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Human Footprint on Natural Systems: Missing Post-war Scenario in the Urban Context of Damascus

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ABSTRACT

All regions in Syria have witnessed a decline in green spaces due to the spread of illegal logging operations and a decline in interest in agricultural wealth due to the need for construction with the growing population during the past decade. In addition to the burning and destruction of many of them due to the war actions that took place during the period of the Syrian crisis, a war that affected the urban, architectural, and human fabric of the city alike, Damascus lacks sufficient green spaces compared to the cement blocks and its external facades considering global climate change. This unjust urban expansion, accompanied by the impact of the fires caused by the war, damaged humans and environment, extending from the heart of the city to its countryside and contributing to the erosion of its Ghouta in particular, the lung and living breath of Damascus. According to what we observe today, the dominance of the cement mass in the city plan of Damascus, with the lack of balance between it and the green space of gardens, public spaces, and public places.

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1. Introduction

“Green architecture” is no longer a luxury or a mere choice, but rather a need today and a right of tomorrow’s generations” [1]. The ill-considered urban sprawl continues its accelerating path in major cities, succeeding in fragmenting the urban identity and destroying green spaces with the increase in illegal construction and the increase in demand for housing in slums, which has reduced the per capita share of green spaces, reaching few centimeters, a wide difference from global proportions, as if what we fear for the future of the city. Signs of its occurrence are beginning to appear on the horizon, which is that the destruction of the green cover and the drought of sedge will cause Damascus to become a desert, especially considering the brutal creep of urban expansion in recent decades, which has begun to drag the city towards greater environmental suffocation and actual integration into the desert (Fig. 1). The expansionist expansion of Greater Damascus during the next two decades is likely to take on the character of urban expansion in the formal sense of urbanism, meaning grey buildings, factories, and facilities without trees or greenery, as the latest reports stated that the per capita share in the city of Damascus reached less than 0.60 square centimeters only of green cover area [3].



Figure 1: Informal settlements spread in the Ghouta 1980 [2].

This unjust urban expansion has a negative impact on people and the environment, as it extends from the heart of the city to its countryside and contributes to the erosion of its Ghouta in particular (Fig. 2), the lung and living breathing space of Damascus. According to what we observe today, the dominance of the cement block in the city plan of Damascus, with the lack of balance between it and the green space of gardens, public spaces, and public places. The name Al-Ghouta is derived from the word “Al-Ghaet,” meaning reassuring from the ground in the Arabic language thus it can be considered as Damascus’s Eco-system as the following information will explain.

2. Method

The research is concerned with studying the city in both its urban and social context. Studying the variables within the architectural context and noting the differences in the urban fabric. The research assumes a study of the different planning patterns within the city of Damascus and its countryside. Starting from slum areas with no planning, to organized areas in the heart of Damascus, and ending with areas that witnessed comprehensive destruction in the war (The Ghouta). During this trip, we noticed the great diversity of housing patterns within the city and its countryside and how this difference is linked to the general plans and the streets. In each area, the researcher will assume that there is a journey for a Syrian citizen from a public place/square or coexistent green area to the bakery.

The journey begins in an important urban area and ends in a livelihood important place. The scenes and variables between them are monitored in a group of images that tell the story of the place and help in a broader understanding of the general plan of the region or city. It is a strategy of linking the internal street scene with the general lines on the drawn plan. From there, we can understand all the areas with similar layouts just by seeing the pictures.

Areas within the city of Damascus were divided into three basic classifications: formal housing, compact housing (formal/informal), and informal housing. In which they were studied and observed.



Figure 2: The diversity in the continuous master plan of Damascus city- the researcher.

3. Analysis

The research aims to study the area, identify it visually, and link it to the general plan of the city. The objectives of the study are to link the past with the present to reach a future vision through several questions that will be asked by research on post-war areas.

In the absence of concepts of cultural heritage, urban identity, and sustainable planning for the city, the research seeks to find alternative solutions and present architectural and urban concepts in the context of the city.

3.1. Analysis of the Historical Context

3.1.1. The City of Damascus and its Biosphere

The length of Ghouta is estimated at twenty kilometers and its width varies between approximately 10 and 15 kilometers, and the city of Damascus is included in this area [4]. Those who described Al-Ghouta unanimously agreed that it was lush villages, that it had villages like cities, that its people were like the people of the metropolis with their customs and fashion, and that in most of its villages, there were bathrooms and mosques. If it were not for Ghouta, Damascus would not be one of the most beautiful cities in the world, and if it were not for Damascus, the desert Ghouta would not be empty, inhabiting the desert throughout it [4]. The Ghouta of Damascus surrounds the city of from the east, west, and south, and it belongs to the Damascus countryside. It is an extended plain of lush orchards of fruit trees and is considered one of the most fertile places in the world. It was stated in the book *Wonders of Countries*: *"The Ghouta is the country that Damascus has cultivated. It is abundant in water, and the trees are responsive. The birds are full of flowers; the branches are wrapped in the green of the gardens... Its circumference is eighteen miles, all of its orchards and palaces, surrounded by high mountains on all its sides, and water coming out of those mountains, and several rivers extend into Al-Ghouta, and it is the purest and best place on earth"* [5]. It is one of the gardens of the world, and Ghouta is a forest of fruit trees or orchards, and the ancients considered it one of the wonders of the world.

3.1.2. Ghouta as Protector

The Ghouta of Damascus is famous for the fertility of the land and the quality of the water (Fig. 3). The orchards of the Ghouta are fed by a group of small rivers from the branches of the Barada River and a network of irrigation canals, which are orchards of various types of fruit trees and an extended green carpet containing all kinds of vegetables. It is also famous for growing all kinds of vegetables and flowers, and the spring of the Ghouta has its splendor and distinctive beauty. Ghouta is divided into two connected parts: Western Ghouta and Eastern Ghouta. As for our current time, this phenomenon of the rapid and mostly uncontrolled growth of Damascus

resulted in extremely high pressure on natural resources, as shown by littering, leached soils, water shortages, lowering of the groundwater level, etc. [7]. Ghouta includes 55 residential communities, and its population was 22 thousand in 1981 and by 1994 This number reached 883 thousand, and the average annual growth in these residential communities was 6.1% while the growth rate in Syria was 3.32% per annum. The expansion of the Ghouta is oriented towards the east, and western south, which concluded that this expansion was on fertile land.



Figure 3: An orchard in the Ghouta of Damascus [6].

Damascus seized its own air to breathe with the uncontrolled development of its green belt. With the 2011 war, Ghouta turned into a battlefield of poison gas attacks, sieges, and conquests. The war expelled its inhabitants, destroyed the houses, and burned the trees. Not much is likely to remain of the once paradisiacal gardens and flowering landscapes [7].

3.2. Analysis of the Urban Context

3.2.1. The Image of the City

Damascus is an ancient city. Indeed, it is the oldest city in the world that existed and is still known to date [8].

“To Damascus, years are only moments, decades are only flitting trifles of time. She measures time, not by days and months and years, but by the empires she has seen rise, and prosper and crumble to ruin” [9].

Identity is the essence of the city and has tangible aspects, other aspects related to time, and intangible events and circumstances that can be observed and felt through the city as a whole. Realizing identity requires experiencing the city and interacting with it, and this cannot be transmitted outside its borders [10].

However, Urban identity is the appearance of cities or urban areas that reflects their heritage, culture and architectural design. Urban identity includes several elements, such as architectural design, style, shapes, colors and materials used in construction, the cultural and historical heritage of the region, green spaces and archaeological, religious and cultural monuments [11].

“We shall remember Damascus, the “Pearl of the East”, the pride of Syria, the fabled garden of Eden, the home of princes and genii of the Arabian Nights, the oldest metropolis on Earth, the one city in all the world that has kept its name and held its place and looked serenely on while the Kingdoms and Empires of four thousand years have risen to life, enjoyed their little season of pride and pomp, and then vanished and been forgotten” [9]. Damascus is distinguished by its history, architectural heritage, and glory. Its buildings reflect the stages of successive civilizations. This made it a record of architecture and urbanism, and an (urban and architectural museum) in an era that required continuous development and keeping pace with the march of contemporary global civilization. The city of Damascus is divided into three classifications at the general plan level (Fig. 4): formal, compact /formal-inform/, and informal housing. Accordingly, the study begins by reviewing the characteristics of each type of urban planning in the city and allocating a trip within each area separately to understand its nature.

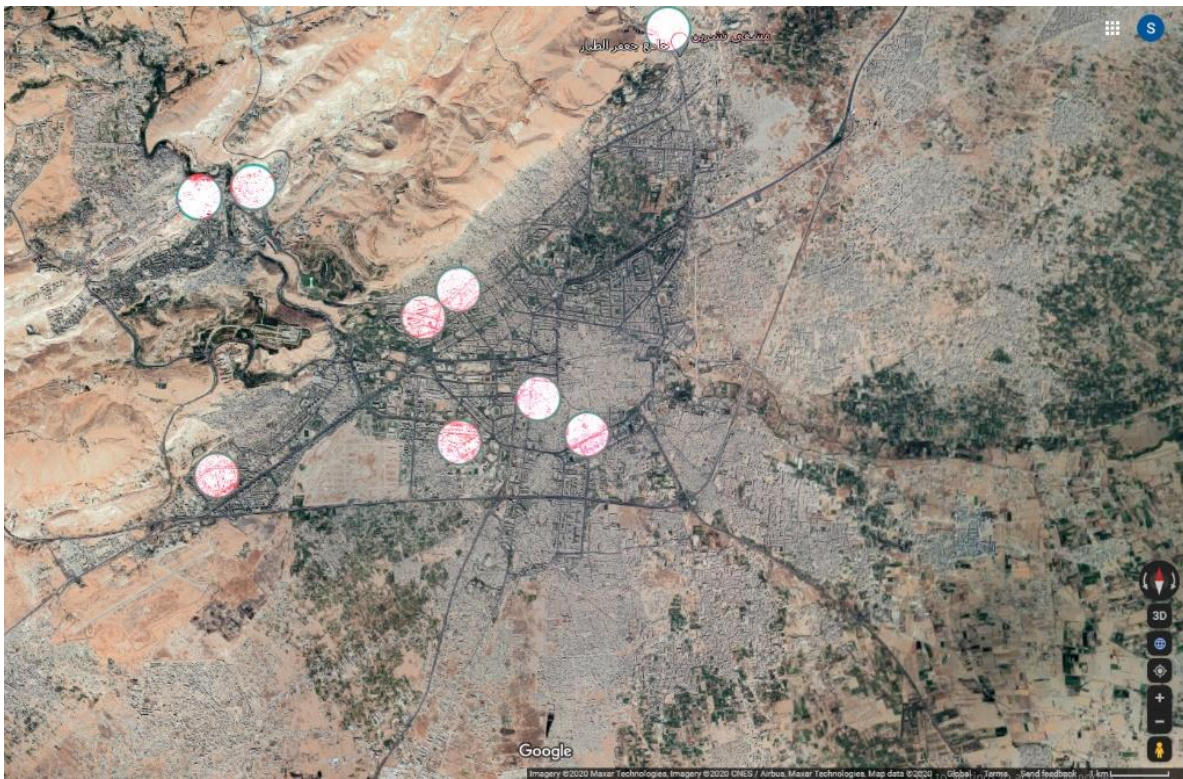


Figure 4: Selected case studies areas in Damascus – The Researcher.

4. Results

4.1. Formal Settlements

After the end of World War II and the evacuation of foreign forces from Syria, Damascus witnessed a distinguished urban and architectural renaissance. Modern residential neighborhoods with European characters appear in Western Damascus (Fig. 5). main characteristics are:



Figure 5: Formal settlements – The Researcher.

- Elegant two-storeys residential buildings in Malki, up to 8 storeys in Tanzeem Kafarsouseh.
- Large private gardens separating buildings (10m minimum).
- Modern Damascene architectural style: wide sidewalks, greenspaces, various entertainment and service activities.
- Mostly inhabited by high-income residents.

4.2. Compact Settlements

Urban structures are characterized by mixed formal/informal settlements. Formal settlements were built in the mid-20th century under the French mandate. At that time, The Municipal Council issued a decision in 1922, drawing up a plan to organize and expand the city's streets, adopt high-level buildings, and obligate property owners to restore the facades of their buildings and properties [12]. The municipality began to build new roads for new regulatory areas (Fig. 6). main characteristics are:

- Buildings with 4-5 storeys height.
- Main service and branching streets on the master plan.
- High building density opposite of green spaces.
- Historical and cultural diversity between buildings and residents alike.
- Inhabited by middle to high-income people.



Figure 6: Compact settlements – The Researcher.

4.3. Informal Settlements

The movement of many people from various Syrian governorates to Damascus has led to the emergence of what is known as (residential slums or informal settlements) which were built in the late 20th - 21st century (Fig. 7). main characteristics are:

- Simple two- or three-storeys dwellings built of block and metal.
- Irregular narrow lanes.
- Mountain areas depend on local service for basic commercial activities.
- Mainly inhabited by low-income people



Figure 7: Informal settlements – The Researcher.

4.4. Analysis via Sightseeing

In this part of the study, the researcher aims to record the variation of the urbanistic masterplan through street sightseeing in the previously categorized areas in the city context (Fig. 8).



Figure 8: The urbanistic diversity in case study areas in Damascus – The Researcher.

5. Discussion

5.1. First Trip Main Features

Starting from a public square, the scene begins to expand into Al-Malki neighborhood (Fig. 9). wide, organized streets, wide pedestrian sidewalks, trees on both sides of the road, buildings with a distinctive architectural style

that combines the post-independence era and modernity, external cladding of all architectural facades, all the way to the commercial mall, where we will conclude our tour at the place of purchase the bread. Where residents of the region can obtain it easily and at the time they want.

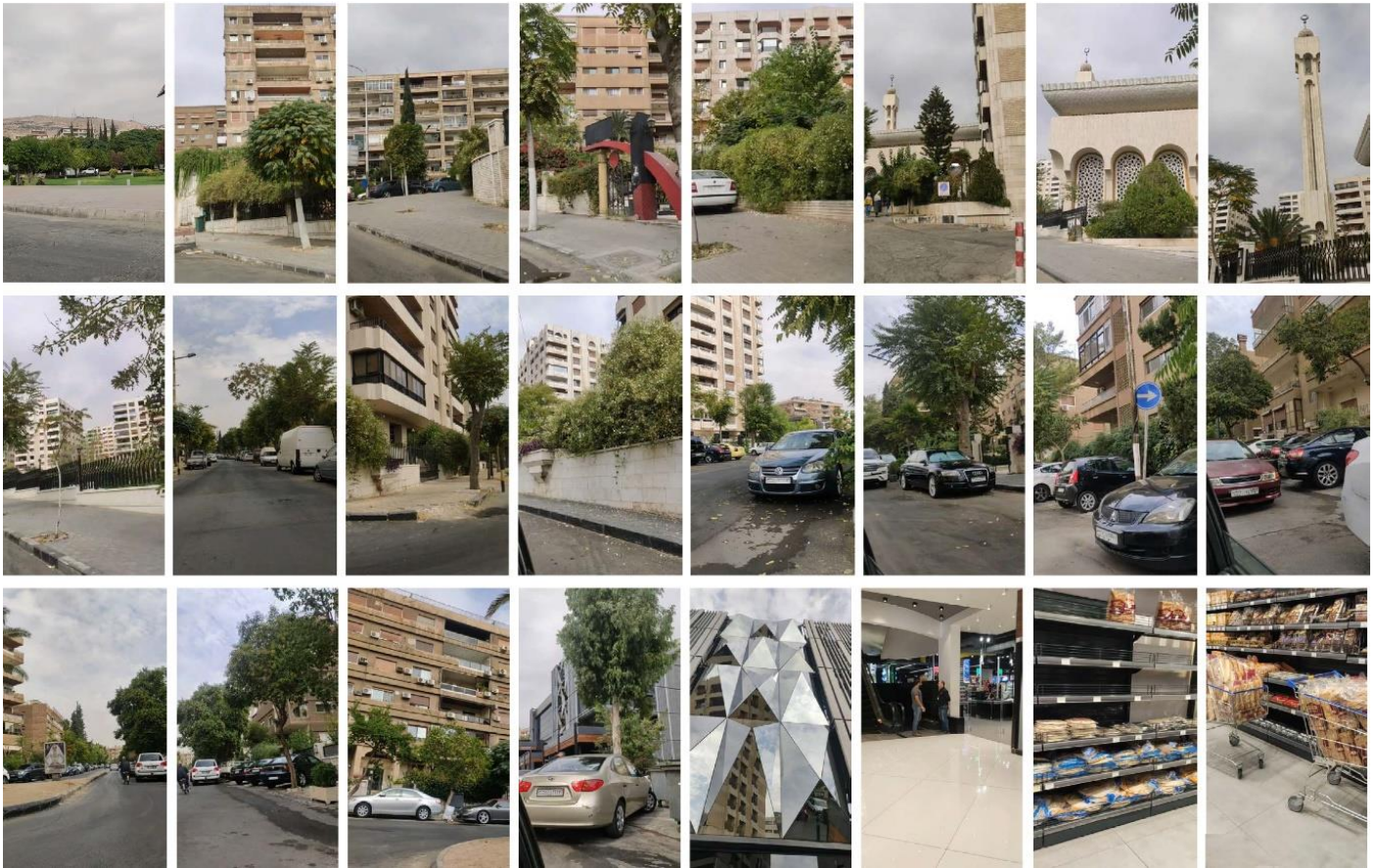


Figure 9: Al-Malki region in Damascus – The Researcher.

5.2. Second Trip Main Features

Starting from a public park, the journey begins through the streets of the Al-Muhajireen area (Fig.10), a neighborhood dating back to the beginning of the twentieth century, located at the foot of Mount Qasioun. The neighborhood is distinguished by its ancient layout, where we see relatively narrow streets with a high population density. One of the most important characteristics of the neighborhood is that it contains two types of housing: the first is formal housing and the second is informal in the area higher up in the mountain, which is inhabited by many Damascene families and witnesses great social diversity. The journey ends in a queue at the bakery, where neighborhood residents may spend many hours waiting to get their daily food.

5.3. Third Trip Main Features

The third trip begins from a public park within the Dummar area (Fig. 11). The neighborhood is located in the northwest of Damascus, and it is a popular neighborhood that includes the lowest-income group among the previous groups. The streets are unorganized, and we witness a noticeable population density in the neighborhood due to many residents moving there from different cities and neighborhoods. The scene appears less efficient. The facades of random buildings indicate the condition of their residents. We also notice the lack of green elements and even sidewalks on both sides of the main street due to its narrowness. The trip ends at the main neighborhood bakery with a long, disorganized line filled with crowds.



Figure 10: Al-Muhajreen region in Damascus – The Researcher.

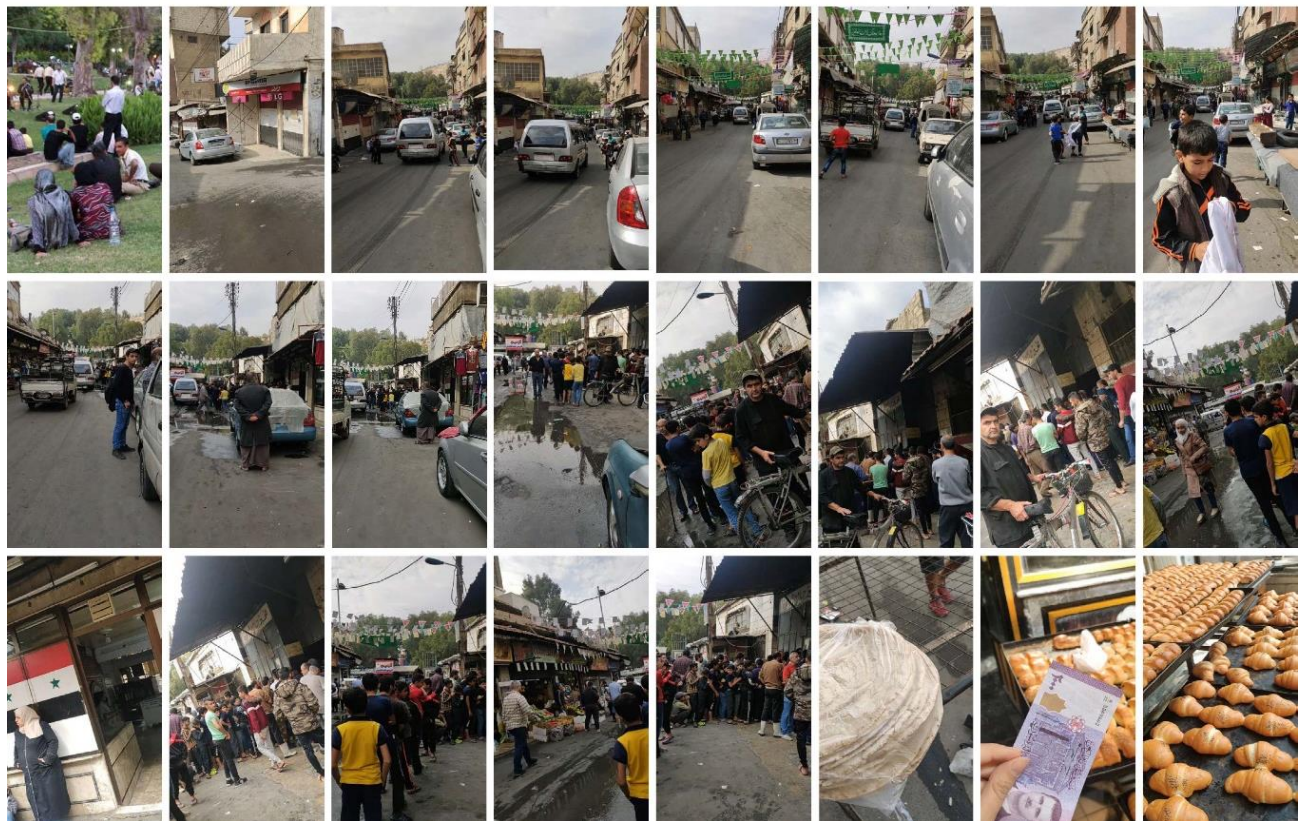


Figure 11: Dummar region in Damascus – The Researcher.

5.4. Fourth Trip Main Features

The final journey may not matter where we start, when we end, or where. The features of the post-war area look similar, a lot of destruction, the urban identity is almost fleeting and there is not much to talk about beyond the pictures (Fig. 12). There is no green area in the scene in the most fertile land in the eastern countryside of Damascus. According to what we mentioned about the history of Ghouta, the city of Zamalka is one of the most important areas of Ghouta. The neighborhood was characterized by many buildings within the formal settlements and farms whose owners used to live by trading the crops and resources of their lands. Only a few buildings remained from the war on the main axis of the area, and many residents tried to restore what they could to return to their homes in the absence of the main bakery component, which made obtaining daily food extremely difficult.



Figure 12: Zamalka region in Damascus – The Researcher.

6. Conclusion

6.1. The Gap in the Post-War Scheme

A city's identity, deeply rooted in urban cultural artifacts, is often deliberately destroyed in wars. While identity, urban destruction, and rebuilding are interconnected, decision-makers neglect this idea when proposing plans. According to research by Nourhan Abu Gedi, "Reconstruction projects and strategies often focus on the material dimension of reconstruction and inevitably ignore and even marginalize the identity of the destroyed city, in particular its spatial, social and cultural dimensions" [13].

Reconstruction is an issue that concerns all countries that emerge from a state of conflict, as this concept allows the creation of new social, political, and judicial institutions, which serves as a driving force toward development after a period in which there was widespread devastation and destruction, especially after internal wars or external invasion. All theorists link (urban) reconstruction with reconstruction [14].

Policies for the reconstruction of cities in the period after conflicts and wars: The social, economic, and political structures of society. The reconstruction system is not integrated unless its economic, social, and political dimensions are integrated with its urban dimension [15].

6.2. Restoring Collective Memory and Projection it into the Future

The collective memory of the city, which is called urban memory, is the source of identity and meaning of place. The modern city has lost its ties to the past, and thus its meaning and cultural diversity [16].

The city is not just a form, but rather the values and experiences that shaped the form.

Hence, the concepts of memory (collective and urban) and its relationship to place may seem to be intertwined concepts entering a vicious circle. To understand a place, we must understand memory, and to understand memory, we must understand the relationship between the past and the present within the context of the place itself [17].

Thus, every street, alley, window, and stone all have a story. The place here is a creative combination of the nature of the residents, their memories, feelings, and the way they interact with the surroundings over time. All these parts make up the complete picture of the scene (Fig. 13).



Figure 13: Comparison between the fourth trips – The Researcher.

Based on all the previous ideas presented, historical information, and documentation throughout the city, we can ask several questions about the city's post-war future. Which is still unknown and may be under hidden study for an invisible future.

How can an eternal city like Damascus and its extended countryside, with its historical importance, take shape in the next stage?

Who is responsible for reconstruction? Will the collective memory of individuals constitute an essential element in restoring the past? Albeit in a different civilizational context?

How will the temporal and spatial gap in the new urban plans be repaired? What is the role of artificial intelligence at this stage? Will it be the solution, or will we have to rebuild our land as we did every time?

Will the eastern Damascus countryside follow the example of Marota City and the Dubai Towers, or will we briefly recall the Nazi destruction of the old city of Warsaw, where the remaining residents took a collective decision to rebuild their city center as it was?

The most important and final question: Will everyone have the opportunity to make the decision? Real participation in shaping the future of their cities?

The research was the beginning of different thinking for an ancient city that is the source of cultural diversity and ethnic and societal differences. It is an indication of several facts and aspects that deserve to be highlighted in endless intellectual contexts.

The research monitored several aspects, starting with a brief historical study of the place and ending with observation and asking questions. The research deliberately left the questions open for broader discussions in the context of the city. It is recommended to conduct deeper research based on new answers over the coming years.

“There is no doubt that Damascus, having been there since the very beginning, will remain until. The final chapter of the human epic is written, whenever that may be” [2].

Conflict of Interest

There is no conflict of interest in financial or political aspects.

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The researcher aimed to further extend ideas in this paper and generate a different point of view on the experience that had been witnessed four years ago.

All mentioned illustrations (Fig. 2-13) and taken photos (Fig. 5-12) are produced by the researcher and have no specific credits to share.

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