



Features of the History of Modern Architecture in Jordan-Amman Between the Years (1970-1990) - *"Harmony Between The Achievements Of The Past And The Developments Of The Present In Its Architectural Origins And Characteristics"*

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The research aims to review and study the most prominent features of modern architecture from its beginning until it was reflected on the Jordan as an Arab-Asian country, specifically in the Jordanian capital (Amman) as a modern architectural art. The most prominent features of modernist architecture in Jordan were clarified and explained through (4) samples that were analyzed and studied, which include the most prominent pioneering architects. In the nineties and seventies of the last century. The research was based on a qualitative approach to analysis with the help of descriptive and analytical methods to analyze architectural projects selected as models of modern architecture, through content analysis. The study found the development of modern architecture in Jordan during the 1990s and 1970s, which became evident through the development of a new common language with the culture of society that unites architecture and culture and its connection to Islamic art as an integral part of Islamic architecture. In addition to the diversity of materials and modern architectural techniques. Furthermore, modernist architects sought to develop architectural form through several characteristics, namely dynamic facades that were more flexible than their predecessors and presented the building in a more modern form to the world.

Keywords: *Architecture in Jordan, Heritage Architecture, Modern Architecture, villa, Postmodern Architecture.*



Introduction

Architecture is the product of successive stages with integrated, interconnected episodes that seek to build architectural thought, where the social, economic, political, and even academic values of society intersect, passing through technological and artistic values at various levels (Al-Suhairi & Abdel Moneim 2007). Therefore, architecture is considered one of the most prominent cultural arts and reflects the state of people, their culture, and their social patterns. Contemporary buildings must meet the conditions of utility, durability, beauty, and economy, as explained by the architect Vitruvius (Alawneh, 2014). Moreover, in the twentieth century, modern architecture was subject to rules that did not exist before, where the design of a building is aligned with its functional needs (Bahaa, 2017). Where many technical changes and architectural ideas appeared that were not there before, which was characterized by the rapidity of ideological and technical transformations in the field of building technology, which produced many architectural fluctuations (Hebeh, 2013). As a result, the twentieth century gave way to adopting several trends that called for change and established new design trends that contributed to the formation and development of concepts in addition to their contribution to building the features of modern architecture (Al-Jubouri, 2013).

From a different angle, the mainstream Western academic literature on the history of modern architecture has largely ignored how non-European regions—particularly those in the Middle East—embraced and adapted to modernity. Regarding modernity as a distinctly Western phenomenon, emerging from advanced economies and industries has stimulated several contributions to the literature that link it to other locations. However, these have focused on modern architectural experiments as alternatives, with terms such as “alternative modernism,” “other modernism,” and “authentic modernism” (Samman & Saifi, 2021). In particular, exploring issues of architectural identity and stylistic change in contemporary cities is particularly problematic in an era of historical continuity discontinuity, rapidly changing social, economic, and cultural conditions and technological progress. The city of Amman in Jordan is not an exception. From its founding as a small Circassian village in 1878 to a major city with more than four million people in the past decade, Amman growth has been dynamic and consequential (Dahabreh, 2020). In this regard, heritage-modernist buildings are considered major elements in the city’s identity, and this is reflected in modernist architecture in the capital, Amman. They reflect the history and culture of the city, which must be preserved for future generations to keep communities connected to their history (Al-Adayleh, 2021).

In particular, (Masaada et al., 2015) claim that Amman has witnessed, since the last quarter of the nineteenth century, developments that went through several stages that were linked to the political circumstances and events that the region experienced in general. The increase in population in the city of Amman has been linked to several factors, including the natural increase in population growth and migrations that came as a result of the political, economic, and social conditions that prevailed in the region in general. This development can be divided into six main stages according to the population increases witnessed by the city of Amman from 1878 until the present time, which is: (the first stage 1921-1878, the second stage 1948-1921, the third stage 1967-1948, the fourth stage 1967-1991, and The fifth stage 1991-2003, and the sixth stage 2003 until now).



Consequently, since the founding of the city of Amman at the beginning of the twentieth century, the detached house, known locally as a villa, has been a common building type in the city. But in the late 1970s and throughout the 1980s, the villa spread to form Amman's sprawling urban fabric. The villa then became a legitimate symbol of the rising middle and upper classes. It was a high point for the architect, attracted by the unrestricted construction budget of clients seeking to define a unique and unmistakable character for their residences and thus the ability to indulge in stylistic experiments – experiments that were mostly overly formal (Sakr, 2013). Based on the above, in the last years of the twentieth century, Jordan witnessed comprehensive development accompanied by urban expansion in most Jordanian cities and wide openness to international architectural trends, which brought about transformations in Jordanian architectural thought and contributed to the reshaping of the Jordanian urban environment and the emergence of strange architectural styles and new types of buildings. Neutralizing traditional architectural styles stemming from the rich and multicultural heritage of the region. This led to the emergence of adverse reactions among some Jordanian architects, who continued to implement ideas calling for a return to cultural heritage and the expression of its elements in modern architectural projects (Rjoub, 2016). From this standpoint, it became clear that there is an urgent need to study the beginnings of modern architecture in Amman, by focusing on its beginnings and its most prominent modernist architectural features. Furthermore, the research seeks to study samples of architecture-housing styles in the Jordanian capital - Amman. The research reviews modern and post-modern architecture in terms of their concept, origins, and stages of development, in addition to the beginnings of modern architecture in Amman and its features, and the most prominent architects of modern architecture in it, focusing on samples of modern housing architecture with their analysis.

Problem Statement

Changing socio-economic conditions influenced modern Jordanian architecture after independence. Thus, architecture came under the influence of universal concepts, and modern buildings reflected world architectural trends instead of following traditional vernacular styles. This was also the result of the increase in the number of qualified architects who studied in foreign countries (Al-Bitar, 1996). From other insights, political circumstances, especially the migration of thousands of Palestinians, Syrians and Circassia's to Jordan, played a role in the acceleration of urban expansion in Amman. Simultaneously with this, new materials began to enter modern architecture in an arbitrary way, which did not match the properties of materials. An architectural style emerged that led to a change in form, details and logic, and this style has become popular to this day, as it still represents the most common style in Jordan. As a result, the capital Amman, due to the sources of its new inhabitants, began to mix different architectural models in contemporary attempts, moving away from "modern" architectural models (Toukan, 2009). Thus, the features of modern architecture began to fade, in light of its development and prosperity in the capital Amman during the seventies and nineties significantly in terms of form, function and intellectual content, in conjunction with the industrial and technological progress that was reflected on the capital Amman from European countries. Modernist architects sought to design and create buildings with a new character, which was evidenced by the creation of a new common language between the culture of society and modernist architectural thought. Thus, modernist architecture has now become the historical architectural identity of the capital Amman. In particular, the so-called (Villa) appeared to denote the bourgeoisie and luxury of the owners of the



house, or rather (openness to the Western world), which was associated with the need for Urban Development, functionally and intellectually. According to (Fethi & Mahadin, 1996), the villa is a spacious, independent and individual house that has long remained alien to the culture and architecture of the traditional Arab city. The villa was introduced to the area only in the mid-nineteenth century by European colonialists and quickly became the preferred housing model for the Arab bourgeois elites. As a result, the features of modern architecture are a matter of formalism directly related to the modern architectural style. In light of the successive migrations to the capital Amman led to the mixing of modern architectural styles, which became difficult to investigate, because the modernist style of modern architecture faded and the architects turned to contemporary architecture in line with the requirements of the era. Thus, the current research seeks to explore the features and history of the modern architecture of the villa in the capital Amman, as it reflects the culture and thought of the local Jordanian community rooted, influenced by previous civilizations at that time. It is also associated with the intellectual development of the architect of that era and the mechanism of innovation of the building (Villa) in a more distinctive modern style.

Research Questions

The current research seeks to date the beginnings of modern architecture in Jordan, its most prominent features and architectural qualities, as well as the most important leading architects. From this point of view, the research question comes in particular: when did modern architecture begin in Jordan and what are its highlights, architectural qualities and architectural pioneers?

Research Objectives

The current research aims to study the history of the beginnings of modern architecture in Jordan and its most prominent architectural features and qualities, in addition to the most important pioneer architects. Because of its historical and heritage importance that is reflected in the culture of Jordanian and Arab society alike.

Significance of the Study

The importance of the study comes from analyzing samples of the most prominent Jordanian architects, in light of the influence resulting from the use of modern architectural methods in Jordan in that period, which in turn led to many architectural transformations in form and function, which in turn added an aesthetic character to architecture in Jordan by achieving the foundations of And the features of modern heritage architecture, and to have a distinctive architectural character linked to Islamic and societal origins.

Methodology

This research uses a qualitative approach, and the facts in this field will attempt to be detailed to find out the relationship between the impact of modernity in Europe and its impact on the Jordanian capital, Amman. Using a sample of projects representing modern Jordanian architecture, the researcher used



descriptive and analytical (inductive) methods to collect data. The designers of these buildings adhered to the trends of connecting with local heritage resources and applied design concepts derived from integrating the planning and architectural elements of these resources into contemporary architectural styles and creative design relationships. The selected samples were taken according to the methodology and their modern history. In addition, the buildings varied in their shapes, design methods, and functions, which were chosen from a cultural, residential, heritage, and cultural standpoint. The data collection process was also varied to analyze the research samples and by referring to a review of literature such as (books, journals, and websites), and analysis focused on practical and scientific experience by collecting pictures of projects from websites to enhance the clarification of points of view. As for research samples, purposive sampling is a method widely used in qualitative research to identify and select information-rich cases for the most effective use of limited resources (Patton, 2002). This involves identifying and selecting individuals or groups of individuals who have special knowledge or experience with the phenomenon of interest (Cresswell & Plano Clark, 2011). Selecting cases with a lot of relevant data for in-depth analysis is also critical to the effectiveness of purposive sampling. Because the informative examples involved concerns relevant to the investigation, they were purposively sampled. Choosing data sources that will help answer study questions is made easier using purposive sampling (Shaheen & Pradhan, 2019).

Modern Architecture (Concept and Genesis):

After the First World War, the cosmopolitan style that later developed during the reconstruction of Europe after the Second World War gave rise to modern architecture. This design demanded a realignment of the architectural process and building designs, abandoning the previous lack of organization and planning in favor of a universal system of architecture. This new architecture was planned according to rational principles, and the best resources, including concrete, steel, and glass, were used in its construction (Nia & Rahbarianyazd, 2020). In general, the renewal movement was not the first in the twentieth century, but it was preceded by a continuous movement of neighborhoods that stretched for thousands of years, such as the Renaissance, where renewal was the fruit of intellectual enlightenment in all fields. In the twentieth century, there was a modern Renewal Movement, which continues today (Taher, 2013). In the same vein, architects began to invent a new vocabulary, a "wealth of new words", such as "modern" and "Skyscraper", and also experimented with new materials, such as steel and reinforced concrete in buildings, with which they sought to create new forms of architecture. They used new vocabulary, theoretical materials, and building forms in their programs, statements, and speeches, which they published profusely (Conrad, 1975). Moreover, Le Corbusier in his book "Towards a New Architecture" drew his inspiration from new technologies and materials: reinforced concrete as a building material can meet the huge requirements for providing housing for new cities. Modern styles and unadorned appearance have formed modern architecture that fits into the modern lifestyle. And modern life should unfold in cities and houses with modern fashion (Vestergaard, 2017). Architects and historians agree on two general principles defining "modern architecture": firstly, the rejection of historical styles to indicate the function of a new building, secondly, the creation of new forms, simplified and lacking decoration, using new materials (such as concrete, glass, and others.) (Jones et al., 2012). Given this curve, modern architecture is generally characterized by its use of basic geometric shapes, such as squares, rectangles, and circles, as well as



its use of neutral colors and the absence of decorative ornaments. Since it established a paradigm that allowed architects to break free from the past without much difficulty, modern architecture is often perceived as a watershed moment in the history of this field. As a result of these advances in technology, cities have undergone profound transformations that have had far-reaching implications for their aesthetics and understanding of building design (Amiri, 2016). In addition to the above, Contemporary Architecture presented a strikingly different aspect from the destructive radicalism of artistic avant-garde in most of its forms. However, it is worthwhile to compare the avant-garde concept with the concepts that were shaping the speech of the modern movement. Since the movement was not a coherent whole, it was a collection of disparate currents (Heinen, 1999, p.28).

The Concept of Modern Architecture

The architecture of modernism is considered to be an architectural period with a trend that includes a set of architectural schools and styles that have similar characteristics, which share primarily the simplification of forms and the rejection of decoration. Many well-known architects of the twentieth century became famous for it, but there were very few modern buildings in the early periods of this century. The direction of modern architecture includes several schools: the school of modernist architecture Modernism (Circa 1890-1945), the school of late modernism Late Modernism (between 1945-1980), the school of postmodernism (started in 1980), the school of neo-modernism New Modernism (Mara Bot, 2022; Ramadan Youssef, 2018). Thomann (2022) defines it as an expression given to architecture that appeared at the beginning of the twentieth century and is a building style that emphasizes function and simplified form over decoration, this aesthetic design is a departure from more elaborate and decorated houses such as Queen Anne, Victorian or Gothic styles, modern architecture usually includes sharp and clean lines.

1 School of Modernist Architecture (1890-1945)

Modernism in architecture appeared at the beginning of the twentieth century. It was a natural consequence of the growing feeling in avant-garde circles that changes in the lifestyles of industrial society required a completely new approach to architectural design and urban planning. In France, it was Le Corbusier who most dramatically demonstrated the need to establish new principles, goals, and whole architectural media for pursuing democratic changes in society after the First World War, as in Figure (1) (Tobolczyk, 2021). Despite talking about the architecture of modernity, the concept we should talk about is the revolutionary concept and trend that aims to comprehensively change the concept of architecture, and (tribal) architecture, that is, which spread a long time before modernity – from Greek architecture through the Renaissance to modern classics – this architecture has absorbed two basic principles, the first principle is the archetype and the second principle integrated image (GESTALT). According to Schultz, architecture manifests itself in an attempt to interpret, connect, and synthesize, or the so-called composition, " thus, the archetype as an integral holistic image (gestalt), and this composition thus fulfills the proposed function of construction within a specific time and place (Al-Bahansi, 1997, p.106). Moreover, the modern movement in architecture was first and foremost a social movement, as architects expanded the scope of their research to all aspects of human existence and developed a holistic interest in the built and natural environments in which people live.

As a result, architects and urban planners began to think about cities as a whole rather than individual buildings and tried to give the entire construction and renovation industry a clean slate (Ahmed, 1995). In a related context, the goals of modern architecture were associated with the utilitarian and technical aspects, and modern architecture also relied in its changes on the forms to emphasize the modern function, which is functionality, where the functional school adopts the curriculum, materials and construction techniques, and concentrates the theoretical foundations of modern architecture emanating from the pragmatic basis, which means "work and application", The functional school has become at the forefront of schools that have adopted a pragmatic approach that puts the law of utility and utility at the top of the list of priorities of "form follows function", as in Figure (2), or the form is centered on forms with a high level of reduction, and linked the idea of beauty and convenience as an inevitable result (Jaber & Hamza, 2011).

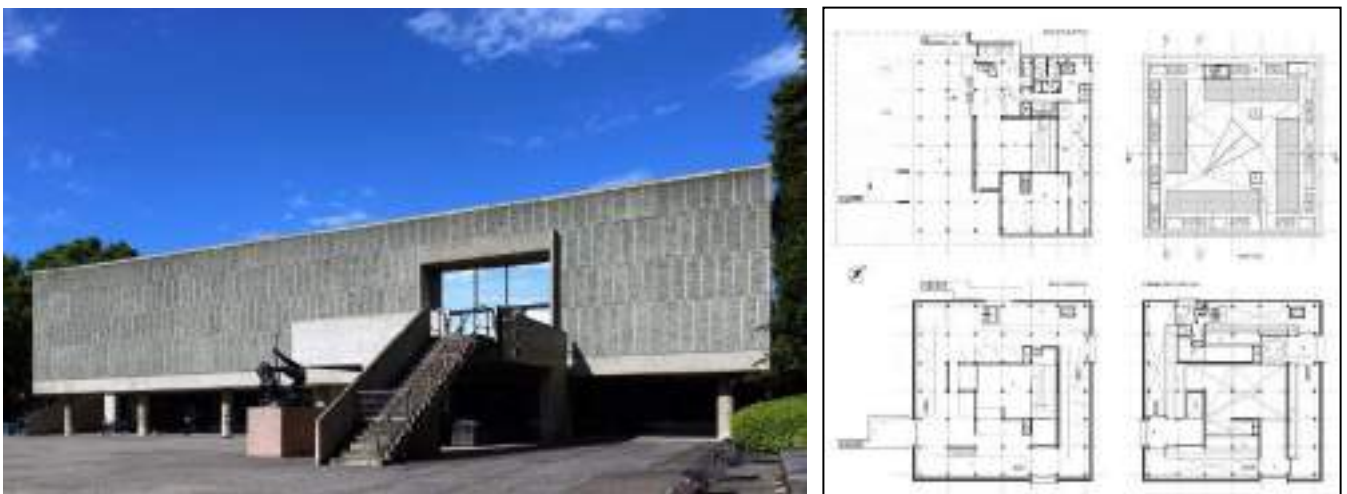


Figure (1): Museum designed by Le Corbusier (1887-1965).



Figure (2): A museum designed by architect Frank Lloyd Wright in 1945, in New York, United States.

1.1 Futurism in Architecture

The term "futuristic architecture" gained momentum from the art and social movement of the twentieth century called "Futurism", the Italian architect Antonio Sant'elia is also considered the father of futurist architecture, a person who conceived the future of cities based on the working culture of the indigenous population and the usual features. Today they have an amazing influence on the style of architecture of the whole world. The futuristic idea of development was to ignore history and come up with new ideologies and structures that could shape future cities and neighborhoods as in Figure (3) (Asim & Shree, 2018). In a related context, Futurism, a reaction against historicism and the past, was a revolutionary movement born in northern Italy at the beginning of the twentieth century. Where she called for a comprehensive revolution in society, culture, and the arts. The most important demands of the futurists were exclusivity and the depiction of the vitality of contemporary life. Futurists used art to express the beauty of the scientific progress of their time. The Second Industrial Revolution and the technological progress of the coming atomic age had a huge impact on the future. Similar to Mary and Muybridge's photographic investigations, expressive compositions with overlapping planes and intricate geometric lines enhanced the sense of movement (Tyc, 2018).

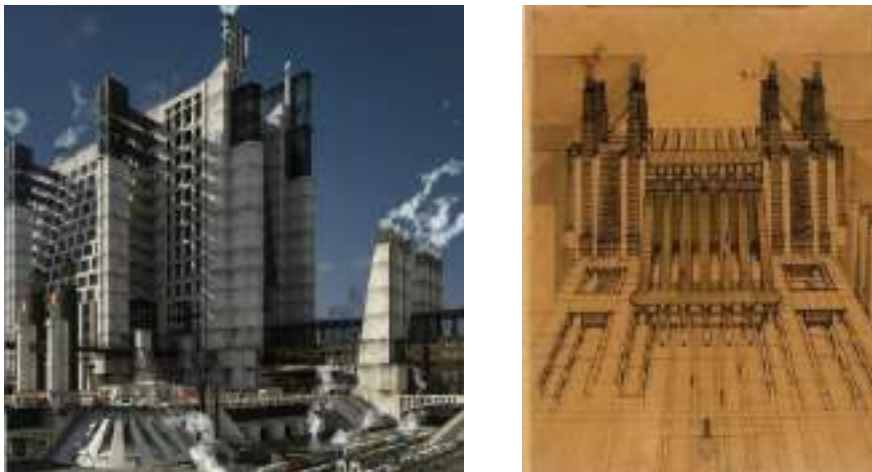


Figure (3): Antonio Sant'Elia Citta Nuova Building, 1914. Wikimedia.

1.2 Cubist Architecture

The famous phrase of the artist Cezanne says that "a ball, a cylinder, a cone" is an essence by nature. Cubism is a school of Fine Art, and we find that this current originated through it, where the Cubists deliberately built the painting to become coherent and strong to engineer the image of nature, and for the sake of this geometry, they returned to the famous philosopher and mathematician Pythagoras. The purpose of the Cubists when they began to analyze the images of nature, dividing them into geometric shapes and subjecting their forms to artwork was nothing but to search for the secrets of beauty, driven by that general feeling; namely, that truth is something hidden behind the virtual images (Al-Jaban, 2015). The theory of Cubist design in detail will make estimates of additional designs in the arts and architecture, through which the method of "conceptualization" will be used, which is one of the most important ways to start designing. Moreover, an analysis of the theory of Cubist design in architecture will be very important as it was popularized during the twentieth century in art and is still used and valid in architecture, is; "opposition to nature", "reflection of the essence", "abstraction", "formation", "simplification", "geometry", "materialism", "symbolism", "distortion", "fragmentation", "fantasy",

"illusion" / contradiction, the fourth dimension, depth, rhythm, exaggeration, completeness (Besgen, 1998). As a result, futurist painters adopted Cubist styles (Boccioni et al., Without date). Given this, the term Cubist architecture appeared because the order of the geometric figure was in line with the emergence of Cubism in the twentieth century. This ideology is an artistic ideology that integrates the element of time into its design, where the elements of the previous space are added together with the elements of time so that the results can be viewed from different sides, in other words, they can be viewed from another perspective, and as in Figures (4) (Pane et al., 2018). The emergence of the fourth dimension in architecture is of value and certainty not only because it transforms the Cubist language into architectural terms, but also makes scientific criticism possible for the reason of differentiating pictorial and constructive architecture (Besgen, 1998).



Figure (4): Walt Disney Concert Hall by Frank Gehry and House in the style of minimalism three-story (Idei.club.com).

1.3 Architecture Expressionist

The Expressionist movement in art began in 1910 in Munich, Germany, and began as a movement of plastic artists like the Cubist movement. A group of well-known artists such as Kandinsky, Paul Klee, Feininger, and Mark contributed to the creation of the new movement. The expressionist school reflected the inner life of Man represented by clairvoyance and spiritual life, and the basic idea behind that philosophy was the emotional expression or sensation of subjects and not the subjects themselves (Hassan, (N, D)). This applies to the definition of architecture by particularly challenging expressionists. Regarding expressionism, Ian Boyd-White noted that "movement is often characterized by what it is not (logically, functionally, etc.) and not what it is." The interests of the movement—the expression of discomfort, the denial of objectivity and reality in favor of the symbolic depiction of inner experience, abstraction, and a critical attitude towards modernity—are patented, although there is no specific definition. All forms of art show the desire to change reality to have a personal or emotional impact. Expressionism sought to achieve a new and more visionary dimension than did the majority of previous avant-garde movements, and this is considered the main goal of all art (Sheppard, 2016). Thus, it should be noted that expressionist architecture was undoubtedly associated with modernity, and all the famous masterpieces were the reference for every architectural urban renewal in Europe throughout the interwar period. Therefore, modern architecture became a fantasy of urban renewal, and these monuments provided a real understanding of the place. Moreover, the monuments

provided an understanding of the entire urban reality as a modern reality of the world As in the figures (5) (Mifsud, 2019).



Figure (5): The "Ship" building by Dutch architect Michiel del Clercq and the Einstein Tower in Potsdam, Germany 1922. ©en.wikipedia.org

it should be noted, from 1910 to 1932, religious buildings and other public places used for rituals were repeatedly depicted in architectural works. Expressionist architects avoided the use of stone in favor of alternative materials, including wood, brick, concrete, stained glass, and other decorations. Expressionist architects had more confidence in their abilities to incorporate the new ideas and philosophy of the movement into their architectural projects than their contemporaries from other aesthetic movements, as shown in Figures (6) (Daubler, 1957).



Figure (6): The Chillhouse Building in Hamburg, Germany (1924) by architect Fritz Hoeger. The Guitanium Building in Switzerland, designed by Rudolf Steiner (1924-1928)
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1.4 International Style Architecture

The term "international style" was born in 1932 in the fields of Architecture Design and various other disciplines, this architectural trend began in the years before the First World War, with pioneers such as Frank Lloyd Wright and Walter Gropius (Poon, 2020). The international style of architecture style was based on the development carried out on iron (by the Englishman Henry Bessemer), glass, concrete and a few other new materials (Ebuz & Donatus, 2018). It can be said that all directions of the International Style share several qualities, as they are characterized by clarity of expression through

straight lines and right angles. It also calls for creating overlapping spaces and connecting the outer space with the inside, in addition to asymmetry. Its buildings are devoid of regional characteristics, emphasize functionalism, reject all decorative elements, and usually the horizontal style emphasizes the sides of its buildings as in Figure (7); the world style is divided into several schools: **Bauhaus, De Stijl, Constructivism** (Jacob, (N, D)).



Figure (7): The auditorium building at the Helsinki University of Technology, designed by Alvar Aalto, ©en.wikipedia.org

1.4.1 The Bauhaus School of Architecture

The Weimar Bauhaus school in Germany, founded by Walter Gropius in 1918, brought an "architectural approach" to architectural education covering various branches of art and design from a broader perspective. Focusing on three-dimensional perception in comparison with the two-dimensional compositional approach of the Academy, the Bauhaus differed from the School of Fine Arts by providing students with the ability to reveal their creativity, imagination, and personal expression. Gropius introduced the Bauhaus philosophy in 1919 by showing that "there is a close relationship between all disciplines of Arts and crafts"(Pasin, 2017). Gropius's intention in founding the Bauhaus was always to find a new constructive social place for the artist who had lost his roots in industrial production in the nineteenth century. The ultimate goal of the Bauhaus program remained in the concept of architecture, which he now described as going "hand in hand with technology" because contemporary architecture has "the same distinctive features as modern engineering products of the machine (Mindrup, 2014). At the same time in Germany, this ideology also developed and was pioneered by Walter Gropius (1883-1969) who designed the Bauhaus building in Dessau, Germany (1925-1926) as in Figure (8), this building is a school of art and design. The curriculum included the modern architecture that was developing at that time. The Boxy building looks harmonious with the use of concrete and glass as the facade of the building. On one side there is a divergent focus on the other, which indicates the general coordination of the figure (Pane et al., 2018). In a related context, the Bauhaus school exerted a tremendous influence on contemporary aesthetics and architectural thought; its teachers included the greatest architects of the twentieth century, whose achievements with the works of their students significantly influenced the development of architecture, while the completed buildings form an important part of the architecture created during the last century and are distinguished by features, such as functionality, linear composition, economy of forms and forms. In

the same context, she emphasized the relationship between the architect and the world at that time (Żychowska, 2019).



Figure (9): The Bauhaus building in Dessau was designed by Walter Gropius. It was the longest serving of the three Bauhaus locations (1925–1932). ©en.wikipedia.org

1.4.2 The De Stijl School of Architecture

After the first World War, the Dutch art movement known as de Stijl arose with the aim of producing works of art with progressive thinking. The artists of that time believed that they were at the beginning of the creation of a new world, and that their art would represent this break with traditions. De Stijl was initially accomplished in the field of painting, but he soon spread to other creative areas, including furniture design, sculpture and even architecture. There was a significant formal and spatial influence of portrait painting on the architecture of that time. The Schroeder House by Rietveld and Hilversum Town Hall by Dudok weisenman's House Series are just a few examples of buildings that reflect these Neoplatonic ideas (Holdren, 2016). As a result, a new abstract style appeared in sculpture, architecture, painting and decorative arts as a result of this search for visual representation of spiritual and philosophical enlightenment. From the very beginning, De Stijl's goal was to develop a visual language that was an accurate reflection of the spirit of the times, a set of thought that would help simplify and modernize art, since the De Stijl artists believed that a perfectly balanced and calm artwork could convey the virtues of harmony and purity to the depth and presence of the Observer, this motivation was moral (Sobayo, 2017). Moreover, she advocated the use of only horizontal and vertical lines and rectangular shapes in architecture and painting. In addition, the three basic values (black, white, and gray) and the basic colors (Red, Yellow, And Blue) and, as in Figure (9), were the entire official language. As a whole, the works abandoned symmetry in favor of finding harmony through contrast (Stijl, N.D).

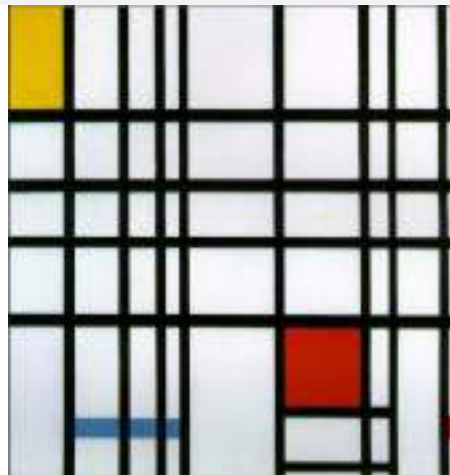


Figure (9): Composition with Yellow, Blue, and Red, 1937–42, Piet Mondrian. Oil on canvas; 72.5 x 69 cm. London, Tate Gallery.
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Consequently, the subsequent emergence of Nieuw Bouwen Architecture was marked by the spread of modern architectural styles, such as Art Deco. Contemporary architectural trends such as the Amsterdam School and De Stijl appeared along with the art deco era. While the increasingly plastic and minimalist architecture of De Stijl keeps the focus on the idea of space, the Amsterdam school prioritizes the construction of facades with geometric ornament patterns and the introduction of modern motifs inspired by traditional art forms and as in Figure (10) (Solikhah & Kurnia, 2017).



Figure (10): A house by architect Gerrit Thomas Rietveld in Utrecht, completed in 1924. ©en.wikipedia.org

1.4.3 The Constructivist School of Architecture

It is an artistic and architectural movement that originated in Russia after the revolution and was active after the October Revolution. It is considered a contemporary architectural movement and a form of modernist architecture, combining constructivism with advanced technology and engineering, which was declared for socialist and communist goals. The first and most famous project among the projects of the Constructivist movement was the project of the Tatlin Tower in St. Peter's in 1919 by the

architect (Vladimir Tatlin) as in the figures (11) (Amara, 2011). Accordingly, the Sixties saw the beginning of the backlash against elaborate, over-the-top, and ornamental architecture. Constructivist architecture, which is minimalistic, has a strong three-dimensional geometric sense, is very practical, and has emerged as a style that will be considered by future generations of architects. Accordingly, at the end of the twentieth century, academics began to study constructivist theories, and architects began to incorporate the theories of constructivist art into their work. In the academic world, constructivist architecture is perceived as fair and objective (Lei, 2021).

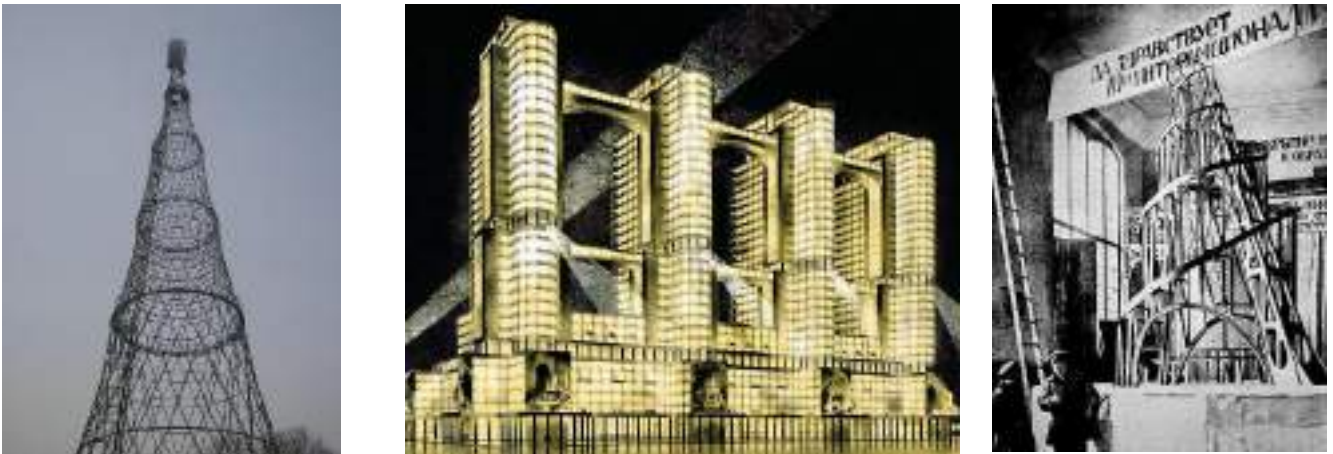


Figure (11): Towers from the projects of the Constructivist movement, built by the architect Vladimir Tatlin in 1922 - 1934 - 1919. ©en.wikipedia.org. ©en.wikipedia.org

1.5 Late Modernist Architecture(1980-1945)

After the modernist movement and its guiding principles faded away, a new style appeared that served as a precursor to the architecture of late modernism. This style is variously known as "late mezze architecture" and "Louis Kahn architecture". In addition, the early modernists moved away from symmetry in favor of freer formations of design dictated by functionality; however, late modernists and postmodernists have increasingly turned to symmetrical forms to raise the aesthetic value of their buildings (Al-Jaban, 2015). In the same curve, late modernism is associated with modernist architecture in several aspects, including the rejection of heritage, and the employment of rationality in an exaggerated style by repeating standard elements, as well as this trend works on the extreme emphasis on mechanical aspects, the use of technology as a decorative element, its potential and the desire of architects to achieve unprecedented development of architectural output in this era, for example, the Hong Kong Bank of architect Norman Foster Norman, 1986, as in Figure (12), There must be different trends in the architecture of late modernism, including; the sculptural trend and exaggeration, excessive detailing, the aesthetic of the second machine, Sicilian technique, the bio of the twenties(Al-Majidi, 2017).



Figure (12): HSBC Skyscraper (Ravenscroft, 2019).

1.5.1 High-Tech Architecture

"High-tech" architectural thinking, another way of thinking about structure as architecture, is important to consider in this setting. In the eyes of architects, "high technology" represents the heyday of modernism and the defining feature of the twentieth century. They believed that the style and physical features of each era envelop the structure of the period in question. Thus, "high-tech" architecture originates from the idea of modern architecture. Some nuances need to be made; however, it is known that "high-tech" architecture has abandoned any pretense of simplicity in favor of complex and futuristic forms. The principles of thinking and design of this approach can be summarized as follows: optimism for the development of Science and Technology; depiction of technology as the extraction and achievement of the new era; visualization of the construction process, transparency, and layering; demonstration of the movement of the building. Visualize the structure and components of the facade and the outline; use simple and bright colors; and photograph the building as a whole (Azizi & Torabi, 2015). Moreover, high-tech in architecture means something different from high-tech in industry and now means a certain, new style of construction. Some of the most prominent pioneers of this movement were Richard Rogers, Norman Foster, Nicholas Grimshaw, and Michael Hopkins in the last twenty years (Davies, 1988). This new architectural thought is reflected in the 46-story Hearst Tower, designed by renowned architect Norman Foster, and opened in 2006, rising almost 600 feet above its historic six-story base. The exterior of the tower features an innovative glass and steel design, making it a modern look unlike any other skyscraper in North America, and the top-down tower focuses on modern technology and sustainable design as Figure (14) (Garbutt, 2022)



Figure (14): Hearst Tower, designed by famed architect Norman Foster (JarBot, 2022).

1.6 Post Modernism

It is an architectural style or current that appeared in the sixties of the twentieth century as a reaction to modern architecture and its principles, and then postmodern architecture flourished in the period between 1980 and 1990, as architects in this period around the world began to look for diversity in architecture instead of simplification and return to using the architecture of the past, which modern architecture moved away from (Al-Halalat, 2018). From other visions, it is a term given to the historical stage that followed the Second World War, its culture and Arts until the end of the twentieth century and refers to its Western centrality. We find that the first who inspired this term was the Spanish writer Federico de Onís Onís de Federico (1966-1888 in his book) *The Anthology of Spanish and Spanish-American poetry* in 1943) and then came in an article entitled "The Postmodern house "in 1949 by Joseph Hudnut (1886-1968) Hudnut Joseph Professor of architecture in the United States of America, in which he describes the architecture of modernity as nothing but an attempt miserable to resemble the aristocracy and calls for a new approach to architecture (Asim, 2018). It turns out that postmodernism appeared first in the fields of painting, architecture, and civil engineering, before moving on to philosophy, literature, art, technology, and the rest of the humanities and knowledge. Postmodern theory has conquered all disciplines, such as literature, criticism, art, philosophy, ethics, education, sociology, anthropology, science, culture, economics, politics, and architecture, and has also worked to critique logos and logic through the mechanisms of questioning, dispersion, and deconstruction (Elaati, 2016). This reminds us of the American architect Robert Venturi, who designed a house for his mother in the late fifties and made a bold statement about the future of suburban architecture. Due to his pioneering influence, he was widely recognized as the leading structuralist of postmodernism while working in the House of Vanna Venturi, whom he referred to as "my mother", he first began to distance himself from the modernist movement, as this process took more than six years, as in Figure (14) (Frearson, 2015).



Figure (14): House designed by American architect Robert Venturi in the late 1950s (Frearson, 2015).

1.7 Architecture Deconstruction

The deconstruction movement is one of the intellectual movements that appeared in architecture and art in general in the postmodern period by the French philosopher Derrida Jacques, who was also considered a literary critic, and he called deconstruction literary works that contain overlapping meanings and complex and complex ideas and ideas moved until they were adopted by a group of architects and applied them in their works. In general, deconstruction means the abstraction of basic geometric shapes, forming them together in a non-Euclidean way, relative to the mathematician Euclid, his theories in geometry and the identification of spaces to express certain cultural or critical ideas, and from this point of view, we find that the works of deconstructionist architects go beyond the wishes of the population, and are not primarily concerned with human needs and measurements as much as (Khaled, 2016; Asim, 2018). We find that deconstructivist architecture offers material and expressive creativity, which removes the form from its tradition and obedience to functionalism and goes towards producing architectural spaces that are busy developing their formal discourse, and then calling for their employment. In a different form, he employs in a different way (Al-Asadi, 2015). Moreover, it is considered a change in geometric relations in an anomalous way that replaced postmodernism and emerged as the opposite direction of Constructivism, and it can be said that it represents a puzzle game consisting of spaces and structural elements, which is a reverse creativity represented by the work of anomalous configurations of design elements that give architects a way to escape from the traditional closed ends of smooth architectural blocks, as in Figure (15) (Abdel Latif, 2010).



Figure (15): Walt Disney Concert Hall by Frank Gehry, Los Angeles, California ©en.wikipedia.org

According to Derrida, it is not just a technique of an engineer who knows how to disassemble what has been built, but an investigation that touches the technique itself, based on the authority of an architectural metaphor, and thus forms its architectural discourse. It was with this in mind that deconstructivist philosophy tried to dismantle the established norms of Western metaphysics. In the same vein, deconstructivist architecture requires the dismantling of all traditional engineering principles, including compatibility, unity, and stability. It also called for distorting the relationship between the inside and the outside, as in Figure (16) (Hoteit, 2015).



Figure (16): The Jewish Museum Berlin, designed by architect Daniel Libeskind. ©en.wikipedia.org



1.8 The Beginnings of Modern Architecture in Jordan (Amman)

Jordan is an Arab country located at the crossroads of Asia, Africa, and Europe in western Asia, on the Eastern Bank of the Jordan River. Before 1946, Jordan was part of various empires, kingdoms, and dominions; moreover, Jordan is considered deep in history and home to some of the first human settlements and villages and monuments of many great civilizations of the world. Three Kingdoms also reigned in Jordan: Edom, Moab, and Amun. After these kingdoms, the territory was part of several empires, most notably the Roman Empire, the Nabataean Kingdom, and all periods of the Islamic caliphate (Alkhawaldeh, 2018). Thus, historical developments were reflected in architecture in general in Jordan, as the architectural heritage of countries is a witness to originality and high art in various eras, and different periods witnessed attempts to emulate heritage architectural elements in modern architecture. Several projects have succeeded in using the vocabulary of heritage architecture in modern buildings, whether by imitation or merging with modern architectural elements; heritage architecture in the Arab world has spawned architectural vocabulary associated with the cultural heritage of the place (Mansour & Felix, 2015). Thus, successive urban trends and movements based on quoting or inspiration from the ancient architectural and urban heritage have influenced modern architecture, and they were not limited to a certain geographical range or peoples and groups alone, and it is well known whether the inspiration or reproduction of ancient styles was not limited only to their local environment, but those styles became a universal human heritage accessible to everyone (Abdel Latif, 2012). In particular, Jordan witnessed a dramatic development in the last decades of the twentieth century, which coincided with the urbanization of most Jordanian cities and wide openness to international architectural trends, all of which contributed to the reshaping of Jordanian urbanism and influenced changes in Jordanian architectural thought. Architectural styles reflecting the rich and multicultural history of the region have also become irrelevant due to environmental factors, the spread of exotic architectural styles, and new building types. This has led to a countermovement on the part of some Jordanian architects, who have embraced the concept of integrating the expression of heritage into contemporary architectural projects as a way to preserve it and maintain its connection with the past (Rjoub, 2016).

Based on the above, Amman began as a small town with an area of 2 km and a population of 5 thousand people, and after it was made the capital of the Hashemites (1921), the city began to witness accelerated urban development due to forced migrations from Palestine, Lebanon, Kuwait, and Iraq, as well as voluntary migrations from various parts of the kingdom (Gharabieh, 2011). The stage of modern architecture began after the independence of Jordan in 1946 as a result of the change in the socio-economic conditions in Jordanian society, which took the Western model as a goal that aspires to imitate and reach it. This came under the influence of powerful elites, who were educated in Western countries and influenced by their culture (Rjoub, 2016). In 1953, after the issuance of the law on practicing the profession, the number of those who were allowed to practice the profession of architecture reached 43 permits, while the number of engineering degree holders reached only two, and after the issuance of the Union of Engineers Law No. 15 of 1972, there was no longer the possibility of registering the licensed in the Union's registers. As a result, the architectural profession began to be more established and organized and was entrusted to a group of qualified surveyors and draftsmen who were supervised and registered by the Department of land and survey, granted permission to practice as contractors or designer and later called "licensed practitioners", after which a group of Arab and

Jordanian architects who finished their education in Arab or foreign countries entered the labor market, influenced by international and modern architectural styles (Abu Ghunaima, 2002). As a result, Jordanian architecture went through many stages, especially under the influence of Ottoman, English, and other architectural styles, which had obvious effects, especially on public buildings and houses, as in Figures (17,18) (Alkhawaldeh, 2018).



Figure (17): A house in Jordan - Amman that represents the character of modern architecture. (Ibn Talib, 2018).

The period of the sixties until the nineties witnessed modern local architecture with a distinctive character and style; the influence of modernity merged with the local building traditions of masonry and stone to produce what can be called "domesticated modernity". In particular, the period from the seventies to the mid-eighties witnessed an economic boom due to high oil prices, which affected most sectors of society including the construction industry. In a comparable vein, Jordan and other Middle Eastern nations have embarked upon a new phase of building and construction, spearheaded by both local and foreign architects. In Amman, two architectural trends prevailed: an eclectic splendor of designs showing wealth and financial power (Dahabreh, 2020). Thus, the investigation of issues of architectural identity and stylistic change in cities is especially problematic in the era of Anarchy - historical continuity, rapidly changing socioeconomic and cultural conditions, and technological progress. All this was reflected in the capital Amman. From its inception as a small Circassian village in 1878 to a major metropolis of more than four million in the last two decades, it began a dynamic growth (Pidler, 2011).



Figure (18): A house in Jordan - Amman that represents the character of modern architecture .(Ibn Talib, 2018).

The architectural style of buildings has changed from traditional peasant houses to modern styles using new materials, from local to global, in the last hundred years. The concept of the village and its development were dated before 1866, when a peasant house appeared with the use of local materials. After that, the initial expansion took place in a more complex form of construction, and the architecture became more urban. Thus, there was rapid growth and further complexity, and a new material appeared, and this era was called the Years of Owls. Thirty years later, and the establishment of Amman as the capital, the influences have become more European. In 1930, modern international architectural influences took place, so a lot of traditional methods and elements of climatic design were lost (Badarneh et al., 2008).

1.9 Features of Modern Architecture in Amman

According to archaeological sources, it was discovered that traditional homes and ancient homes have similar features in terms of local building materials and architectural composition, as well as inter-control and shared functions. While providing for the basic needs of their occupants, it should be highlighted that the majority of Jordanian villages' traditional dwellings emerged from the impact of an earlier settlement, where pre-cut stones were used to lift or build traditional dwellings (Haddad & Mahmoud, 2013). Thus, reflected on Jordanian architecture in Amman was and distinguished by its use of stone and concrete materials... and other. Thus, architects began to form a new language using modern architectural materials and techniques. In their opinion, reinforced concrete was the optimal material to replace stone as a structural material, to be used only as a shell for the building. As we can see in residential architecture, the architects created dynamic facades in direct contact with the street and unhindered. The use of reinforced concrete columns allowed greater freedom in the internal planning of the house (Ibn Talib, 2018). In a related context, modernist architecture in Amman was also distinguished by the use of solid stone and circular decorations in the facade, and the red brick-like decorations that we always see with the edges of the verandahs. He also employed steel as a material for Windows and doors. Thus, he began to change the shapes of the windows, which were made of huge wood, and now they are made of thin steel, which is characterized by its lightweight and



easier to manufacture than wood. Modernist buildings varied using different ways of using stone, using arches with solid stones, stones of high thickness, and colored stones (Abdel-Aziz, 2022).

In addition to the above, it was characterized by clean and limited lines in the buildings, and it had a smooth and consistent texture, free from Decoration and complexity. Modern architecture is also characterized by its wide and overhanging ceilings that extend from the edge of the building's roof to cover the outer area of the building space. Modern architecture in its structures used glass walls and large windows to let in as much light as possible. Modern architecture also tends to use white and neutral colors in its buildings. As for the interiors in modern architecture, they are characterized by spaciousness to give a sense of spaciousness (Jarrah, 2021). Furthermore, the buildings characterized by their variety of uses and architectural styles. They were created using several design concepts, primarily grounded in modern design principles, and incorporated a wide range of new building materials, including concrete, marble, metal, glass, and roof tiles, with the original stone serving as the primary facing material for the walls. It can be argued that this was a crucial time of transition during which Jordanian architecture changed from a craft to a recognized profession (Rjoub, 2016).

1.10 The Most Prominent Modernist Architects in Jordan

Examples of the architecture of Jordanian residential buildings from the Modernist period are the main topic of this section. We will present and examine the achievements of the most famous architects in Jordan along with their modernist point of view in modern architecture, using several determinants, including the title of the project and the date of implementation. The most famous architects - Wadah Al-Abaidi, Ayman Zaiter, Jafar Toukan, and Rasim Badran-will be studied from this perspective.

1.10.1 Architect Rasem Badran.

Rasim Badran is a Palestinian-Jordanian architect, born in Jerusalem in 1945. He is one of the flags of Contemporary Arab architecture and one of the most prominent pioneers of Contemporary Arab architectural thought, both in the Arab world and internationally, as he founded through his school of thought. In the late seventies, Badran adopted heritage as a framework for raising the issue of identity and renewal, and his intellectual theses were reflected through his various projects in a relentless pursuit of problematic ways of originality and modernity within the framework of Arab-Islamic architecture. His architectural works are widespread in many Arab countries, including Jordan, Saudi Arabia, Qatar, Syria, and Lebanon (Muhammad, 2023). Therefore, Badran attempted to vary the architectural forms in his designs by the regions in which they are constructed, but they all maintain a pattern that unites them. The architectural style is identified by the climatic treatments that frequently appear for courtyards and blocks that differ in how they cast shadows and the narrow, occasionally crooked corridors (Abu Al-Hija, 2011). From this point of view, Badran's designs are based on a triangle whose sides are (Past - Present – Future). He studies the history of the site and looks at its future development to reach the present. From the accumulations of the past, moving into the future, he expresses the social, cultural, and environmental aspects that flow into his works. This applies to the single-family building Villa Handal, which will be studied by samples (Muhammad, 2023).

1.10.2 Architect Jaafar Touqan

Jafar Toukan is a Palestinian-Jordanian architect who was born in Jerusalem in 1938 and studied architecture at the American University of Beirut, graduating in 1960. In the beginning, he was influenced by modern architecture and the International Style, the most important of which is the



Bauhaus School. This environment painted the first features for Jafar to analyze or practice architecture. Therefore, the Jordanian-Palestinian architect (Jafar Toukan) is considered one of the symbols of architecture in the Arab world during the twentieth century. Jafar's career was an architectural maturity that started with modernity and ended with modernity. Therefore, his works reflect a dialogue about the idea, design, and construction work. He is one of the Arab architects who were distinguished by integrating the structural element as a basic element in architectural design (Sultani, 2009). Moreover, toucan's architecture was distinguished from the rest of the architects in his works, he took more like paths similar to the architect Renzo Piano or Norman Foster, moving them between one school and another, motivated by renewal and changing convictions. This feature is not found in many architects who rely on a single path in an attempt to impose it as a trend line. However, it can be noted that he was able to combine stone and shadow in a structural composition, as a fundamental feature of his works, he does not reproduce the details on the facades but tries to make them through the structural structure as if they were an essential part of the building, appeared for urgent realistic reasons, not purely aesthetic reasons (Alawneh, 2014). From this point of view, Jafar Toukan points out that the architectural achievement needs to devote its role as an important landmark in the space of the urban landscape and its impact within its cultural context, i.e., the suitability of the building and its compatibility within the peculiarities of the building heritage formed by the skills refined over a series of decades of time and historical epochs. When we see the old neighborhoods and their buildings, we always feel that wonderful simplicity, and we touch the aesthetic formations and rules represented in them as a unity of harmony and even difference (opposites), which makes that urban environment rich and always renewed, every time you see it you find it in a new state, you feel a different feeling, and we touch another vision (Khalayleh & Atkhattat, 2014).

1.10.3 Architect Wadah Al-Abadi

Wadah Al-Abdi is a Palestinian / Jordanian architect who was born in Safed in 1944. He received his Bachelor of Architecture in Alexandria in 1967 and received his doctorate in 1974 (housing crisis in Jordan) he opened his own office in 1974 and worked as a part-time lecturer at the University of Jordan. The architect Wadah Al-Abdi believes that architecture is an art, but it has limitations. painting is an art, but architecture is an art of life. for example, one of the determinants facing the architectural structural system is that you cannot design something that cannot be built or implemented. these challenges increase the beauty of art (Al-Saud, 2017). In a related context, al-Abdi worked on the design of several architectural models that he implemented in several upscale neighborhoods of Amman over the previous years. He also stressed that the styles of architecture in Jordan are numerous and cannot be limited and are multiplied by the multiplicity of architectural cultures carried by Jordanian engineering graduates from the East and West and returned after their graduation to sow their fruits on the sides of the homeland and what they carried of multiple architectural doctrines. Abdi explained that as a result of this multiple formation, a huge architectural mess would have spread if it had not been for the uniform use of Jordanian stone in all these buildings. And that these houses, which he designed, he tried to express through them the Arab mentality, which thinks in a "bending" way. When asked about this method, he said that it is the use of flowing emotion and intimate family relationships within the thinking style (Middle East, 2006).

1.10.4 Architect Ayman Zaiter

Ayman Zaiter is a Jordanian architect who was born in 1957 and graduated from the American University of Beirut with a Bachelor of Architecture in 1981. Zaiter was influenced by the architectural thought of Hassan Fathi as a result of his work for him, and he was fond of Islamic architecture. While his philosophical vision of local architecture is summarized local architecture is divided into two parts: heritage architecture, which is the architecture that uses ancient local materials such as clay and stone, and this architecture stems from the site. The other section, which began with the development of technology and with the invention of concrete, which paved the way to more freedom in architectural formation, as a result of the development of industry led to a change in construction methods and new compositions appeared that had not been completed before. Thus, he pointed out that local architecture is organically linked to the local community and determines the values of the community, i.e. the behaviors that this community is satisfied with (Sneineh et al., 2019). It is clear from the above that Zaiter is one of the contemporary architects who had a clear contribution to the development and maturation of Islamic architecture in Jordan through his career in many architectural works over long periods. In addition to private residences, each of which has features that correspond to the nature of the building, its function and location (Tarrad & Ibrahim, 2021).

1.11 Samples of Modernist Architectural Buildings in Jordan-Amman

The research in this section will concentrate on doing an analytical descriptive study of the most significant architectural designs created by the previously listed and identified architects. The analysis will describe the design techniques, the general form, and the of the buildings:

1.11.1 Villa Handal (Architect Rasem Badran)



Figure (19): For Villa George Handal, project name: Villa Handal, Rasem Badran, 1975, Jordan - Amman - Dhahiyat Al-Rasheed, Building: 1200 square meters. Source: archnet.com.

Located on a hilltop on the outskirts of Amman, Villa handal (1975-1977) was designed in order to express the local environment in architectural terms. Thus, the arrangement of rooms in the interior corresponds to the traditional Arab practices of creating zones with complete privacy, which allows a great deal of freedom in relation to outdoor areas. In addition, windows and doors have gained great

importance in their modern form by moving away from The Shape of square openings and taking the arch shape to it. As for the interior design of the building, the internal organization, built on a series of integrated half-floors, has matched the external articulated diagonal lines of movement. Badran organized the spaces by placing the four bedrooms in the house in a different part of the building, for the privacy of the members of the House (Kultermann, 1991).

Undoubtedly, Villa handal is the first building designed by Rasim Badran in the Jordanian Capital- Amman, which contributed to his fame in a remarkable way. As for the design idea of the building, Badr (2020) indicates that it is quoted from his memoirs that handal is a Jerusalemite person who dreams of seeing Jerusalem in his home, this house took a different approach, it was treated as a small village, distinguishing this house is a metaphor or the road from the fence door to his house, as if you were walking in a small lane many people used to gather in this lane and intended for his house. In particular, his handle is the most important strategic symbol in Naji al-Ali's caricature creations, and it became his permanent signature on everything that is produced and handal is a plant with a very bitter taste and surrounded by thorns that grows in Palestine (Al-Faqih, 2008). From this point of view, some architectural historians suggest that the name of the villa is due to the personality of handal. In another context, the architect Badran began to design the building in proportion to the location and the contour of the land, being located on a mountaintop in the suburb of Rashid, and also in line with the regional climate of the region. The building was given the appearance of a harmonious box with its surroundings, its walls were designed in such a way as to allow the cooling wind to pass through its spaces. and openings were placed in the ceiling in such a way as to allow light to enter the main hall.

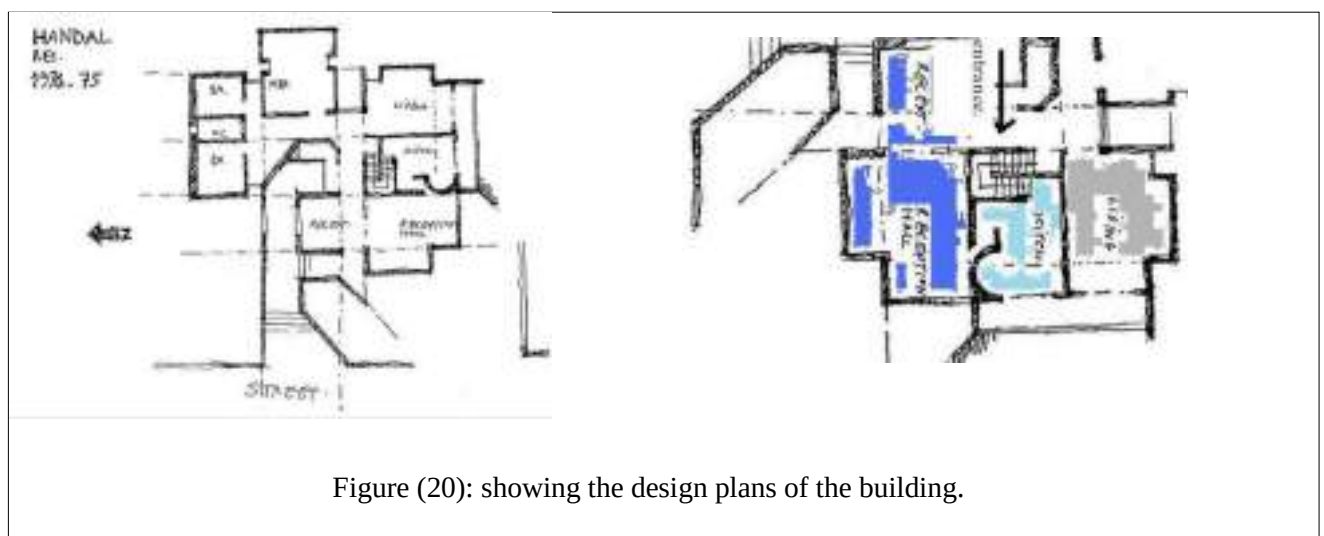


Figure (20): showing the design plans of the building.

In the same content, the building consists of two floors with a total area of 1200 square meters. As for the first floor, it consists of (a living room overlooking the back garden, a secondary kitchen to serve the main kitchen, a boiler room, a garage, and a guard room). As for the second floor, it consists of (servants ' room, storage room and shelter)



Figure (27): The general appearance of the details of the openings and stone facades in the building.
Source: archnet.com.

As for the stone facades, he took care of privacy and achieved it by using closed stone facades (tabza stone) that do not reveal the inside of the house, as he appeared in Villa Handal, without losing sight of compensating the residents in the house for the beautiful view or landscape, he worked on designing an internal courtyard in the House, drawing from traditional Islamic architecture, but he brought it out in a modern way so that the viewer does not expect that the house he sees is a house with an internal courtyard. It has become clear from the above that the idea of stone facades partially closed from the outside is an idea derived from traditional architecture, as we see in the old houses of Nablus and others, but he brought it out with a beautiful modern suit, and with a distinctive architectural formation in which he used some traditional architectural elements such as arches in a modern way, as shown in Figure (27) (Al-Tawayha, 2011).

1.11.2 Villa Rizk (Architect Jafar Toukan)



Figure (28): Villa Rizq, Jaafar Tuqan, 1980, Jordan - Amman - Jabal Amman, Total area: 870 square meters, a house on three levels: living rooms, studio, three bedrooms and a guest suite. Source: Csbe.Org

Rizk Villa is located in Amman, designed by architect Jafar Toukan in 1980. The total area of the building also amounted to 870 square meters, a house consisting of three levels: living rooms, a studio, three bedrooms, and a guest suite. Toukan sought to reflect an attempt to recreate the traditional stone house in Jordan through the texture of the stone and its construction technique. It is also an attempt to

reintroduce traditional Jordanian urban residential forms into the country's contemporary architecture. As for the structural masonry system, it is a reinforced concrete skeleton with hollow panels with a concrete block hole. All parts were manufactured on-site, except for mechanical and electrical equipment, windows, and sleeves in Figure (28) (Bushnaq, 2020).

Thus, the villa emphasizes the overall approach of the project by showcasing the house's different rooms, each with its own bold and dynamic distinctiveness. Furthermore, this building has recessed arched windows and built-in plantings, especially since it is located on the corner of the main street. As for the construction details, Toukan deliberately placed the bedrooms in the back of the villa on the upper floor, as it is located on the corner of the main street, in order to obtain a quieter place to sleep. In addition to recessed windows that protect the interior of the building from sunlight, and planting beds that add color and contrast to the exterior of the building. In addition to the above, Toukan designed the dining room in such a way that it overlooks the entrance with the living space to the left of the building. Internally, Toukan succeeded in designing the living room, in which he worked on mixing European furniture with carpets and oriental fabrics to add a more beautiful character than what preceded it (Abu Hamdan, 1984).



Figure (29): It shows the architectural design of the stone facades, entrances, proportions of the openings of the building, and the stone used in the building. Source: (Abu Hamdan,1984).

Due to the nature of the location, the architect Toukan adopted finding a way to enter the villa through two entrances, the main entrance to the villa and the other entrance to the services and parking lots, as the villa is located on a rectangular plot surrounded by two corner-shaped streets, as in Figure (29). In addition to the above, the villa consists of two floors, the ground floor is about a meter above street level and the entrance includes reception halls, dining, and office. The living room rises about a meter from the entrance level and from it, there is access to the master bedroom and the staircase leading to the two bedrooms on the first floor located under the living room. In this villa, Toukan relied on finding a disparity between the blocks to create a distinct architectural formation, and he also chose inclined surfaces in an attempt to emulate the construction style that is very widespread in the Mediterranean basin (Abu Ghanima, 2017).

1.11.3 Villa Ouda (Architect Wadah Al-Abdi)



Figure (30): Villa Odeh, Wadah Al-Abidi, 1981, Jordan - Amman - Dahiet Al-Rasheed, consists of two floors. Source: (Rajab, 2016; Arida, 2021)

The architect Wadah Al-Abdi designed Villa Odeh in 1981, and it is situated in the Amman district of Al-Rasheed. Al-Abdi employed a design concept based on the organic principle, which is a tree; it has branches that hold paper and resembles a tree. According to this perspective, the villa had two stories, and the Abdi architect used walls and protrusions to satisfy both structural and aesthetic needs. Furthermore, he designed the staircase with the intention of creating an aesthetically pleasing aspect that wraps around the cylinder, evoking the Ziggurat of Mesopotamia. In a similar portion, al-Abdi employed a variety of building materials, including wood, glass, iron on windows and doors, white stone, and rubble, to construct the mansion. In addition to that, al-Abdi used vertical elements, especially to focus on the entrance through the cylindrical block extending from the floor of the building to its highest point and wrapped it with a staircase with a curved path to give the entrance more importance by embracing the wall of the giant stone cylinder, as in Figure (30,31) (Alsoud,2017).



Figure (31): shows the stone facades of the building and the details of the openings in proportion to its overall shape. Source: (Arida, 2021)

The architectural design of al-Abdi varied with the use of stone in his buildings. Where he used local hard stone, which was pressed and heated into marble. And he employed different types of stones and after years he continued to experiment with different sizes and proportions of stone cycles in his architecture,

and this applied to the building in Figure (31). Al-Abdi gravitated towards the Islamic style more because he felt he should be more committed to Amman Islamic character. It is a style that follows excellent dimensions and is the style and heritage identity of the Jordanian capital Amman (Arida, 2021). Thus, al-Abdi employed local stone from different surfaces, including planners and random protrusions in the construction to give the adjacent surfaces a kind of visual contrast. The building was characterized by single and repeated vertical blocks in the facades and walls, as they fulfilled an aesthetic and structural function that gives the building a contemporary character, and they also increased the areas of shadows on the exterior walls of the building, which gives the building more coolness in summer (Sakr, 2013).

1.11.4 Al Tabbaa Villa (Architect Ayman Zaiter)

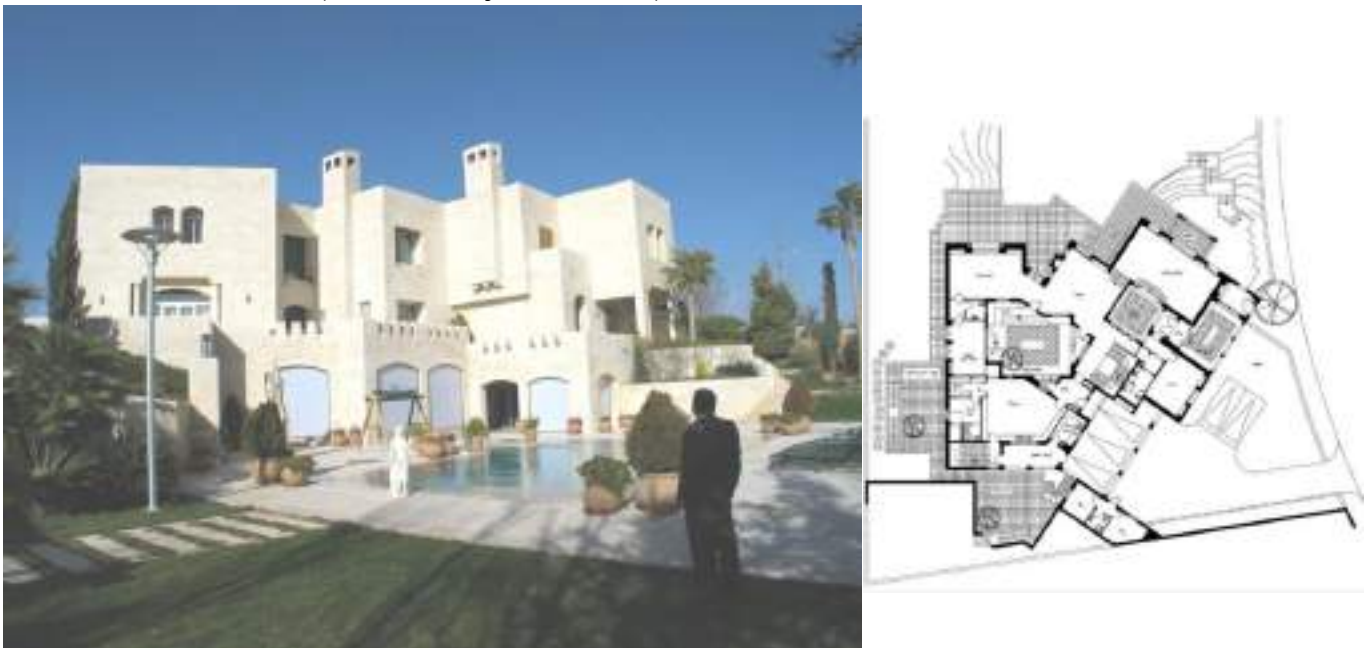


Figure (32): Al Tabbaa Villa, Ayman Zuaiter, 1995, Jordan - Amman - Abdoun. Source: (Dhiab, 2017; Sqour et al., 2022).

Architect Ayman Zuaiter worked on the design of the building in 1995, which is located in the capital Amman Abdoun area specifically. The villa also consists of various spaces distributed around the courtyards, as in Figure (32). Zuaiter believes that the architect has a role in shaping the urban environment and highlighting the cultural identity and that he must inevitably give the client what he wants, but in a way that does not contradict his beliefs, and this is what happened to him when designing the Al Tabbaa Villa. Zuaiter also considered that the design of the villa proceeded from the functional relationships required as an initial start only and then formed an architectural structure that he later called the embodied miniature or stereoscopic. This is actually what the concept of Islamic residential design achieves, where the designer deals with the formation of the architectural space and the requirements of its inhabitants as two sides of the same coin and puts forward alternatives and design solutions to create a successful urban environment (Dhiab, 2017).



Figure (33): The Islamic System in The Interior Design of the Villa, The Interior Type, and The Height Ratios. Source: (Dhiab, 2017; Sqour et al., 2022).

The villa consists of various spaces distributed around courtyards, the lower floor of the house includes spaces for guests, services, dining rooms, kitchen, personal office, bedrooms and other spaces, while the upstairs is dominated by bedroom spaces, along with terraces overlooking the courtyard and adjacent spaces. Zaiter designed different spaces, heights, measurements, many balconies and terraces overlooking the courtyard. Therefore, the villa represents the human life of the inhabitants of Jordan by preserving privacy and to represent the norms, traditions, values and customs of Jordanian social life, as in Figure (33) (Sqour et al., 2022). Moreover, the villa consists of multiple architectural heritage elements and vocabulary with pivotal relationships related to the nature of the design. The central relationships of the Villa have shaped its interior spaces, contributing to the stability and comfort of the place. Therefore, the ingenious design of the villa has created a delicate multidimensional balance that gives an atmosphere of tranquility and beauty with privacy for individuals (Dhiab, 2017). In addition, Zuaiteer, the architect, concentrated on two fundamental concepts when designing the courtyard in this building. The first is that the courtyard serves as a social element by balancing the contents in a way that permits the residents of the house to engage in social activities outside while still having total privacy. And the other element is the environmental element for the microclimate of the house. This is represented by the integration of green plants, trees, the water element, and various tools for shading, as the courtyard in this case works as a container to preserve the cool air at night and allows the possibility of cooling the internal spaces by opening the windows overlooking the courtyard (Abu Ganemeh et al., 2011).

1.12 Conclusions

The capital, Amman, witnessed a historic development in modern architecture during the 1990s and 1970s, which was evident through the creation of a new common language between society's culture and architecture. Modernist architects linked Western and Arab thought, specifically the Islamic styles in the villa. Thus, the genius of the Jordanian architect became clear in designing the modernist villa to emphasize the importance of the identity linked to the building's functionality. In addition, modernist architects sought diversity in the materials and contemporary architectural methods used in the modernist villa, the most important of which is concrete... as a new material in construction, not to mention materials such as steel and aluminum. Glass, cosmetic wood, and Jordanian stone have a charming character, in keeping with the nature of the villa's design. The architectural thought of the Modernist architects also aimed to develop architectural form through a variety of features, such as dynamic facades that exposed the structure to the outside world in a more modern form and were more flexible than those of their



predecessors. In addition to the arched openings for the windows, the spaces are proportional to the human size of individuals, and the shape of the enclosed staircase is either cylindrical or semicircular. The features of modernist architecture were richer and clearer than previous ones, emphasizing the inspiration of architectural thought for their architectural concepts taken from the architectural and cultural heritage of the successive kingdoms in Jordan, which appeared clearly in the architectural symbols used in the spaces and spaces (of the villa).

1.13 Recommendations

After conducting the study, the researcher makes the following recommendations:

- Creating a record that documents modern architecture in Amman, especially what represents the material cultural heritage of Jordan, and maintaining the restoration of buildings that bear witness to Jordan's modern heritage. In addition to intensifying studies on architects and studying each of them individually.
- Striving to advance the teaching of modern architecture in universities and trying to link it to contemporary architecture in terms of function and design.
- Striving to restore modernist buildings in cooperation with the Jordanian government, as they are an integral part of the heritage of Jordanian society and a heritage architectural identity that represents Jordan to the world.
- Training new engineers to design similar and similar styles of modernist architecture to promote and encourage the importance of this type of housing, and to preserve the modernist vocabulary associated with Jordanian society.
- Providing the cadres of Jordanian architects and those with experience in this field through exchanging experiences with Arab and international countries, which may be through scientific conferences and tangible achievements on the local scene.



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