ando)

The Langen Museum Foundation, designed by architect Tadao Ando in 2004, is located in the small town of Neuss, Germany. The Langen Foundation is located in the Raketstation Hombroich, a former NATO base, amidst the idyllic landscape of the Hombroich Cultural Environment. The building has a double skin and two buried temporary exhibition wings. The structure consists mainly of reinforced concrete, glass and steel. Visitors enter through a semicircular concrete wall, opening up a view of the building made of glass, steel and concrete. A path bordered by a row of cherry trees leads visitors around a pond to the entrance on the longitudinal side of the building. A glass envelope,

supported by steel girders, protects the perimeter of the approximately 76-meter-long, 10.8-meter-wide and 6-meter-high concrete core. Reflections in the glass skin and the water of the shallow pond dissolve boundaries and create a weightless impression. The building consists of two architecturally distinct complexes: a long concrete structure within a glass envelope and, at a 45-degree angle, two parallel concrete wings buried six meters deep into the ground and protruding only 3.45 meters above it. A grand staircase between the two wings of the building leads back to ground level. The Langen Foundation masterpiece is composed of lines and a fascinating interaction between and within, art and nature, massiveness and lightness. It is a built place that is not only an envelope for art but also an exhibition in itself. Ultimately, the Ando Building is a unique experience that creates a combination of these different elements of dialogue between building material and nature (Figure 65).



Source: <https://divisare.com/projects/382645-tadao-ando-lorenzo-zandri-museum-langen-foundation>, Accessed: May 21, 2025.

Fig 65: Langen Foundation, Neuss, Germany, 2004 (Architect: Tadao Ando)

The Chichu Art Museum (literally 'art museum on earth') is a museum built in the southern part of Naoshima Island in Kagawa Prefecture, Japan. It was designed by architect Tadao Ando, and was opened to the public on July 18, 2004 (Figure 66).



Source: <https://japanjourneys.jp/kagawa/naoshima/lifestyle/art/chichu-art-museum>, Accessed: May 21, 2025.

Fig 66: Chichu Art Museum, Naoshima, Kagawa, Japan, 2004 (Architect: Tadao Ando)

Toyo Ito (born 1941). Toyo Ito's grandfather was a lumber merchant, and his father liked to draw plans for his friends' houses. When Ito was in high school, his mother asked the early modernist architect Yoshinobu Ashihara (who had just returned to Japan from the US where he had worked in the office of Marcel Breuer), to design their home in Tokyo. He was in the third year of high school when he moved to Tokyo and started Hibiya High School. At that time, he didn't even dream of becoming an architect (his passion was baseball). While attending the University of Tokyo, architecture became his main interest. For the undergraduate exam, he submitted a proposal for the reconstruction of Ueno Park, which won the main prize of the University of Tokyo. Toyo Ito started working at Kiyonori Kikutake & Associates after graduating from the Architecture Department of the University of Tokyo in 1965. By 1971, he was ready to start his own studio in Tokyo and named it Urban Robot (Urbot). In 1979, it changed its name to Toyo Ito & Associates, Architects. He has won numerous international awards, including the 22nd Praemium Imperiale in honor of Prince Takamatsu (2010), the Royal Gold Medal of the Royal Institute of British Architects (2006) and the Golden Lion for Lifetime Achievement for the 8th Venice International Exhibition (2002). He was a visiting professor at the University of Tokyo, Columbia University, University of California in Los Angeles, Kyoto University, Tama Art University, and in the spring semester of 2012 he hosted a foreign study for Harvard's Graduate School of Design, the first in Asia. His works were the subject of museum exhibitions in England, Denmark, the USA, France, Italy, Chile, Taiwan, Belgium and numerous cities in Japan. Publications about him appeared in all these countries and more. He holds honorary fellowships from the American Institute of Architects, the Royal Institute of British Architects, the Architectural Institute of Japan, the Tokyo Society of Architects and Civil Engineers, and the American Academy of Arts and Sciences. One of his first projects in 1971 was a home in a suburb of Tokyo. Called the 'Aluminum House', the structure consisted of a wooden frame clad entirely in aluminum. Most of his early works were residences. In 1976, he created a home for his sister, who had recently lost her husband. The house was called 'White U' and

sparked a great deal of interest in Ito's work. It was demolished in 1997. Since most of his work in the 1980s, Ito explains that he has sought to erase conventional meanings from his works through a minimalist approach, developing a lightness in architecture that resembles air and wind. He calls the Sendai Mediathique (completed in 2001 in Sendai, Miyagi, Japan) one of the highlights of his career^[3] (Figure 67). Architecture has always been a fascinating field, with its forms changing while at the same time being oriented towards the real world. The spaces in which people live play an important role in the journeys and stories of their lives. The ultimate purpose of architecture is to create and build for people. In today's fast-paced world, architects seem to forget their true purpose as they chase the future. Toyo Ito, however, is one architect who believes that his purpose as an architect is first and foremost to create for people. His designs tell a story, they are created for those who live in them. The Sendai Mediathique (completed in 2001) is a cultural media center built on Ito's concept of 'fluid space'. The seven-story, highly transparent glass box is an iconic building that proved its structural integrity when it survived the devastating earthquake that struck the region in 2011.



Source: https://www.tohokukanko.jp/en/attractions/detail_1072.html, Accessed: May 21, 2025.

Fig 67: Sendai Mediathique, Sendai, Japan, 2001 (Architect: Toyo Ito)

The National Taichung Theatre is an opera house in the 7th Taichung Renovated Zone in Situn District, Taichung, Taiwan. The estimated usable area of the structure is 57,685 m². The National Theatre was designed (2006) by architect Toyo Ito in collaboration with Cecil Balmond at Arup AGU. It was awarded the contract on 11 November 2009, and construction was planned to take 45 months. The theatre was partially opened on 23 November 2014, and officially opened in 2016. The design is notable for its cavernous, curved, and folded interior forms, which give it a dramatic and complex structure that is neatly resolved and 'packaged' into a parallelepiped shape (Figure 68).



Source: <https://www.architecturalrecord.com/articles/12040-national-taichung-theater-by-toyo-ito-associates>, Accessed: May 21, 2025.

Fig 68: National Taichung Theater, Taiwan, 2014 (Architect: Toyo Ito)

The Museo Internacional del Barroco (MIB) in Puebla is a Mexican museum dedicated to Baroque art. The museum is housed in a building designed by architect Toyo Ito. Opened in February 2016, the museum aims to present the art and culture of the Baroque period (from the early 17th century to the late 18th century) internationally. The building has a net floor area of 1,686 m². The building is located in the Metropolitan Ecopark of Puebla, characterized by a fluid sequence of white, sail-like shapes. In designing the museum, the architect was inspired by a series of elements typical of Baroque art: from the strong relationship between art and nature, such as the sequence of pools that 'envelop' the building, to the organic shape of the curved white concrete 'sails', which vaguely resemble Borromini's architecture, to the plan consisting of a grid of rectangular 'stations' rotated and deformed. "If we think of the Baroque movement, which broke with the Renaissance vision of man as the center of the universe to move to the relationship between God and man, a similar trend is emerging today: the search for the relationship of individuals with nature. This search would be one of the most important themes of this century. In the MIB, I decided to break with rigid order in order to create fluid spaces, not dominated by cold, rigid grids. I hope that visitors will experience a Baroque space as they move from one hall to the next" (Toyo Ito) [67]. Along with permanent and temporary exhibition spaces, the museum contains an auditorium with 300 seats, a library, a restaurant, a shop, and a central terrace, marked by a circular pool, where outdoor events and video projections are held (Figure 69).



Source: <https://www.architecturaldigest.com/gallery/toyo-ito-museum-baroque-art-opens-in-mexico>, Accessed: May 21, 2025.

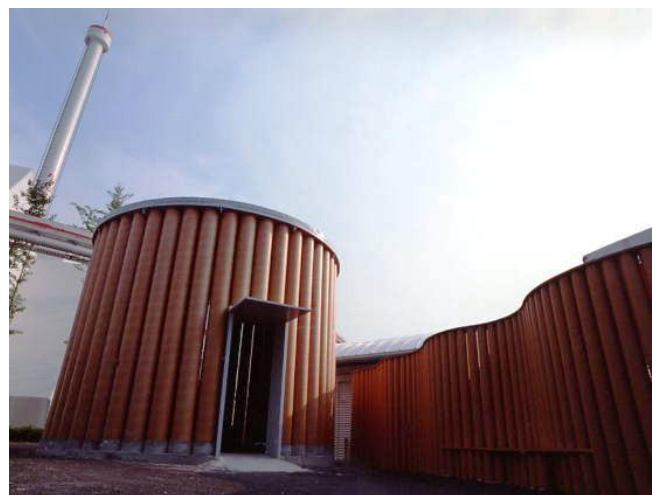
Fig 69: International Museum of the Baroque, Puebla, Mexico, 2016 (Architect: Toyo Ito)

In September 2013, Toyo Ito gave an interview to the Korea Herald in which he expressed his views on architecture. Below are excerpts from that interview. "I am constantly exploring new architecture and this ultimately becomes the source of my creative energy. Architecture tends to be too conventional and often out of touch with time and social context, especially in the case of public buildings. In order to reduce this gap, we need to be sensitive to the atmosphere of time and society. In the process of materializing my images, they develop, transform and metamorphose through dialogues and interactions with the many people involved in the projects... It is important that people come first, architecture only then, and not the other way around. I believe that architecture should be a place that provides people with comfort and freedom... Architecture is created by listening and talking to people. It is especially important that our clients and users of architecture are involved in the creation process. I am not interested in winning over the public, but in the evolution of my design... The areas affected by the earthquake and tsunami are what a society driven by modernism left behind. By talking to the people in the area, we could rediscover the foundations of architecture and ask ourselves what community really means in the affected areas. Taking these important values, we could develop a model for the architecture of the future" [68].

Shigeru Ban (born 1957). Shigeru Ban is a Japanese architect who incorporated elements of Japanese and American design into his projects and was known for his pioneering use of cardboard tubes in high-rise construction. In 2014, he received the Pritzker Architecture Prize. In its citation, the Pritzker jury noted his creatively designed structures, such as temporary shelters, for areas devastated by natural disasters. "When a tragedy happens, he is often there from the beginning" [69]. Ban studied at the Architectural Institute of Southern California from 1977 to 1980, and later moved to Cooper Union in New York because he wanted to study under architect John Hejduk (1929-2000). After working for two years for the Japanese architect Arata Isozaki (1931-2022), Ban graduated in architecture from Cooper Union in 1984, and the following year he opened his own firm in Tokyo. He developed a style known for its fusion of traditional Japanese architecture with elements of American modernism. He is best known for his innovative use of cardboard tubes as a building material. He first used paper tubes in 1985-1986, notably in a gallery for fashion designer Issey Miyake. In 1994, Ban proposed to the United Nations High

Commissioner for Refugees (UNHCR) that they make paper shelters for Rwandan refugees; he became an advisor to the agency in 1995, and 50 such structures were built by 1998. The versatility and value of the inexpensive tubes were first demonstrated to the world in 1995, after the 17 January Kobe earthquake, which devastated the Kobe area in western and central Japan. Ban went to the city in February, and by the end of the summer, his relief work had brought 22 paper tube cabins to shelter some who had lost their homes and a “paper dome” to temporarily replace a collapsed Roman Catholic church. Recycled, durable, strong, and environmentally friendly paper material was used to build the dome on the site where the church stood before the earthquake destroyed it. Ban designed the structure so that it could be easily constructed, dismantled, and reused. His service was recognized with an award from the Architectural Association of Japan, which praised him for demonstrating the architect’s sense of mission based on deep-rooted human love. Ban continued to use the tubes to create structures such as the Paper Arch, a decorative latticework built in 2000 and displayed in the gardens of New York’s Museum of Modern Art. He later designed (with Jean de Gastines of France) the Pompidou Center - Metz, a regional branch of the renowned art center. The avant-garde building, opened in 2010, had a corrugated roof inspired by the Chinese bamboo hat. In addition to architectural works, Ban has held a number of lectures, including those at Yokohama National University (1995-1999) and Keiō University (2001-2008) in Tokyo. From 2006 to 2009, he was a member of the jury of the annual Pritzker Prize ^[3]. Although his architectural accolades are numerous, Ban seems detached from the archetypal pomp and ego of his profession. Shigeru Ban is no ‘starchitect’. When asked what motivated him to approach the United Nations in 1994 with an upgraded design for a refugee shelter, he says that he “got tired of working for privileged, powerful people” ^[70]. Ban and his buildings are inspired but inherently modest – lacking in atmosphere and charm. He has no lofty goal of healing the world. “For me, there is no difference between commercial work and disaster relief, the only difference is that I am not paid... When I started [pro bono work] 20 years ago, it was very difficult for me to continue these projects and I had to find a balance. Now I have bigger commissions, and these projects help me to do pro bono. And I have developed a larger donor base. I have developed this balance by accident, but really for me there is no difference. I have the same interest and energy for both and I have the same sense of satisfaction” ^[70]. Japanese architecture scholar Riichi Miyake described it as ‘an architectural iteration of Doctors Without Borders’ ^[70]. Ban has worked on most, if not all, of the world’s significant natural and man-made disasters over the past two decades. The SCAF exhibit includes a model of Christchurch’s cardboard cathedral, a life-size version of a paper log house built after the Great Hanshin earthquake, and a design for a humanitarian aid shelter in Ecuador, as well as some of the architect’s altruistic designs. Shigeru Ban says: “The problem is that people don’t want to move out of my temporary accommodation. Many of them become permanent” ^[70]. When asked what his design philosophy is, Shigeru Ban simply says “I am looking for a problem to be solved by design” ^[70]. For Ban, one of the most important themes in his work is ‘invisible structure’. He does not openly express his structural elements, but prefers to incorporate them into the design. Ban is not interested in the ‘latest’ materials and

techniques, but the expression of the concept behind his building. A significant aspect of Ban’s influence is his humanitarianism and his commitment to ecological architecture. His work with paper and other materials is largely based on its sustainability and because it produces very little waste. His paper buildings express elegant simplicity and rise from the ground, asking us to question our relationship with the environment. One word describes Ban’s commitment to improving people’s lives by using the intrinsic beauty and natural materials of the earth - honorable. His architecture is honorable art. Architect Shigeru Ban proposed a paper structure for the Hiroshima exhibition that was not realized (Asia Club Pavilion competition, 1989). The first paper building was a small pavilion for the Nagoya exhibition (Paper Pavilion, Paper Tube Structure 01). Manufactured as circular concrete columns, paper tubes are used structurally here. Forty-eight of these tubes (325 mm in diameter, 15 mm thick and 4 m high) were treated with paraffin waterproofing and placed in a circle on a prefabricated concrete base. These were stiffened with a mixture of glue and connected at the ends by a wooden compression ring. The roof consisted of tent fabric suspended from tension wire arranged in a spoke pattern. After dismantling the structure, the strength of the paper tubes was analyzed. Although exposed to wind and rain for six months, the hardening of the glue and moderate exposure to ultraviolet rays actually resulted in an increase in the compressive strength of the tubes (Figure 70).



Source: https://makemistakesoften.wordpress.com/shigeru-ban/alvar-aalto-exhibition/paperarbor_day1/, Accessed: May 22, 2025.

Fig 70: Paper Arbor at the World Design Expo in Nagoya, 1989 (Architect: Shigeru Ban)

The Japanese Pavilion for Expo 2000, held in Hanover, Germany, was a lattice structure made of recycled paper tubes (Figure 71). The pavilion was designed by architect Shigeru Ban with consultants including Otto Frei, designer of the Munich Olympic Stadium and the German Pavilion at Expo 67 in Montreal, Buro Happold, the English engineering firm responsible for the Millennium Dome, and Stefan Polonyi, a professor of structural engineering. It took three weeks to assemble the 72-meter-long, 35-meter-wide, and 15.5-meter-high building on a 5,450-square-meter plot, creating an exhibition space of 3,015 square meters with administrative offices. Among the goals in constructing the pavilion were technological methods that required as little on-site labor as possible. The section between two paper

tubes was pushed upward to form a three-dimensional grid, open at an angle of section corresponding to the applied tension. Since the paper tubes would rotate on their own to follow a gentle S-shaped curve, a hinge was designed to allow three-dimensional movement using straps. Among many other ideas submitted by architects and engineers during the 3-year project, Otto Frei proposed arched wooden beams with a fixed frame passing through a ladder, which would support the mesh paper and serve to hold the membrane attached to the ceiling. The Happold office, which supervised the construction, proposed metal joints in which reinforced cables were inserted diagonally to the line tension of the paper tubes, while allowing the tubes to move in three dimensions. 'Environmental protection' was the theme of the Hannover exhibition, and the concept developed for the realization of the Japanese Pavilion was to create a structure whose materials could be recycled when the pavilion was dismantled.



Source: <https://aeworldmap.com/2009/08/28/japan-pavillion-expo-2000-hannover-germany/>, Accessed: May 22, 2025.

Fig 71: Japanese pavilion at Expo 2000, Hanover, Germany, 2000 (Architects: Shigeru Ban and Otto Frei)

Wang Shu (born 1963). Architect and professor Wang Shu received his B.A. in Architectural Engineering in 1985 and his M.A. in 1988, both from the Nanjing Institute of Technology. Wang Shu and his wife Lu Wenyu founded Amateur Architecture Studio in 1997 in Hangzhou, China. The name of the office refers to the amateur builder's approach, based on spontaneity, craftsmanship, and cultural traditions. Wang Shu spent many years working on construction sites to learn traditional skills. The firm uses his knowledge of everyday techniques to adapt and transform materials for contemporary projects. This unique combination of traditional understanding, experimental construction, and intensive research defines the foundation for the studio's architectural projects. The studio critically examines the role of the architectural profession in the demolition and destruction of large urban areas. At the 2006 Venice Architecture Biennale, Amateur Architecture Studio expressed its views on ongoing demolitions in 'Tile Garden', an installation made of 66,000 recycled tiles salvaged from demolition sites. Rather than looking to the West for inspiration, as many of Shu's contemporaries do, his work is rooted in the context of Chinese history and culture. Wang Shu is Professor and Head of the School of Architecture at the China Academy of Art, Hangzhou. In 2011, he became the first Chinese Visiting Professor at the Harvard Graduate School of Design in Cambridge, Massachusetts. He has

exhibited solo and participated in several major international exhibitions, including: the Venice Architecture Biennale (2010), where he received a special mention for his installation 'Declining Dome' – a project whose lightweight, mobile and extremely simple structure can be quickly erected or returned to nothingness; solo exhibition "Architecture as Resistance" in 2009 at the Center for Fine Arts BOZAR in Brussels; urban planning biennials in two cities - Shenzhen and Hong Kong/Architecture (2003); "Alors, La Chine" - exhibition at Center Pompidou, Paris; Shanghai Biennial (2002) at the Shanghai Art Museum; exhibition (2001) "TU MU-Young Architecture of China" at AEDS gallery, Berlin and exhibition of experimental works of Chinese young architects (1999), UIA Congress, Beijing. In 2011, Wang Shu received the Golden Medal for Architecture (grande médaille d'or) from the French l'Académie d'Architecture. In 2010, Wang Shu and Lu Wenyu were awarded the Schelling Prize for Architecture, which goes to people who have responsibly advanced the development of architecture through significant projects, executed buildings, or profound contributions to the history and theory of architecture. The Vertical Courtyard Apartment in Hangzhou was nominated for the German-based Highrise International Award in 2008. In 2005, the 'Five Scattered Houses' project in Ningbo was recognized by the Asia-Pacific Holcim Award for Sustainable Construction, and in 2003, the Wenzheng Library received the China Architecture Award. Wang Shu was awarded the prestigious Pritzker Architecture Prize in 2012^[3]. Wang acknowledges his interest in phenomenological thinking and expresses an ongoing concern with human relationships with place and nature, the continuity of craftsmanship in the face of technological development, and the materiality and tactility of bodily perception. Before analyzing Wang's work, the relevant ideas of Martin Heidegger (1889-1976) and Maurice Merleau-Ponty (1908-1961) and their influence on architectural discourse are first examined. Both were seminal philosophers who offered inspiring insights into ecological discourse. According to eco-phenomenological design, the works of Heidegger and Merleau-Ponty, combined with the work of architectural theorists who engage with phenomenology, Wang Shu establishes the contours of an 'ecological phenomenology'. He shares the same view of challenging the established assumptions of the subject-object dichotomy and mind-body dualism. Heidegger's notion of 'dwelling' and Merleau-Ponty's notion of 'bodily perception', similarly, emphasize our inseparability from the world and our embeddedness in our living context within the dimensions of 'place and time'. We are inherently connected among relations in our embedded existence. This idea of a primordial interrelation reminds us of our responsibility towards nature and otherness. Wang Shu summarizes the values of such an ecological phenomenology in several postulates: 1. against the endless pursuit of maximization and destructive exploitation of natural resources, 2. against human domination over nature and inappropriate technological manipulation of the environment, 3. with human beings as inhabitants, for the preservation of each thing in its nature in order to foster the ecological diversity of the Earth, 4. with human beings as guardians for the care of the world as a homeland with responsibility towards otherness; 5. in the dynamic sensory engagement between the perceiving body and the physical world, and 6. developing mutual understanding through interrelated perceptual experiences. Thus conceived, ecological phenomenology can

motivate design practice. It suggests the importance of creating a place of habitation with identity and character that can evoke a sense of belonging, preserving the ecological diversity of the land, and enhancing human interaction with the environment. Any subsequent design outcome should not be conceived for static observation, but rather to encourage exploration and experience of its multiplicity and diversity [71].

The Ningbo Museum, also known as the Yinzhou Museum or the Ningbo History Museum, is located in the city of Ningbo, Zhejiang Province, China (Figure 72). It is located in Yinzhou District and opened on December 5, 2008. The museum focuses on the history of the Ningbo area and traditional customs. It was designed by Wang Shu, the first Chinese citizen to win the Pritzker Architecture Prize in 2012. The design is a conceptual combination of mountains, water, and ocean, as the East China Sea played an important role in Ningbo's history. The features of Jiangnan residences are integrated into the museum's design with decorations made of old tiles and bamboo. The first floor of the museum is completely built, while the building begins to lean on the second floor, giving the entire building the appearance of a mountain and the shape of a ship. This design alludes to Ningbo's geographical features, as well as the importance of foreign trade in its history, making the museum a symbol of Ningbo's history and culture. The exterior wall decoration of the Ningbo Museum is made in two ways. Some walls are decorated with millions of tiles collected from local places. This type of decoration was a common way to build economical houses in the early days of Ningbo when cement was not used. Other walls are decorated with bamboo covered with cement. The Ningbo Museum is the first museum to be built with extensive use of recycled materials. A similar decoration was used in the Ningbo Tengtou Pavilion of the Shanghai World Expo. The Ningbo Museum won the 2009 Lu Ban Award, the top architectural award in China.



Source: <https://arquitecturaviva.com/works/history-museum-in-ningbo>, Accessed: May 22, 2025.

Fig 72: Ningbo Museum of Art, Ningbo, China, 2005 (Architect: Wang Shu)

Conclusion

Man is a complex phenomenon in nature, exceptional due to the simultaneous manifestation of his biological nature (which is a characteristic of all living beings), reason and affectivity (which is exclusively his characteristic). In nature, some species live in communities whose organization is astonishing (bees, termites, ants...); however, these organizations are constant, unchanging from generation to

generation of a certain species. Man, the only living being, creates communities that change over time (sometimes specific to geographical space). These communities (which he himself defines as society) for each new human generation become, along with nature, a given reality, 'nature created by man'. Since he is its 'creator', the structure of society will be more or less stable; its changes are rarely peaceful, more often turbulent, accompanied by enormous sacrifices by opposing groups. History has shown that the structure of society, much more than the given nature, has determined the development and manifestation of the generic nature of the human-individual. It is the structure of society, the mostly imposed value system and the prevailing worldview that determined the relationship of man-individual and his communities towards the given nature. Architecturally Defined Space (ADS) is a purposeful enclosure of 'space in general' that is made exclusively by man using various materials, and in a rational-irrational way and in the 'way of beauty', with the aim of satisfying a wide range of human needs. Architecture arises as a result of a dynamic struggle between man (or rather the complex of his needs), on the one hand, and a wide range of environmental influences (natural and social surroundings), on the other. The result of this struggle is the physical appearance of architecture (borders) that arises according to the measure of the present (contemporaneity), with memories of the past (continuity) and anticipation of the future (perspectives). According to Figure 12, each man-individual, moving through his life, will see and perceive 'objective reality' differently. Even the same man-individual will see 'objective reality' differently in certain phases of his life. The author of this paper will explain this phenomenon based on his own experience. Namely, the Author had the honor to hold a lecture at the prestigious King Saud University in Riyadh (April 24, 2008) with the topic "My approach to designing mosques". It was an exceptional event since the Author came from the small country of Bosnia and Herzegovina, where the Muslim population is a minority in predominantly Christian Europe. On the other hand, the Author gave a lecture in the country where God "revealed the Revelation (Quran) to the Prophet Muhammed s.a.w.s. through the Angel Jibril (Arabic: جبريل, in Christianity: Gabriel, in Judaism: Gavriel)". After the presentation, the Author made himself available to the audience for questions and discussion; only one professor asked a question-statement... "the drawings and photographs seen fully correspond with your views and explanations; however, if I were to examine the drawings and pictures seen (without your explanation), I would not see them the way you explained them". The author replied: "Regarding the first part of your question-statement, I am glad that I left such an impression, I hope, not only on you but also on the other colleagues present; the second part of your question-statement is very complex and I, in a sense, understand it as the expected and desired reaction of an observer who looks from the outside (and sees in his own way) at someone's work (which its author did with the effort to make it art); I am also ready to understand the second part of your question-statement as your disagreement with some of what you have seen and heard". On the topic of "Philosophy of Architecture" the Author has published several books and scientific papers [72, 73, 74, 75, 76, 77].



Source: Professor Amir Pasic (May 25, 2010)

Fig 73: The author (left) in the company of Professor Nader Ardalan at The First International Conference on Urban and Architectural Heritage in Islamic Countries (FCUAHIC), Riyadh, Saudi Arabia, May 23-28, 2010.

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