

# Effect of typo-morphological analysis and place understanding on the nature of intervention within historic settings: the case of Amman, Jordan

Effect of place understanding

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## Abstract

**Purpose** – The purpose of this paper is to investigate the effect of different levels of place understanding (primarily typo-morphological analysis) on the nature of interventions within historic urban setting and buildings within the City of Amman.

**Design/methodology/approach** – The research methodology depended on an extensive thematic survey and analysis. The typo-morphological analysis addressed several of Amman's residential hills and their connections with the downtown area. The thematic place survey tool included different units of analysis (e.g. buildings, public spaces, streets and sloped lands between streets) and addressed the values of these various buildings and spaces, their typology, typo-morphology and relation to the urban context, nature of change and transformations over time to mention a few. The extensive survey also included semi-structured interviews about these buildings addressing their emergence, historic context and values.

**Findings** – The paper presents an architectural typology for Amman's architecture and its relationship with the city's morphology stressing the specificity of Amman's historic core and residential hills. The paper also discusses the effect of this level of place understanding on the nature and levels of interventions within historic settings and buildings.

**Research limitations/implications** – This level of place understanding (typo-morphological analysis) can have a positive impact on the practice of architectural and urban conservation by informing the nature of interventions within historic urban setting and buildings within the city. More specifically, this level of place understanding can, first, inform the development of urban and heritage guidelines within conservation areas in one of Amman's residential neighborhoods (Weibdeh) and, second, inform the nature of interventions to existing historic buildings based on respect of building typology.

**Originality/value** – This paper contributes to the disciplines of architectural and urban conservation illustrating how place understanding can inform practices of heritage conservation and future policies and strategies concerning new intervention within such heritage places.

**Keywords** Typology, Typo-morphology, Amman, Urban conservation

**Paper type** Research paper

## Introduction and rationale

Amman had re-emerged on the socio-political scene of the Middle East since the middle of the 19th century and has transformed from a very small village into a major urban center in the region within less than 100 years. If there is a world prize for the city most transformed in a very short period, then definitely Amman would have taken the lead. Compared to its other sister cities in the Arab World such as Cairo, Damascus or Beirut; Amman is a city that is understudied and is in need of more research attempting to understand its moments of change and transformation.



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The purpose of this paper is to investigate the effect of different levels of place understanding (primarily typo-morphological analysis) on the nature of interventions within historic urban setting and buildings. Therefore, the paper contributes to the disciplines of architectural and urban conservation, illustrating how place understanding can inform practices of heritage conservation and future policies and strategies concerning new interventions within such heritage places.

It is important to explain the rationale behind why there is a need to engage with such levels of place understanding that will eventually inform interventions within historic areas of the city of Amman. Many parts of the city are challenged with several problems of insensitive additions to historic architecture in addition to the encroachment of urban development at the expense of the essence, character and even continuity of such historic places. It is obvious that several historic places within Amman such as the downtown area and historic residential neighborhoods (e.g. Jabal Amman, Weibdeh) are witnessing the rise of inferior eclectic replication of “historicized” architectural styles (labeled as kitsch) (Daher, 2013, pp. 60–61), in addition to several insensitive additions to existing buildings and their urban context. Many of these insensitive interventions had no consideration for the neighborhoods’ specificity and typo-morphology resulting in adverse effects on the authenticity and integrity of place and are also leading to visual pollution and aesthetic degradation.

### Literature review

#### *Managing change in the historic built environment: continuity, compatibility and distinction*

Many researchers, architects and heritage conservationists had emphasized the significance of indulgence in place research and understanding prior to introducing intervention in such places. Examples include Viollet-le-Duc’s emphasis on place research, documentation and historic consciousness (Viollet-Le-Duc, 1996, pp. 314–317); Brandi’s emphasis on achieving a critical appreciation and assessment of the work of architecture prior to any intervention (Brandi, 1996, pp. 230–235); and Norberg-Schultz’s on developing a phenomenological understanding of place (1979) to mention a few.

If one conducts a review of heritage conservation dogma and practice through the past years, one would notice that best practice, international conventions and charters call for respect of the place’s values, authenticity and integrity (Jokilehto, 2006), while at the same time creating compatibility and distinction between the existing historic fabric and new interventions (Aslan, 2013, p. 12). John Ruskin, the 19th-century theoretician and thinker, called for respect for the past, but at the same time expressed the need to establish a continuity with the past through new works of art and architecture emerging from thinking of the present (Ruskin, 1907, pp. 187–203).

Later, and toward the middle of the 20th century, Brandi called for a critical appreciation and assessment of the work of architecture while accommodating change, which is a natural trait of cultural property and heritage, thus achieving harmony and unity in an evolving architectural whole (Brandi, 1996, pp. 230–235). More recently, one mentions the work of Khalaf (2016) on the reconciliation of the conservation of cultural heritage and the insertion of new additions to historic environments, negotiating issues of compatibility and distinction *vis-à-vis* concepts of continuity, integrity and authenticity.

#### *Typo-morphological analysis as place understanding*

Conventional approaches to place understanding primarily rest on analyzing its physical attributes. Even though this level of understanding is very important and provides insightful information about a particular place, it is important to understand that places are socially

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produced and in order to arrive closer at processes of such production, one has to understand the place's evolving historic contexts, discursive practices, associated narratives, spatial structure and morphology by eliminating boundaries between the tangible and intangible aspects of such a place or heritage.

One significant level of place understanding is typo-morphological, where one investigates the emergence of certain building/architectural typologies in the city based on a discursive understanding of the place's transformation, and the relationship between such emerging typologies and the places' urban morphology on one hand, and the actors and producers who played a role in this emerging architectural typology on the other. It is important to clarify at this stage that by typology, the author does not mean categorization of buildings into houses, mosques, schools or others (the functionality), but rather the discursive emergence of certain types in the city. According to [Moudon \(1994, p. 289\)](#):

Typo-morphological studies reveal the physical and spatial structure of cities. They are typological and morphological because they describe urban form (morphology) based on detailed classifications of buildings and open spaces by type (typology). Typo-morphology is the study of urban form derived from studies of typical spaces and structures. Typo-morphology is an unusual approach to urban form. First, it considers all scales of the built landscape, from the small room or garden to the large, urbanized area. Second, it characterizes urban form as a dynamic and continuously changing entity immersed in a dialectic relationship with its producers and inhabitants. Hence, it stipulates that city form can only be understood as it is produced over time.

The early thinking of typology emerged with modern classification techniques during the Enlightenment when the natural sciences embarked on systematic observations of the plant and animal worlds ([Moudon, 1994, p. 305](#)). Quatremère de Quincy (1755–1849) tried to define the concept of type in architecture by comparing “model” and “type.” He defined “model” as a mechanical reproduction of an object, and “type” as a metaphorical entity (as a rule for the model). For him, type is something that can act as a basis for the conception of works and was based on understanding its origin (emergence), how it is transformed, and how it is used as a metaphorical entity (an inspiration and rule for form creation) ([Madrazo, 1995](#)).

[Moudon \(1994, p. 307, 1997, pp. 3–5\)](#), while describing the contribution and evolution of the three schools of urban morphology and typo-morphology, offers an intellectually challenging framework for thinking about the historic urban landscape within the city. While the Italian School (through the works of Muratori and Caniggia) offers a theoretical foundation for planning and design within old traditions of city building promoting the idea of harmony between the old and the new; the English School (through the works of M.R.G. Conzen and the *Urban Morphology Research Group* in England) offers a scholarly approach centering on how the built landscape is produced. Furthermore, the French School outlines a new discipline that combines the study of the building landscape with a critical assessment of design theory. Like the Italian School, the French School reacted against modernist architecture and its rejection of history.

[Vidler \(1998, pp. 13–14\)](#) elaborates on a second wave of thinking about typology which emerged with the rise of the *Modern* movement in architecture. The Modernist typology theory is based on the changing social structure of society and the need for mass production after the first World War to meet aspirations of social equity. This theory focused on the production process itself to find the model for architectural design. Examples include the works of Le Corbusier with his “domino” house typology and its “first machine aesthetics” resulting in mass-produced housing. With the critique of the premises of the *Modern* movement, [Vidler \(1998, pp. 13–14\)](#) elaborates now on the third wave of typological analysis of the *Italian Neo-Rationalists* of the 1980s which he labels: the *third typology* that emerged with the renewed interest in the forms and fabric of pre-industrial cities, examples include the works of Aldo Rossi and the bothers Krier. “This concept of the city as the site of a new typology is evidently born of a desire to stress the continuity of form and history against the fragmentation produced by the elemental,



The thematic place survey tool, which covered around 1,700 sites within the study area, included different units of analysis (e.g. buildings, public spaces, streets and sloped lands between streets) and covered all potential historic places ranging from early 20th century to the 1970s' Amman buildings and spaces. The survey form addressed a general description of each of the properties, boundary analysis, typo-morphology and relation to the urban context, definition of historic context, values and significance assessment and nature of change and transformation over time to mention a few (Figure 2). The thematic survey also included around 73 semi-structured and informal interviews about these buildings addressing their emergence, historic context and values. The selection of the interviewees for these ethnographic encounters was based on purposive judgement sampling approaches where informants were selected for their salient characteristics and their knowledge about a particular area of the city.

In terms of typological analysis, the different types represented the changing and evolving nature of architectural and urban heritage; therefore, their selection was linked to periods of significance reflecting significant turning points in the evolution of the city. Three turning points were chosen for Amman: the 1920s (Foundation of the Emirate and arrival of various migrants from within the region), the 1940s (Foundation of the Kingdom and beginning of Arab-Israeli conflict) and the 1960–1970s (major expansion of the city with the effect of the Petrol Dollars).

The typo-morphological analysis attempted to focus on the following themes (trajectories of analysis):

- (1) Historical development, actors, influences and precedents.
- (2) Significance and attributes and character-defining elements including transformation between typologies.
- (3) Composition, scale and structural systems.
- (4) Urban morphology and relation to context.

The specificity of the urban morphology of Amman's downtown area and the various residential neighborhoods that emerged from it is unique. These residential neighborhoods with their buildings and steps climbed up these mountains ending with a special urban morphology of sloped land between parallel streets before reaching a plateau at the top of each mountain with its main *crest line* (commercial street) crowning each plateau.

### **Analysis: the architectural typology of Amman's historic core and residential hills and the specificity of the Amman's urban/architectural heritage**

#### *An architectural typology of Amman's historic core and residential hills and links with the City's evolving urban morphology*

First, the analysis section will present an architectural typology of Amman based on the conducted thematic place survey. The study addressed the evolution of the city and its architecture; cultural, territorial, typo-morphological and socio-economic transformations and was based on the following principles:

- (1) To understand the context of the city's historic architectural and urban heritage and evolving discursive practices; it was important to integrate both the tangible and the intangible aspects of that heritage.
- (2) This attempt to understand the city at a typo-morphological level is influenced by Conzen (1978, pp. 128–133, 2001, pp. 3–9) in the way it is interested in analyzing and explaining how urban and architectural forms emerge and how they evolve within the city. This morphogenetic approach stresses not only the current details of the





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architecture and urban form, but also its temporal dimension, evolution and historiographical development. Therefore, the research stresses the relationship between these architectural and urban types, and periods of significance that reflect turning points in the evolution of the city: the turn of the 20th century and early 1920s (arrival of various migrants from neighboring cities such as Nablus, Beirut and Damascus and the foundation of the Emirate of East Jordan); 1940s (the foundation of the Kingdom of Jordan); 1960–70s (expansion of the city with the effect of Petrodollars through remittances from Jordanians working in the Arabian Gulf).

The research will adopt the turn of the 20th century; linked to the re-emergence of Amman on the geopolitical scene of the region of the Eastern Mediterranean (Daher, 2011); as the starting point for the research with significant socio-cultural and political transformations then, such as the arrival of the Hijaz Railroad Line to the city in 1904 and the arrival of migrants from nearby cities such as Beirut, Nablus, Jerusalem, Damascus and others to work in the newly established Emirate of Transjordan in the early 1920s [1].

The following typological analysis represents and narrates architectural, socio-cultural and socio-urban narratives and transformations from the beginning of the 20th century up to the late 1960s and early 1970s (Figure 3), which signaled the end of the Modern period of the city (Daher, 2011):

*Ammani 3-bay/Central hallway dwellings (1910–1940)*. The emergence of the *Ammani 3-Bay/Central Hallway Dwelling* during the early decades of the 20th century is linked to the arrival of migrants from places like Beirut, Saida, Damascus, Jerusalem and Nablus, to mention a few, seeking work opportunities in the newly established Emirate of Transjordan in the early 1920s as mentioned earlier. These migrants also included a group of master builders who brought with them construction traditions which were molded in the *Ammani* context of humble economic means, humility and simplicity. The plan configuration was divided into three bays with a central hallway (living space) in the middle. Dynamic relationships between this central living space and the outdoors prevailed in Amman, especially with its rough terrains, so that central space interacted with dramatic mountain/city residential hills views and with views of the downtown below. This culminated in different extroverted model variations of this typology based on the relationship of this central space with the outside such as the *Liwan*, the *Portico* and the *Gallery*. But all models of this type respected the 3-bay/central hallway plan anatomy.

According to Shawash (2003, pp. 113–114), the new 3-bay houses were extroverted with their balconies, porticos and larger windows and differed considerably from the earlier rural peasant houses which were closed off, introverted and were composed mainly of single-poorly lit spaces. The triple-arch motive was a typical detail for this type which facilitated the entrance to the central hallway on the ground floor. The availability of new construction materials (e.g. steel I-Beams) introduced with the arrival of the Hijaz Railroad Line to Jordan provided the use of a new flat roofing construction system composed of these I-beams together with thin reinforced concrete slabs. At an urban level, this particular type in Amman oscillated between a simpler local vernacular tradition merging regional influences and imported materials and images; and a higher style of architecture involving prominent migrant master builders with some elaborate stone details.

This extroverted and interactive interior relationship with the open spaces of the city could be attributed to an increased sense of security and also to the beginning of the rise of the middle class (new urban elite related to educated city dwellers that were called Effendis [2]) who included merchants, but also civil servants (e.g. city officials, schoolmasters and teachers, doctors, other), working in managerial positions with the young government of Transjordan (Amawi, 1996, pp. 117–121). Furthermore, according to Abu Dayyeh (2004, pp. 86–87), local government civil servants were encouraged, after the earthquake of 1927,

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# ARCH



An example of the Ammani 3-Bay/Central Hallway Dwellings typology



An example of Bilad Al Sham Townhouses typology



An example of Amman's Mid-20th Century Urban/Commercial typology



Right (an example of the early phase of Amman's Modern Residential typology, left (an example of the late phase of Amman's Modern Residential typology)



Right (Cinema Al Khayyam) an early example of Amman's Modern Communal Public typology, left (Arab bank) the evolving forms of this typology



An example of Amman's International Style Residential Villa typology



The insurance building, an example of Amman's International Style/Curtain Wall Public Buildings typology

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**Figure 3.**  
A diagram illustrating examples of Amman's various architectural typologies

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which caused extensive damage to the buildings in the congested downtown area; to build new houses in the newly emerging residential hills and on the slopes of the surrounding hills of the downtown. Such government employees were given advances in their salaries as incentives to expand on the city's slopes beyond the downtown.

*Bilad Al sham [3] townhouses: urban variations on the central hallway dwellings (1920–1940).* The emergence of this type in Amman is linked with the increasing demand for commercial activity in the downtown area, and especially with the arrival of urban merchants from nearby cities as early on as the 1910s who saw in Amman an emerging hub for new commercial ventures, especially with the advent of security after the Ottoman reforms that addressed infrastructure, educational and municipal reforms to mention a few (Rogan, 1996, pp. 93–94). Several buildings started to appear in the downtown area in places like Faisal Plaza and in front of the main congregational mosque with commercial shops on the ground and residential activities on the upper level (with variations on the central hallway dwellings). The upper floor was mostly a residence for the shop owner below with commanding views into the public street. The façade of the upper floor followed a symmetrical three-partite arrangement with the triple-arch motive in the center opening into a balcony overlooking the main public spaces in the city (Daher, 2011).

This particular type (townhouses) was familiar in the towns of Lebanon, Syria and Palestine, especially in the commercial quarters and was brought to Amman with these urban bourgeois migrants seeking to open new commercial businesses in the city, and also with other political migrants such as Damascene rebels who fled Damascus due to the French occupation (Daher, 2011, p. 73).

*Amman's mid-20th century urban/commercial: variations on the early 20th-century townhouse model (1940–1960).* Toward the middle of the 20th century and with the influx of migrants into the capital after 1948 from Palestine; together with the popularity and experimentation with reinforced concrete (through the post and beam structural system and introduction of reinforced concrete slabs and drop Beams); one notices the emergence of this typology in the city with its modern lines of design and adaptability to new adopted structural systems. Here, stone on building facades has started to become more of a veneer, and together with concrete formed the structural bearing walls coupled with the use of reinforced concrete post and beam systems.

This building typology shared with its previous ancestor (*the Bilad Al Sham Townhouses*) the dual commercial and residential usages with commercial functions at the street level and either residential or offices on the upper floors. Furthermore, it continued the use of the spatial configuration of the *3-bay Central Hallway Dwellings*; with certain minor variations; in its upper floors with cantilevered reinforced concrete verandas overlooking the public realm. This building typology became very popular in Amman, it was also more affordable due to its simplicity and minimal stone detailing. It flourished in the downtown area and this was the type that was mostly used in the expansion of the city from its downtown along its streets climbing up the mountains of the city.

Many of the early *Amman's Mid-20th Century Urban Commercial* houses with their mixed-used functions accommodating shops on ground levels were connected to each other without side setbacks. Here, one can easily notice the transformation from the *Bilad Al Sham Townhouses* typology in the downtown area to the *Mid-20th Century Urban Commercial*, and its effect on the urban morphology of the city and the nature of its land use in these areas (downtown and its nearby residential slopes).

*Amman's Modern Residential (1940–1960).* *Ammani* houses, and toward the middle of the 20th century, and after the return of architects who were educated in places like Beirut, Cairo, Paris or the USA were no longer the product of solely the skilled master builders but rather these returning architects started to take on a more leading role in the production of buildings in the city (Daher, 2011, p. 79). Influenced by their Bauhaus education, these architects started to,

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metaphorically, break the traditional box of the *3-Bay Central Hallway Dwelling* producing the early *Ammani* villas with a more dynamic, asymmetrical and extroverted architecture that provided new ratios of solid and void with more void being afforded on the buildings' facades. This new typology demonstrated a vibrant and dynamic composition that was based on a volumetric interplay between horizontal and vertical volumes.

The patrons of these early villas were Amman's emerging middle and upper-middle class (e.g. government employees, merchants, teachers and other). The influence and vision of these returning architects from Europe and the USA were merged with local building traditions of the local masons to produce *domesticated* modernity, *Ammani* style (Daher, 2008a, b, 2011). Examples of such villas are numerous along Amman's modern arteries of western and northern expansion such as Zahran Corridor on Jabal Amman, and on Sharia'a Street on Jabal Weibdeh (both representing *crest lines* on top of the plateaus of these residential hills). This type went through two stages of development. The first represented an early breaking of the traditional *3-Bay Central Hallway dwelling* "box," where architects started to use more platonic forms in the composition (e.g. semi-circular spheres) while experimenting with variations and subtle changes to the 3-Bay spatial organization in the 1940s. During this early phase of *Amman's Modern Residential*, the influence of the master builders was still more evident. The second period toward the 1960s demonstrated more courageous attempts to break away from conventional forms where architects started to experiment with even more vibrant compositions and more extroverted masses and facades with larger windows and terraces. This was also facilitated by the advancement of the reinforced concrete structural system.

Caniggia, as cited in Moudon (1994, pp. 292–293), introduced the concept of "procedural typologies" addressing the transformation of architectural types through time with a critical understanding of the city architecture not so much as an object but rather as a process that is influenced by socio-economic, political and technological transformations in the city. One trajectory of this notion of procedural typologies is evident in the transformation from the *3-Bay Central Hallway Dwelling*, to the *Bilad Al Sham Townhouses*; and then later also to the *Ammani Mid-20th Century Urban/Commercial*. Another trajectory of this notion of procedural typologies is also evident in the transformation from the *3-Bay Central Hallway Dwelling* to the *Amman Modern Residential* with its two stages of development. Accordingly, the concept of "procedural typologies" is one important pillar for understanding the making and hence the design of the city and its architecture.

One aspect that plays a role in the emergence, transformation and also popularity of certain architectural types and their relationship to the city morphology is the different physical plans proposed for the city. According to Abu-Dayyeh (2004), the 1955 King and Lock plan for Amman (which was the first comprehensive physical plan for the city) contributed to the consolidation of Amman's notorious quaint residential neighborhoods. The overarching objectives of the Plan were housing and employment due to the increasing housing demands resulting from the influx of refugees from Palestine. Influenced by British planning concepts of the 1940s, the Plan was based "upon a conception of self-contained mountain neighborhoods, grouped around the valley, along which the original city has extended, and linked by a series of inter-mountain roads which also give access to the city Centre" (Abu-Dayyeh, 2004, pp. 85–89).

On one hand, these residential neighborhoods rose steeply on all sides of the wadi (valley) which constituted the city center "Wast al Balad". Therefore, each of these neighborhoods was planned with ring roads that ran parallel to the topography and contours of the mountains with *crest lines* (main commercial arteries) that ran along the top of each of these plateaus. On the other hand, the urban pattern was also characterized by a pedestrian system of long and narrow public stairs climbing up the mountains and became the early communal public space in the city (Rifai, 1996, pp. 134–134). With the increase of Amman's population, the decade of the 1950s represented the peak decade for construction activities in two of

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Amman's residential neighborhoods: Jabal Amman and Jabal Weibdeh becoming the most fashionable among the upper-middle-class families of the city (Hacker, 1960, pp. 42–44).

*Amman's modern communal public (1940–1960).* The state of Jordan with its various newly emerging institutions employed different strategies to foster a national identity, and one of these strategies was the creation of public buildings that represented the state and its various institutions such as the law court on As-Salt Street, the former Parliament building on Zahran Street, and the first Jordanian museum on the top of the Citadel of Amman which was to become the first archaeological museum of the Kingdom (Maffi, 2011, pp. 148–149). Another group of public buildings that emerged in the city enjoyed a different group of patrons: the rising affluent merchants and elite families in the city such as the Tabba's, the Mangos and the Asfurs to mention a few (Amawi, 1996, pp. 118–119). These patrons produced key commercial buildings, hotels, banks, schools and other communal buildings in the downtown area from the 1940s onwards.

The architecture of these *Amman's Modern Communal Public* buildings enjoyed a subtle monumentality expressed in the buildings' elevations, proportions and, almost but not completely; symmetrical designs coupled with simplicity, elegance and a humble grandeur reflecting the financial modest means of the State's institutions and also these merchants. The architects of these buildings adhered to a *Modernist* logic but with a twist of local regionalism through the use of the local stone coupled with reinforced concrete and post and beam structural system. Furthermore, and in other forms of this architectural typology of *Amman's Modern Communal Public*, Arab architects were invited to Amman by certain affluent patrons to design key cultural buildings in the city such as the Tahers who invited the Egyptian architect Sayyed Krayyem to design the famous Al Hussein Cinema with its Bauhaus/Art Deco style. Similar cinemas of that era that were influenced by the international modern Bauhaus style and contributed to cultural change through the introduction of new forms of cultural practices linked to entertainment, included Al Khayyam Cinema with its patron Al Fayyumi in Jabal Weibdeh and Basman Cinema in the Downtown area (Daher, 2011, pp. 81–89).

Important patrons who played a role in the development of public buildings in Amman included also several non-governmental organizations and some of Amman's elite families. A prominent example is the Islamic Scientific College established in early 1947 as a non-profit institution by several of Amman's elite families who thrived to elevate the level of education in the city such as the Tabba's, Mangos and Abu Quras to mention a few [4]. This "domesticated" modernity was based on a lack of ornamentation, open plans, emphasis on horizontality and asymmetry (yet in certain cases a subtle symmetry to express a certain level of formality). Several public and private schools adopted such an architectural approach making school architecture in the middle of the 20th century in Amman a dominant example of *Amman's Modern Communal Public typology*.

The concept of "procedural typologies", mentioned earlier, could be utilized again to explain the nature of the transformation of the early examples of *Amman's Modern Communal Public* into a transformed *Amman's Modern Communal Public* architecture in the 1960s. The technological advancement in the use of reinforced concrete (resulting in much larger cantilevered slabs) and the involvement of diverse Arab architects with their Bauhaus influence and background produced new models of this typology that are more expressive in terms of their compositions and forms. These projects became a tool for the creation of key cultural projects in the city and for nation-state building. Examples include the former ministry of agriculture in Jabal Amman designed by the famous Egyptian architect Sayyed Krayyem and Al Hussein Youth Sport City designed in the 1960s by an architectural firm from Northern Ireland (Daher, 2008a).

*Amman's International Style Residential Villa (1950–1970).* Toward the 1950s, after the Second World War, the city of Amman witnessed major urban transformations, and

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according to Rifai (1996, pp. 135–136), two major factors affected the urban form of the city then: first was the influx of Palestinian refugees after the Arab-Israeli war; and the second was the establishment of professional unions [5] for planners, engineers and architects after the arrival of many graduating architects from Cairo, Beirut, Europe and the USA.

The newly arriving planners and architects introduced visions for a modernized city which expanded to the north and north west from the downtown area into fertile agricultural land along two arteries of expansion: Zahran Corridor, in the direction of the city of Wadi Assir, forming newly zoned areas of Jabal Amman and Al Radwan up to the 5th circle; and As-Salt Street, in the direction of the city of As-Salt passing through Sweileh, and also forming newly zoned areas of Jabal al Hussein and the Youth Sport City area. Furthermore, the new planning vision introduced straight streets with iron-grid patterns in the flatter parts of the city (plateaus) such as Al Radwan in Jabal Amman, Shemeisani and Umm Uthaina.

The oil boom of the 1960s and 1970s and the influx of petro-dollars by Jordanians who worked in the Arabian Gulf, and Kuwait provided the financial means for this building boom and western northern expansion into the more affluent part of the city (West Amman) with zoning categories of mostly “A” Residential with larger parcels of at least 900 meters square (Potter *et al.*, 2009, pp. 86–87). The new iron-grid development planning patterns, together with the vision of these graduating architects from the west produced a fertile ground for the emergence of this *Amman’s International Style Residential Villa* typology influenced by masters of the modern movement such as Frank Lloyd Wright and Mies Van der Rohe. As a result, Amman’s architects produced these elegant stone villas with their larger setbacks, the interplay between horizontality and verticality, long cantilevered terraces and loggias and very dynamic plan composition.

*Amman’s international style/curtain wall public buildings (1950–1970)*. The oil boom of the 1960s and 1970s and according to Biegel (1996, pp. 386–387) resulted also in a construction boom due to rent flows by Jordanian expatriates working abroad, immigrants from Lebanon (due to the Lebanese Civil War of the 1970s) and land owners and speculators. These transformations triggered the development of the banking and insurance sector through the establishment of more banks in the country in the 1960s such as the Bank of Jordan and Cairo Amman Bank [6].

The architecture that was adopted to represent these emerging banking and insurance companies introduced for the first time taller (high-rise) buildings to Amman. With their modernist international-style curtain wall, these taller buildings accommodated a free-plan design and facades with horizontal windows. A prominent example from 1961 is the Insurance Building (which also hosted later Cairo Amman Bank) (Daher, 2008b). The patron was the rich Bdair family of Amman who had selected a famous Lebanese architect (Khalil Khouri) for this important edifice in the city with its modernist logic and elegant international style. Other examples include the Bank of Jordan in the downtown area and the Jordan Insurance company on Third Circle.

The following diagram is an attempt to summarize the narration and the evolution of Amman’s historic architectural typologies through a reductionist approach adopted to graphically represent the types’ associated forms.

#### *On the specificity of Amman’s urban/architectural heritage: Amman’s humility and its interactive architectural/urban interfaces*

The second part of the analysis section will elaborate on the specificity of Amman’s architectural urban heritage. Djokic (2009, p. 109) considers the interaction between architectural typology and urban morphology the most multilayered and complex form of typo-morphological investigation. The purpose of this analysis is to arrive closer at the specificity of this city and its architectural and cultural heritage. Shami (1996, p. 37) elaborated that “the particularities of

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Amman defy standard generalizations about the historical formation of cities, urban morphologies, population structures, political economy, or the social and cultural dynamics of class, community and family.” Conzen (1978, 2001) identifies three fundamental elements as analytical tools of the town plan: the streets, the plots and the buildings, which all fit one into the other as a precise puzzle. This approach of urban morphological analysis is difficult to apply to Amman’s downtown and its residential hills as the concept of the block only appeared in Amman’s newer areas with less severe topography (e.g. parts of Abdoun, Umm Uthainah and Shemasani). Therefore, and based on the specificity of this historic part of Amman, one needs to consider buildings, streets and then sloped lands between horizontal streets (rather than blocks).

One of Amman’s distinctive social/spatial narratives that characterized the city’s early residential neighborhoods was tolerance and co-existence between residents of diverse religious, social and ethnic backgrounds who lived next to each other in diverse types of residences in terms of social status and affluence. Even the *Ammani* more prosperous houses had a certain economy, simplicity and humility associated with them; this created a more inclusive urban environment in the city. Rifai (1996, pp. 134–135) stated that “the houses on the other hand exhibited elegance and simplicity corresponding to the emerging Amman society”, furthermore, they sat comfortably on the slopes of the mountains with parcels not exceeding 600 and 700 meters square and interacted significantly with the frontal setback and with the space of the sidewalk and the street.

The specificity of Amman’s residential architectural traditions was also manifested in its adaptability and flexibility; examples included the interplay in terms of functions between villa car garages and corner neighborhood shops; the adaptive reuse of many of Amman’s residential heritage into public buildings (e.g. governmental schools or offices); in addition to the use of mostly produce trees in its various setback gardens (see Figure 4).

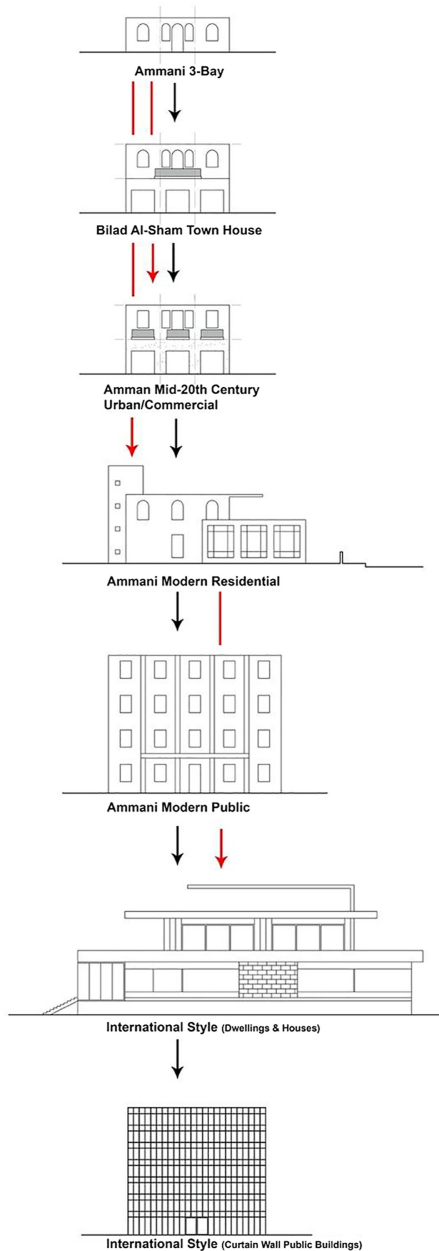
The residential villas and apartment buildings in the historic residential areas such as in Weibdeh entertain a very interactive social/spatial interface. It is extremely interesting to research how these various typologies interacted socially and spatially with the city and its urban morphologies. The specific Amman’s spatiality of this dynamic interface (relationship between the frontal setback, the low fence, the sidewalk and the street beyond) was formed through the transformation of the *3-Bay Central Hallway Dwelling* into the *Amman’s Modern Residential* typology producing a more dynamic, asymmetrical, architecture; but also creating a more extroverted Ammani dwelling that spatially and socially interacted with the neighborhood. So, these frontal setbacks, sidewalks and corner shops/garages emerged as semi-public spaces in the city. And the interplay between these different vocabularies produced an asymmetrical modernist logic for Ammani Villa architecture in the 1940 and 1950s that is elegant, yet, non-pretentious [7] (Figure 5).

This is part of Weibdeh’s architectural and cultural heritage that brings together tangible (architectural composition, relationship between masses and interior spaces on one hand and frontal setbacks and sidewalk on the other) and intangible qualities of this heritage (relationship between neighbors and a most valuable societal/urban role for the neighborhood).

### **Conclusions: typo-morphological understanding informing the nature and levels of interventions within Amman’s historic residential neighborhoods**

This level of place understanding (typo-morphological analysis) can have a positive impact on the practice of architectural and urban conservation by informing the nature of interventions within historic urban setting and buildings within the city. The concluding section will elaborate in detail regarding how this level of understanding can, first, inform the development of urban and heritage guidelines within conservation areas in one of Amman’s residential neighborhoods (Weibdeh) and, second, can inform the nature of interventions to existing historic buildings based on respect of building typology.





**Figure 4.**  
A diagram illustrating evolution of Amman's various architectural typologies

-The emergence of the *Ammani 3-Bay (Central Hallway Dwelling)* in the 1920s is linked with the arrival of different migrants from Lebanon, Damascus, and Palestine including master builders who brought a certain tradition of building which was molded in the Ammani context (simplicity, economic, humility)

-The shift to the *Bilad al Sham Townhouse* is linked with the establishment of a commercial activity in the City of Amman in the downtown area where the type had to adjust to an urban commercial milieu

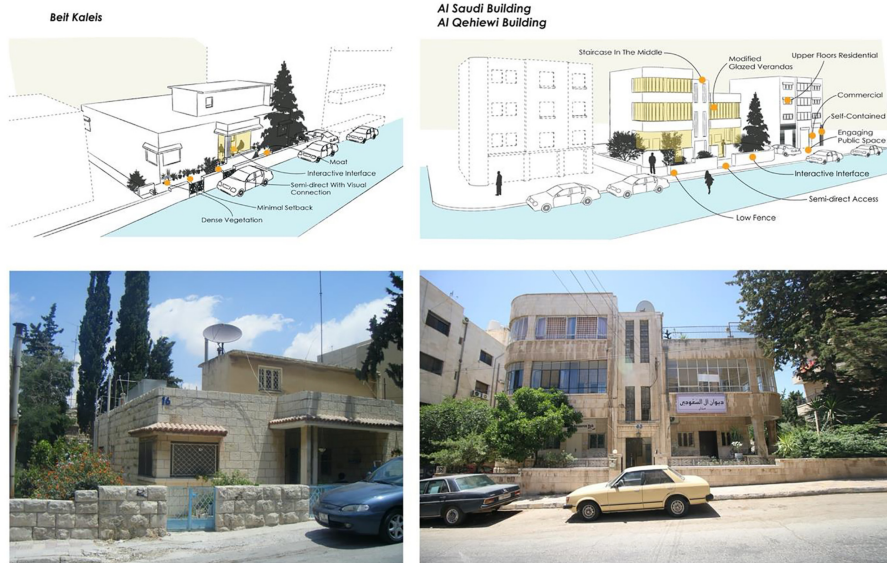
-Furthermore, and towards the middle of the 20th century and with the influx of massive populations into the capital (bringing with them more commercial activity and businesses), together with the popularity and experimentation with reinforced concrete (in the forms of reinforced slabs with ribs, popularity of drop beams, other), one notices the emergence of the *Mid 20th Century Urban Commercial* type with its modern lines of design and adaptability to new materials

-Ammani houses, and towards the middle of the 20th century, and after the arrival of architects who studied in places like Beirut, Cairo, Paris, or the United States; were no longer the product of the skilled master builder but rather the architect started to take on a more leading role in the production of buildings. Furthermore, the architectural movement in the Capital was affected by the popularity of Modernity Architecture (with a capital M), hence the emergence of the *Amman Modern Residential* type where the traditional box was metaphorically broken and architecture became more dynamic and asymmetrical. Amman is now open to more circulating ideas, images, and trends that do not only from the region but also from the West as well

-The State of Jordan was growing and needed to express its legitimacy and existence through different public buildings with a more formal style and presence, hence the emergence of what is termed the *Amman Modern Public* type appeared in the form of commercial office buildings, and many others. These followed modernist logic, were simple but with a twist of monumentality and humble grandeur

-Towards the 1970s and like many world cities, the international style of architecture was widely circulated and specially with the arrival of Jordanian architects who were educated abroad (e.g. US, England, France). One notices in places like Ridwan (Zahrán) or Shmesani (Abdali) the popularity of such style in the design of the houses for the new elite families of Amman, hence the emergence of the *International Style Residential* type

-Furthermore, and at a more public level, Amman, and towards the mid 60s, started to host significant taller buildings that are embracing modernity and the latest styles in architecture, many were curtain wall buildings, and some were also designed by foreign architects (the Insurance building on the First Circle which was designed by Khalil Khouri from Lebanon and was considered Amman's first "skyscraper"). The arrival of the *International Style (Curtain Wall) Public Building* type arrived in Amman



## Effect of place understanding

**Figure 5.**  
The dynamic interactive interface of Amman's extroverted asymmetrical modern architecture with the public realm

### *Development of urban and heritage guidelines within conservation areas in one of Amman's residential neighborhoods: weibdeh*

Muratori as cited in Moudon (1994, p. 290) not only made the typo-morphological study of existing cities a first mandatory step in his architectural design studios, but also considered urban morphological analysis as a necessary preparatory step for design. This section identifies recommendations and urban and heritage guidelines for intervention for the Weibdeh neighborhood (that could be also applied to the other historical neighborhoods that emerged from the downtown area) by presenting examples at both urban and architectural scales that are informed by respect of building typology and a typo-morphological understanding of place.

Prior to addressing the urban and heritage guidelines, one ought to rethink the levels, layers and categories of protection of this fragile heritage place taking into consideration not only individual buildings; but also whole areas addressing urban ensembles; sloped land between parallel streets; vistas; and view corridors; thus, strengthening the link between morphological research, planning and conservation practices.

The urban and heritage guidelines developed for this neighborhood of Amman were divided into two categories in terms of their nature: 1. Technical regulations and guidelines of a conventional nature that are concerned with issues of scale such as building setbacks, buildings heights, floor area ratio, building ratio, parcellation and that are governed in most cases by calculations and numbers. Greater Amman Municipality (GAM) is used to enforcing such technical guidelines through its various building and zoning departments; and 2. Relational regulations and guidelines deal with relationships between buildings and the public realm and are related to architectural and urban design issues. It is this type of guidelines that is new to the practice of GAM. For this study to have an applicable nature, we are calling for a plea to re-think urban heritage regulations, and the challenge would be to see how an institution like GAM that is used to enforcing a more conventional approach to urban and heritage regulations can deal with such a paradigm shift in this regard.

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*Technical guidelines.* In terms of the technical guidelines, the crucial issues are mainly the notion of scale in terms of building heights on sloped land and the size of footprints of new developments resulting from merging parcels together. Currently, developers are allowed to consider the full height of their buildings from the upper street when building on sloped lands; thus, ending up with massive building blocks, especially when viewed from the downtown area below. This leads to major adverse effects on the neighborhood's urban morphology and its skyline producing huge structures that elongate vertically and block significant views to and from the neighborhood. The suggestion is to adopt new approaches (e.g. the datum plane approach) found to regulate the building height on sloped areas ameliorating such adverse effects.

Today, various building developers are merging smaller parcels and end up with larger plots that exceed 1,000 and even sometimes 2000 meters square in size within these historic neighborhoods. Eventually, this is leading to buildings of larger footprints (continuous building blocks/walls) that not only contradict the urban morphology of the neighborhood famous for its smaller volumetric built structures that cascade down the mountain, but also lead to the depleting of green open spaces and setbacks between buildings with their produce trees and noticeable green foliage. The proposed technical guidelines prohibit the merging of parcels to avoid such adverse effects.

*Relational guidelines and regulations.* Such "relational" regulations and instructions emerged out of the need to sustain the relationship between the architecture of the neighborhood (with both its tangible and intangible attributes) on one hand, and its urban morphology on the other. They addressed the following issues:

*Communication with the city:* is concerned with how the buildings interact with the surroundings and the city in order to sustain this interactive social/spatial interface as mentioned earlier which is gradually being threatened.

*Outdoor space:* is concerned with sustaining the nature of the frontal and side setbacks in terms of the type of foliage, fences, usage and the way buildings open into these outdoor spaces. In general, the nature of the frontal setback should not include structures that would obscure the interactive interface between the frontal setback and the public realm. Furthermore, the instructions are related to sustaining the green coverage of the outdoor spaces as it is disappearing from new apartment building developments.

*Building Form (Composition):* the *Ammani Modern Residential* typology is spread all over this residential neighborhood characterized with its dynamic composition that is facilitated by intermediate and auxiliary spaces (e.g. loggias, terraces, glazed verandas and other) and a high level of interaction with the outside. Today, unfortunately, we are losing this significant dynamism due to "commercialized," very static and a-dynamic designs that maximize profit and buildings' footprint at the expense of this dynamic composition with its interactive intermediate and auxiliary spaces, subtractions and protrusions.

If residents of the city are not careful, this most valuable, yet fragile, link between the tangible and the intangible heritage (manifested by the neighborhood's social/spatial interactive interface) will be gradually lost. Furthermore, tools and approaches for its conservation should not be only limited to the "conservation" of buildings but rather should critically extend into the conservation and continuity of relationships between the various elements that made up that interactive interface in the first place such as the relationship between building composition, frontal setback, height of fence, side walk and street on one hand; and the dynamic competition of the architecture, and its various intermediate and auxiliary spaces (e.g. terraces, recesses, glazed verandas and loggias) that form semi-outdoor spaces and create a strong link between indoor and outdoor facilities supporting this valuable societal-urban role of the neighborhood on the other.

Only then, and according to [Lefebvre \(1968, 1974\)](#); an understanding of space in the city as a social product practiced by people in everyday life emerges; thus, a typo-morphological

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approach to place understanding ensures that the definition of the historic urban landscape integrates material space with the social forces that produce it. Guillot (2002, p. 24) believes that the Weibdeh neighborhood does not possess a “monumental” architectural heritage, but rather enjoys a rich humble heritage that is enriched by details and relationships between its tangible and intangible attributes. That is why such a heritage is fragile and is always in need of diverse tools of protection that emerge out of an understanding of its specificity.

#### *Interventions to existing historic buildings based on a respect of building typology*

The various schools of thought on typology and typo-morphology emphasized that the design process should be based on understanding traditional processes of city building and preexisting structures. Rossi (1982, pp. 8–9) considers typological understanding and the memory of the city as both process and object that can serve as a catalyst for invention and the essence of the design process.

Zureikat residence represents an example of the early stages *Amman Modern Residential (1940–1960)* which started, metaphorically, the breaking of the symmetrical box of the *Ammani 3-Bay Central Hallway* house typology and the beginning of its transformation into a more dynamic, asymmetrical and extroverted architecture with strong visual and physical relationships with the outside setback gardens. These early *Amman Modern Residential* villas of the 1940s were also characterized by their green lush setback gardens of local productive produce trees and their very active social/spatial interface with the city.

The new additions and interventions on the house were informed by an understanding of its typo-morphology. For example, the additions of new floors attempted to emerge from respect of this dynamic composition with added floors recessing from the main masses of the house while maintaining a strong visual connection with the outside through terraces that resulted from such recesses. Interventions on the ground level celebrated and even continued the strong physical and visual connectivity with the setback garden and with the city (Figure 6).

#### *Final note*

The author of this paper believes that practicing architecture rests primarily on a genuine understanding of place; its social production; local dynamics and politics; emerging discourses; and continuous evolution. The role of the architect, then, becomes an affirmation to creatively locate new meaning for that place so it does not be frozen in time. Only then, place emerges as a palimpsest of constant change; and the challenge to the practice of architecture evolves into the meticulous management of that change and transformation.

An understanding of a neighborhood’s typo-morphology is analogous to narrating the evolution of its built environment and urban morphology. This understanding not only illustrates the transformations and evolutions of the city’s architectural types, but also briefly narrates the architectural, socio-cultural and economic trajectories that accompanied such transformations.

When researching typo-morphology, one should focus not only on building types, but also on how these types relate to the growth, transformation and evolution of the city’s morphology thus achieving a multilayered and complex form of investigation. The specificity of any place is usually extremely valuable, and yet, is also very fragile. Tools and approaches for the conservation of this specificity should not only be limited to the conservation of buildings, but rather should critically extend into the conservation and continuity of relationships between the various elements that made up that specificity in the first place.

Therefore, the significant cultural heritage of the city deserves an informed nature of intervention that could be facilitated usually by urban and heritage guidelines and regulations at both urban and architectural scales; and by physical interventions to buildings that are based on the respect and understanding of their respective typo-morphologies. Only then, an understanding of space in the city as a social product practiced by people in everyday life emerges.

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## ARCH



**Figure 6.**  
Zureikat residence  
before and after  
interventions

### Notes

1. This wave of migrants was preceded by a previous wave of Circassian tribes from the Caucasus who fled Russia in the middle of the 19th century and were brought to the region by the Ottoman government to settle in smaller towns of Transjordan such as Wadi Al Sir and Amman.
2. Effendis is plural of Effendi which is an Ottoman term referring to middle and upper-middle-class urban elite dwellers of the 19th and early 20th centuries, usually wearing the head cover Tarboush or Fez, which became the status symbol for this new emerging social urban class.
3. Bilad Al Sham is a historic local geographic term that emerged during the early Islamic periods and was used extensively during the Ottoman period referring to the land of the East Mediterranean region (today's Syria, Lebanon, Palestine and Jordan) with Damascus as its major urban historic center).
4. Based on an interview with former teachers at the school during the summer of 2014.
5. The first Union of Architects and Engineers was formed in 1951 (Rifai, 1996, pp. 135–136).



6. The earliest banks were the Ottoman Bank in 1925, the Arab Bank in 1934, and the British Bank of the Middle East in 1949. In the 1950s, the first national banks were founded such as the Jordan National Bank founded in 1955 (Biegel, 1996, pp. 386–387).
7. Refer to the study conducted for Greater Amman Municipality entitled: “*Development of Urban and Heritage Guidelines within Conservation Urban Heritage Areas in Jabal al Weibdeh, Amman*” between the years 2018 and 2020.

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