Comparing two key modernist public squares among Athens & Stockholm

From similar morphological patterns to common urban experience

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Fig. 1, Sergels Torg, by Gunnar Smoliansky in 1978
Acknowledgement

I would like to sincerely thank Prof. Tigran Haas for his support and guidance throughout the master program, as well as Ax:son Johnson Foundation and Royal Institute of Technology for funding the program.

I would like to express my gratitude to Ryan Locke for his contribution as a supervisor and for encouraging me to explore the wide variety of topics related to Urbanism. In addition, I would like to thank Jaimes Montes for his initial contribution to my research. Finally I would like to thank my family and especially my brother Nikolaos for supporting me during my studies.

Ioli Apostolopoulou
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Abstract

The urban form undergoes a constant evolution process that transforms the urban experience. As it has been stated by urban morphologists, the design and planning principles as well as emerging social-economic forces shape the built environment. During the period of modernism, cities reformed their urban cores according to the fundamental elements of modernism, aiming to address the ongoing urban growth, the traffic increase and the emerging social issues. Thus, after that period, several urban cores were transformed from old districts to new modern and prestigious business and commercial centers were the former urban experience disappeared.

The center of Athens as well as the center of Stockholm constitute two representative examples of how modernism transformed completely the built environment during that period. Traffic oriented solutions prevailed against the traditional urban districts in both cases. Thus, by experiencing these two cases, common patterns were identified on the urban form of these two key public spaces of the cities.

The current study is aiming to unfold the evolution of their urban form and the processes of change that took place in each case during the same time. An extended analysis is conducted, where formal and non-formal conditions are thoroughly examined. Through the analysis of the urban form, this work is aiming to reveal whether common elements that are identified in the built environment produce same implications on the urban life of the public space and consequently common urban experience to the users, despite cultural differences. In addition, the emerging unique formal and non-formal conditions, that generate vitality in each case, are selectively extracted in the last chapter, where crucial interventions are proposed.
Introduction

Preface
Cities are diverse regarding their urban form, the climate conditions and the social and economic activities taking place on the public spaces of the city center. However, the urban cores of the modern cities, that contain densely built up commercial and office blocks, often imply similar patterns. As Sheer B., (2015) have noticed “similar patterns can be identified from place to place, and may even have some universal, or at least very wide applications”.

During the post war era, the principles of modernism influenced several cities, and “replaced their obsolete core with large office districts and corresponding infrastructure” (Kickert C., 2016). The concentration of commercial and office buildings along with the establishment of heavy traffic infrastructure in central districts, became synonym to emerging environmental issues and economic and social challenges, that forced many citizens to move out from the urban core.

As the urban history has proved, the urban core of metropolitan areas undergoes several transformations and its prevailing social-economic, physical conditions can be quite vulnerable to economic and social forces. The public space in the center is becoming the main receiver of these changes. Empty streets during the evening hours, vacant buildings, experience of alienation, social issues, and empty public spaces, are some of the main challenges that the downtowns of modern cities are currently facing.

Nowadays, as central public places worldwide are facing several social, economic and environmental issues, it became interesting to explore whether similar patterns found in the built environment of different cities, could reveal similar implications on the public space regardless the cultural differences and the urban contexts that they belong to.

Purpose of the study and Research questions
This research focuses on case studies of key public spaces in Stockholm and Athens. Following the observation that these key public spaces, both constructed in the same time period and influenced through identical modernist urban planning ideals of the time, the primary goal of this research is to identify the similarities and shared patterns in both urban cores. I hypothesize that these key similarities and shared patterns produce common implications on the public space of the city, and as a result produce a similar experience to the user, despite the varying cultural differences in these two cities. In parallel through this work there is an attempt to extract those formal and informal conditions that might differentiate the vitality and the sort of activities taking place in the two public spaces in the core of Athens and Stockholm. Therefore, the main research questions of the research is:

Do central public places with similar development histories and urban morphology patterns, offer similar urban experiences, despite being separated by cultural contexts?
Case Studies

The two cases that are examined in the current study, Omonia square in Athens and Sergels Torg in Stockholm, are two public spaces that are characterized by their importance as traffic hubs. They are positioned in the central commercial and business district and are distinguished from other central places by the intense commercial and office activities identified in the area. The two squares are part of the main commercial networks of the two capitals as it can be identified from the maps below:

Delimitations

The current work focuses on the traffic squares that were identified in the two cities, as two public spaces where I inherently recognized similar patterns.

In the analysis, it was taken into account the fact that the two squares belong to completely different cultural, social and economic contexts. The climate conditions are also dissimilar since Stockholm has Northern European climate whereas in Athens Mediterranean weather conditions prevail. However, the current research will not examine in depth the above differences.

Today except from the aspects mentioned above, the Greek capital is still struggling with the financial crisis of 2008 which is obvious in the maintenance of the public space, whereas Stockholm is currently having an economic prosperity period that is also visible in central districts and public spaces. However, a thorough analysis of how economy shape the life in the
public space is not to be examined in this research.

**Structure**

The first chapter (1) contains the preface, the description of the purpose of the study and the research questions that the current research is aiming to answer. The limitations and delimitations based on the extent and the purpose of the research are also mentioned in that chapter. The research methodology in the second chapter (2) defines the approach that has been developed in order to accomplish the goals of this study. The second chapter (2) includes the literature materials, that are used to support the research. The third chapter (3) is presenting the theories that are related with urban morphology, and the different research approaches that have been developed in the field. The fourth chapter (4) describes the historical development of the two cities, Athens and Stockholm, and the transformation of the built environment in their urban cores. The common and the unique development and transformation processes are also briefly explored in the same chapter (4). The next chapter (5) is dedicated to the analysis of the formal and the non formal conditions of the two squares (Omonia and Sergels Torg). Common criteria are applied in both cases in order to be able to extract and evaluate the similarities and differences in the following chapter. Thus, chapter (6) is focusing on the comparison of the elements that have been extracted from both cases. Finally, in chapter (7) the conclusions are formed and interventions that could improve the urban life and social activities in both public spaces are proposed. Last chapter is committed on the references used by the current study (8).
Research Methodology

Morphological Research

As Moudon A.V., (1997) has claimed, "the challenge of urban morphology is to demonstrate the common ways in which cities are built and transformed and to illustrate how the principles of change work in many different contexts". Thus, urban morphology is used in this research as a method to extract those similar patterns, that I inherently identified during my visits in these two public places and as a method to reveal the common way in which the urban cores have been formed. The present work is using diachronic and synchronic comparative methods based on Scheer B. C., (2015), in order to reveal the shared patterns, the common historical development as well as significant formal differences between the two cases. Thus, in each case the historical transformation of formal conditions is examined and in parallel is compared with the other case. In addition, different scales of resolution are used during the morphological analysis, in order to extract the important formal elements that have crucial implications on the public space.

Observation method

The current research is partly based on the observation of the physical and social characteristics of the two squares and its surroundings. During my visits in both places there was an effort to explore the physical form and the social characteristics of the two places and identify the similar patterns, through and eye level observation. However, the short extent of the current study, makes impossible a thorough research of the social activities and the physical attributes of both places. Therefore, the assessment of the implications that those patterns produce on the public spaces that are examined, is also based in my perception about the conditions occurring in both places.

Literature review

During this study, several literature materials were reviewed thoroughly in order to support my research and define the methodology of the analysis. Thus, academic papers, that define the urban morphology and the different approaches of various schools of thoughts, such as Moudon A.V., (1997) and Sheer B.C., (2015) are used in order to define the theoretical framework. Principles that relate urban morphology with the social activities and the urban life in general, are also explored through Jacobs J., (1961) and Jan Gehl's books. In addition, Whyte W. (1980) observations are used in order to evaluate the formal elements extracted in the analysis. Similarly, for the analysis and the comparison of the formal and non formal elements, published papers by Kickert C., (2015) and Salingaros N., (2009) are explored.
Theoritical Framework

Urban Morphology

Urban morphologists are researching the gradual development of the urban form and the impacts of social and economic forces on the built environment (Moudon A.V., 1997). According to Scheer B., (2015) “Cities are built upon existing forms and by evolving transforming and dispersing existing forms”. Thus, the built environment is the outcome of a composition of morphological patterns that are constantly changing. Urban morphology is aiming to identify those patterns, and reveal their ongoing transformation.

Due to the processes of change that are continuously shaping the built environment, cities are considered and examined as living organisms according to Moudon A.V., (1997). The processes of change are related to formal or non-formal conditions that have several implications on the urban form. Those implications are considered by Kropf, K. and Malfroy, S. (2013) as “indices of the human activity” that produce and transform the existing form.

The urban form is consisting of physical elements that can be identified and provide significant data. Researching the physical elements and comparing them with the ones appear in other places, or observing their historical evolution, requires the separation of the urban space into categories. As Moudon A.V., (1997) has identified, urban form consists of three basic components that are constantly transformed: buildings and their related open spaces, plots or lots, streets.

Understanding the evolution of the physical elements as well as the way that they are currently formed requires a more comprehensive approach, since further principles should be also examined. Particularly, as Moudon A.V., (1997) is mentioning morphological analysis consists of three dimensions, form, resolution, and time (p7):

• Urban form is defined by three fundamental physical elements: buildings and their related open spaces, plots or lots and streets.
• Urban form can be understood at different levels of resolution: building/lot, the street/block, the city, and the region.
• Urban form can only be understood historically since the elements of which it is comprised undergo continuous transformation and replacement.

Different research approaches

Urban morphology is an interdisciplinary field of research that is constantly expanding. The main representatives of the research approaches that have been adopted so far are three schools of urban morphology in England, Italy and France, which set the ground for further research today, according to Moudon A.V. (1997). Particularly as Moudon A.V. (1997) describes, the British school is studying the urban form for descriptive and explanatory purposes in order to address the issue of “how cities are built and why”. The Italian school is exploring the urban form for prescriptive purposes aiming to respond on “how cities should be built”
(Moudon A.V., 1997). Whereas the French school of morphological analysis is focusing on the implications of former design principles, aiming to examine “the initial intensions with what actually has been built” (Moudon, 1997).

Scheer B.C., (2015) is referring to four schools of thought, which are the Italian, the British, the space syntax and the North American. Particularly, Scheer B. C., (2015: p.12) compares the different schools of thought according to how these schools interpret the following elements: Data collection, pattern recognition, theories of change, frequently explored non-formal linkages.

According to this classification and based on the epistemological schema of Scheer B.C., (2015:p.12), the process of collecting the data differs across the four schools since every team has its own approach regarding the resolution of research and the subjects of interest. As it is also presented in the schema of Scheer B.C., (2015:p.12) the methodology could be synchronic or diachronic or both, based on the type of comparison that each school is aiming to achieve. Regarding the type of patterns, that the four school of thoughts are searching for, there is also a diverse approach, since the scope of interest is not the same across the four teams. Respectively, the theories of changes are focusing in different levels of revolution or various processes of evolution. Furthermore, the correlation of urban morphology with non-formal conditions is a method that all parts adopt but the approach and the scope of view is diverse as it is revealed in the schema of the Scheer B.C., (2015:p.12).

Theories of autonomous changes

Patterns are constantly changing and thus cities are considered as organisms (Moudon A.V., 1997). Urban morphologists have already built theories on how the patterns change and which are the forces that generate the physical change. As it was mentioned above the theories of autonomous change are different across the schools of thought, however a common ground has been found and contains the following concepts, according to Scheer B.C., (2015) (p11):

• First, cities are built upon existing forms and by evolving, transforming and dispersing existing forms
• Secondly, there are similar dynamic interactions related to the effects of time and resolution that occur across many examples studied implying that very different conditions can result in dissimilar changes
• Thirdly, certain physical forms tend to endure for a longer period of time than others in the same place
• Fourthly, the persistence of some forms can retard changes that might happen more quickly if built forms were subject only to the forces of non-formal conditions

In the current research, the urban morphology is used as a method to identify the similar patterns as it was mentioned above. Street/block and building/lot levels of resolution are researched thoroughly, aiming to reveal the similarities of the physical form and to explore
whether the common patterns produce similar implications on the public space of the city. In addition, as it has been mentioned in a previous chapter the current thesis is using diachronic and synchronic comparative methods, based on Scheer B. C.,(2015) in order to highlight the historical evolution of each case, the shared patterns and the differences that might also affect the urban experience.

**Urban morphology and vibrant city life**

Jane Jacobs, proposed in her book “The Death and Life of Great American Cities” (1961), four conditions essential to vibrant city life. Particularly, Jacobs J.,(1961) argued that “vibrancy is a product of a diverse physical environment” where diversity is achieved when the districts meet following conditions (p150):

- First, city districts must serve more than one function, in order to attract people at different times of the day and night.
- Second, city blocks must be small and have dense intersections that encourage interaction between pedestrians.
- Third, buildings must be diverse in age and form in order to support a mixture of low- and high-rent tenants.
- Fourth, urban districts must have a sufficient density of people and buildings.

Applying those conditions in the two cities, will unfold how the present urban form in both concepts encourages or prevent the social life in its public spaces. Of course, there are other non-formal conditions that are influencing the vibrancy of the districts in the two cities, that won’t be analyze in the current chapter. It is worth mentioning that the principles are now not applied in particular districts or at the areas of the traffic squares that are analyzed in detail in a following chapter. It is important to mention then, that focusing in the traffic squares might reveal completely different results based on the fact that these two places are not representative of how a normal district of Athens or Stockholm is formed. Thus, by applying the principles mentioned above, the following outcomes have been revealed:

Regarding the first element, a normal district in Athens seems to contain more than two functions in every building, which invites different users at different hours every day in contrast with a normal urban district of Stockholm where usually there are not so many functions allocated in each building. Particularly a basic housing unit in a district of Athens has small retailers in the ground floor, offices in the first floor and residential flats on the upper floors whereas in Stockholm there are many clearly residential districts that might contain a small shopping center in its core.

As regards the second element, comparing the size of the blocks at the same scale it became obvious that Stockholm contains bigger blocks and less intersections in contrast with Athens where the blocks are smaller. In the urban grid of Athens, the number of units in a block is usually higher than Stockholm, as well as the number of owners. Thus, the dense intersections in Athens encourage the communication between pedestrians, neighbors, and strangers.
According to the third element, as it presented in the diagram the built environment in a typical district is characterized by a variety of building types constructed in different periods of time, whereas in Stockholm uniformity characterizes the urban form. Therefore, it could be assumed that there is a low mixture of high and low rent tenants in a district of Stockholm. On the other hand, even if this mixture of tenants can be easily found in the urban districts of Athens, the urban segregation is apparent in the vertical axis in the city center, since the housing units are offering better quality and more expensive flats at the upper floors according to Maloutas T., Spirellis S. (2015).

Applying the forth principle, is expected to find a higher number of users and residents in an urban district of Athens due to the densely built urban grid of Athens, the increased pop-
ulation living in the Greek capital (almost 5 million) and the mixture of functions that can be found in contrast with Stockholm. “Sweden has a higher proportion of single-person properties than almost anywhere else in the EU” according to Savage M.,(2016). The expected difference regarding the density of people is also distinct on the map(1) presented below:

Historical transformation

Urban Development stages: Athens

Athens became the capital city of Greece in 1832, a decision that was gradually connected with a flow of people moving to the new capital (Papageorgiou-Venetas A., 1999). Based on the same author, in 1833, Kleanthis and Schaubert students of Schinkel produced the first urban planning proposal for the city. The emerging disagreements regarding where the new palace will be positioned and the lack of financial capacity for expropriations for the implementation of the initial plan forced the authorities to reform the blocks and the position of public buildings (Kallivretakis L., 2015). The total area of public space that the initial plan had introduced was finally reduced according to the final plan drawn by the architect Klenze (1834) (Kallivretakis L., 2015). In parallel the urban land was divided into small ownerships (Papageorgiou-Venetas A., 1999).

During the following decades, several urban expansions took place as well as several modifications of the initial published plan (Avdelidi K., 2010). In 1862, the first city plan was established in practice and Athens starts to expand inside the approved borders of the city (Papageorgiou-Venetas A., 1999). However, in 1921, the flow of the Greek refugees fleeing from the western coast of Turkey, created an unexpected and dramatic increase of urban population that desperately needed affordable housing solutions (Avdelidi K., 2010). Therefore, quick housing solutions were established at the outskirts of the city. Later, in 1924 the city plan was revised and the new planning document was now containing the linear spatial development of industrial buildings between Athens and the city of Piraeus (Avdelidi K., 2010). The following years, according to the same author, the permitted “building factor” and the maximum height of the new buildings were gradually increased at the city center, and the existing built environment changed significantly.

The latest urban policy of densifying the urban center, that was aiming to accommodate the increased demand for housing, didn’t really managed to solve the housing crisis. The following decades the urban population was remarkably expanded and created further urban challenges. It was the result of an extensive and intense internal migration flow from the countryside and small towns to the capital and other large cities, that emerged during the period of 1950-1965 and was rapidly increased until 1979 (Avdelidi K., 2010). Particularly, as Maloutas T., and Spyrellis S. (2015) have mentioned “during the period from 1951 to 1971, the resident population of the Municipality of Athens increased by more than 60% (from 550,000 to 890,000)”. New settlements emerged at the suburbs and the practice of “flats-for-land” flourished (where the owners of small urban plots grant their land to developers, that have the capital for the construction, by setting an initial agreement that is clearly referring to the number of the new flats that the initial owner of the plot will keep after the end of the new construction) (Maloutas T.et Spyrellis S., 2015).

Such a practice was to become the most significant factor that affected the urban morphology of the city until today. Concrete block of flats of 4-9 floors that were named as
“polukatoikia” sprang up in the city center. The emerging population flow coming from the periphery was buying flats as an investment or in order to obtain affordable housing. As a result, today a normal city plot and block belong to many small owners. In parallel with this phenomenon taking place in the urban center, the suburbs were gradually expanding legally or illegally from 1965 until 1997 (Avdelidi K., 2010). However, as it is described by Avdelidi K., (2010) the city plan in several cases didn’t really contain the new settlements, thus efforts to introduce them to the plan were made in retrospect. Today, because of the unplanned development of the urban grid, the amount of green space per capita is one of the lowest in Europe (Pafi M. et al., 2016)

During the years 1982 and 1985 significant measures were taken, to improve the unplanned settlements that sprang up the previous decades (Avdelidi K., 2010). Later in 2000, the first metro lines that were connecting the suburbs with the center were constructed, as an effort to reduce the huge traffic congestions (Vasiliou M., 2006). Nowadays, Athens is dealing with several urban challenges such as the socio-economic decline of the urban center, lack of facilities on the public space, absence of green spaces and the refugee crisis.
Urban Development stages: Stockholm

Stockholm as well as other Swedish cities have a long planning history. The emergence of the city can be found on the thirteenth century according to Hall T., (2009). Stockholm has its urban history roots on the medieval settlement of Gamla Stan, the Old City. In the seventeenth century with the first expansion of the medieval city there was an effort to “transform the provincial and backward town on the European periphery into Northern Europe’s leading metropolis, into a Paris of the North” based on Hall T., (2009).

Since then the city has undergone several changes and various important planning policies that formed the city as it is today were implemented during its historical transformation. Particularly in 1917 the increase of the urban population made the housing crisis apparent (Sidenbladh G.,1981). Thus, in 1920 a detailed plan of the urban grid was prepared as well as certain measures aiming to solve the issue (Sidenbladh G.,1981). Some of the measures were targeting on the improvement the living conditions by increasing the width of the streets from 12 to 18 meters and by joining the separate courtyards of each building lot into one large space inside the block (Sidenbladh G.,1981).

In 1930 the ongoing demand for new housing units forced the city to develop an urban growth plan where according to Nelson A. (2004) it was determined that “growth should follow a public transportation system, forming long “fingers” of built areas with undeveloped “green wedges” left in between”. It is worth mentioning however, that the development of the urban mobility infrastructure was established as a city strategy since 1900’s, and was especially aiming at a metropolitan rapid transport system as it is mentioned by Hall T., (2009).

The strategic attempt to define the urban growth, led the city to create a master plan for Stockholm in 1945 (Nelson A.,2004). According to the same author the metro network is constructed in 1952 and as consequence new planned settlements in the suburbs are being built across that network.

The next decade is characterized by the Welfare State strategy and the “right to decent housing for all” Nelson A, 2004). The “Swedish Million Homes Program” initiated housing projects in the suburbs of Stockholm that were characterized by low cost and fast construction standards, as Ulrich M. et Pscheidl M., (2013) have stated.

At the same period in the city center an extensive demolition of old buildings occurred and they were replaced by new ones (Dahlin A.,2013). The extensive reactions against the demolition of historical urban places were followed by the “Swedish Planning and Building act” that was introduced in 1987, as way to protect historical places (Dahlin A.,2013). In parallel a new planning strategy, emerged in 1999. The “building the city inwards” plan was aiming to eliminate the urban sprawl, to densify existing leftovers spaces of the city such as old harbors and transform them into mixed-use districts (Nelson A, 2004).

Consequently, the development of the city has occurred based on a remarkable and constant strategic planning procedure which has ensured high-quality city environment.
Urban Core Transformation: Athens (Commercial Triangle)

The historical city area of Athens contains the old commercial triangle. The commercial triangle is defined by three axis streets (Athinas-Mitropoleos-Stadiou) and constitutes the core of the city. At the peaks of the triangle, important public spaces are situated (Syntagma, Monastiraki, Omonia), which are still perceived as public spaces of metropolitan and national interest. The commercial triangle is in proximity with significant ancient places, like Acropolis and a variety of diverse urban districts, surround the city core. The diversity and the density of economic and social activities taking place on the urban core have changed during the past decades. However a small variety of activities and land uses (commercial, craft industries, offices, entertainment, institutions, hotels) can be still found there today (Kourkakis K., 2008).

The urban core of the city has been significantly transformed during the decades 1950 and 1960 and the principles of modernism have undoubtedly affected the built environment and the urban context of the area. Particularly during the period 1950-1967, many offices and commercial buildings were built in the area based on the process of “flats-for-land”. The uncontrolled urban transformation occurred based on the absence of a strategic urban plan for the emerging urban growth. The rapid development of high store buildings for office and commercial use though, was standing on a unilateral urban policy which was aiming to densify the urban center. As the final purpose was the limitation of the constant urban sprawl, the new policy was increasing the building factor and the permitted height in the urban grid of the city center (Avdelidi K., 2010). The most dramatic consequence of such a policy, was the rapid replacement of the existing neoclassical buildings with new modernistic structures. Thus, during that period many neoclassical buildings, part of the urban history, were brutally replaced. It is worth mentioning though, that at that time the city didn’t have any land use planning regulatory legislation for the urban core.

In parallel the developers applied the principals of modernism on their new buildings with some modifications, as they had to follow the Greek legislation. Particularly the law at that time, according to the legislation (General Construction Code /1929-1964), was allowing an increase of the height but a proportional space return of the building surplus to the public space, was required.

As a result, a mixture of types of buildings from different architectural periods, characterized by diverse facades, coexist today in the urban core.

The urban decline is present today due to the economic crisis that certainly affected the retailers in the area. Since the small retailers have shrank their activities, the deactivation of the frontages is still an ongoing process. However, the economic shrinkage in the area is still not the only reason that led to the current twilight of vacancy for many of the ground floors and upper floors in the existing buildings.

Currently the lack of presence of citizens during the evening hours creates a desolated and unattractive public space were safety issues appear. It is worth mentioning though that an active place that still attracts people until the afternoon hours is the historical Varvakeios
market, opposite to the municipality that has given a strong identity in the area and is related to other small retailers spread over the urban core. A lot of offices are still active in the area but the constant degradation is present in the main public square of Omonia, that has been reconstructed before the Olympic games of 2004 under an overall modernistic approach of separating and prioritizing the traffic flow from the pedestrians.

Undoubtedly the failure of the urban core and especially of the area surrounding the Omonia square to deal with the socio-economic changes that occurred in the latest decades is becoming the biggest urban headache for the city authorities.

Urban Core Transformation: Stockholm (lower Norrmalm)

Stockholm city center and especially the “lower Norrmalm” area, went through a significant transformation process during the period 1950-1975 (Sidenbladh G., 1981). The former downtown district “Klara” was torn down as part of the renewal project that took place in the city center (Andersson T., 2013). According to the same author “what was considered as old-fashioned, dark and dusty quarters with low sanitary standards were torn down in favor of a new modern vision of a downtown”. As it is mentioned by Sidenbladh G. (1981), earlier in the 1920, the area used to host high-class shops and offices which were particularly defined by the polygon that was enclosed by Gustav Adolfs Torg going along the street Drottninggatan up to Kunsgsgatan, down to Stureplan, Biblioteksgatan, Hamngatan and Regeringsgatan and back to Gustav Adolfs torg. The area inside the polygon was not very attractive to businesses due to the natural relief and the narrow and steep streets and was forcing the business activities to sprawl significantly, as Sidenbladh G. (1981) has mentioned. Therefore, the transformation of the downtown area was something that the city was attempting to do some decades earlier than 1960. However, after several efforts and different planning proposals the final plan was finally signed in 1951 (Sidenbladh G., 1981). According to the latest plan, the street Sveasvagen was now extended to the south until meeting the existing Hamngatan and the street Klarabergsgatan as it can be clearly distinguished on the maps below.
At this new traffic hub point the new square of Sergels Torg was proposed to be built. In addition, railway, metro and car traffic lines were planned to cross the area from underground (Sergels Torg and planning (2000). The new Central Business District was completed in 1975 and was containing the demolition of several building and the contraction of 5 new towers that where providing a pedestrian commercial route connecting the new square of Sergelstorg with the market place of Hotorget according to Sidenbladh G.(1981).

It is worth mentioning that the complex was influenced by the new shopping street in Lijnbaan, Rotterdam (1949-53) which was characterized by modernistic principles of planning and was containing two storey shops along a main pedestrian street as it has been claimed by the municipal document (Sergels Torg and planning (2000). The new central square had “two-levels solutions implied that cars were more important than people” as Andersson T., (2013) have noticed.
An interesting part of that development process was the fact that the development plan of the city managed to expropriate the land and was afterwards able to impose to the developers a leasing contract had to be renewed after several years as it is claimed by Sidenbladh G.(1981). It is worth mentioning that almost 158 buildings were torn down according to the same writer.

Today the central business and commercial area of the southern Norrmalm, which was planned based on the modernistic principles, remains as it was built during 1960-1975. However, the extent transformation of the urban grid, that occurred during that period, can be identified on the following maps:

Map 6. Urban grid and city blocks in 1940
source: https://stockholmskallan.stockholm.se/

Map 7. Urban grid and city blocks Today,
source: https://stockholmskallan.stockholm.se/

Map 8. Expropriation map from 1959. According to Sidenbladh G.(1981) the black plots are the plots that were already owned by the city, whereas the hatched areas are the plots that the city was given the right to expropriate for the renewal project, source: Sidenbladh G.(1981)

Comparison of historical revolution

The historical urban development of Athens has shown that the suburbs emerged through a rapid and informal process, where the strategic planning was absent. The public transpor-
tation networks connecting the center with the suburbs were established in retrospect. In contrast, Stockholm was developed gradually and according to a comprehensive planning system. The public transportation became one of the principal elements of the planning strategy. Therefore, the suburbs were from the initial stage of their development connected with the urban center. However, Stockholm metropolitan area was developed on a monocentric structure which is gradually becoming a polycentric type of urban development according to Ferri G.J., (2015). Whereas the metropolitan area of Athens consists of small autonomous urban centers in its suburbs. In addition, the Swedish capital responded to the housing crisis by providing the “1 million program” houses. In contrast, Athens based on the lack of financial instruments, didn’t provide any strategic plan for the urban growth or affordable accommodation. The rapid increase of the urban population and the lack of a planning strategy, led to the fragmentation of the urban space, the creation of a concrete built environment lacking air quality, sun etc and the extent demolition of neoclassical buildings part of the history of the city.

Regarding the available green spaces, the development of Stockholm was done in a way that every resident in every district is in a walking distance from a public park according to (Nelson A, 2004). Whereas in Athens, especially in the central districts residents have either not enough green spaces or not well preserved. As it has been mentioned earlier the proportion of the square meters of green space per capita in the city of Athens is one of the lowest in Europe (Pafi M. et all, 2016).

Furthermore, regarding the urban cores, the transformation of the urban form in both city centers, took place in a similar period that modernism principles were prevailing. As a result, demolition of old buildings and the construction of new high floor offices and commercial buildings drastically changed the urban experience in both cases. However, as it was revealed from each city’s urban history the way the transformation occurred in the two cases differ significantly.
History of Omonia

Omonia square was initially planned by Kleanthis and Schaubert in 1833 and was designed to become the main square of the palace that was supposed to be built in the northern part of current public space (Katantaris F., 2015). It was positioned at the intersection of two basic street axis Peiraios and Stadiou and was the peak the isosceles triangle that was forming the limits of the basic urban grid in the initial plan. (Giannou E., 2009). According to the same author, it was planned to be the urban core of the new capital city but after the pressure of several stakeholders on the planners to change the position of the palace, finally Syntagma square became the main square of the city. Despite that, Omonia remained for many decades the second most significant public space of the city.

Omonia was initially called Othonos square after to a battle of 1863 between the advocates of the king Othonas and its opponents. Later it became the national symbol of unity and it was finally named “Omonia” which means ‘concord’ (Giannou E., 2009).

The square has been gone through several transformations that changed role of the square and the human activities taking place there. Particularly, Omonia square was initially designed as a cyrcle square and then was transformed into a rectangle square (Papageorgiou- Venetas A., 1999) were flower beds and trees were planted as it can be seen in the picture below:

In the beginning of 1880, buildings of neoclassical architecture, such as the hotels “Bagkeion” and “Megas Alexandros”, were built around the square (Giannou E., 2009). According to the same author, the following decades the space is gradually transformed into a traffic hub, due to the emerge of public transportation modes in the city. Starting points for the new means of transport (electrical train and tram) were constructed in Omonia and small retailer’s kiosks and horse carriages emerged around the square (Giannou E., 2009). Soon the square was redesigned to adapt to the traffic node character that was gradually becoming more apparent and as a result, trees were cut and the green flower beds were covered with marble plates as it can be seen in the following picture. The ventilators of the underground train station were covered with 8 muses and flower kiosks were established along the square as Giannou E., (2009) is mentioning.

The following decades and especially during the 1950 the square is again reconstructed according to modernism principles. By 1950, the area had been already dysfunctional due to rapid increase of cars and public means of transport and it was then that the tram lines were abolished (Giannou E., 2009). That period the urban planning focused more on dealing with the private cars than improving the public transportation. As it can be noticed from the picture, the square was transformed into a circular public space where the main element was now the fountain.

In parallel during that period several neoclassical buildings were demolished and as it was mentioned in a previous chapter, they were replaced with high floor office buildings influ-
enced by modernism architecture. The “cosmopolitan meeting place for middle-class Athenians became the canvas for any modernisation project attempted on each turning point of Greek history” according to Andriopoulos Th., (2015). The glass and the metal replaced the neoclassical elements, whereas the buildings that were not demolished were slowly becoming abandoned parts of the built environment (Giannou E., 2009).

A last transformation of the square took place just before the Olympic games of Athens, in 2004. The several interventions on the public space that were aiming to upgrade the urban life conditions and to intergrade in the urban grid the first metro lines, included the square of Omonia. It was redesigned then, embodying a complex network of underground train and metro infrastructure. The new plan was focusing on solving the traffic issues and on facilitating the pedestrian flow (Giannou E., 2009). Thus, from a traffic circulation node, it became a concrete square.

**Urban Context**

The concrete public space of Omonia remains until today an unpleasant transit space and is the center of a wider bustling area “where tourists and immigrants, street-vendors and passers-by bump into each other, passing through it in a rush” as Andriopoulos Th., (2015) has stated.

Omonia seems to be a problematic space that has suffered a lot from constant transformations. The concrete floor, the huge traffic pollution, and the lack of protection from the physical elements make the walking experience unbearable, especially during the summer days. The absence of facilities and urban furniture doesn’t really attract the passengers to stand and use the square. During the evening hours, the square of Omonia is becoming the meeting point for vulnerable groups such as immigrants or illegal actors such as drug dealers. It is worth mentioning, that particularly the wider area on the west side of the district is facing a constant social decline and issues of safety. Buildings that are not well maintained, or have become vacant spaces are used for illegal activities, while the sidewalks offer an unpleasant walking experience, since they are lacking appropriate lightening. Siebel W., (2003) describes the area, by mentioning that “beneath the square the dark side of the city” reveals.

Despite of the fact that Omonia is still functioning as a transit hub where people are less important than cars, citizens have linked their memories to the space. As Andriopoulos Th., (2015) has claimed Omonia has “found its place in the collective consciousness as another type of symbol” and gradually it seems that “extending beyond the confines of a square, Omonia became a place”. 
Formal and non formal conditions

**The shape of the square**

Until 2004, the space used to be a typical traffic circulation node. Even though it was redesigned to become accessible to pedestrians, still doesn’t have the pattern of a typical square. Generally, is perceived as a traffic hub which is also evident by the fact that there is a curve in the northern part of the square that facilitates the car traffic circulation. The pavements opposite to the square are also following the curve of the main public space. In the plaza, there is a well-distinguished walking corridor that connects the west side with the east part and constitutes the only axis that citizens can use to reach the opposite side, without crossing any street. As it can be noticed, there are two points that the square is linked with its surroundings, but still the arterial streets are creating a considerable gap between the buildings and the square.

**Movement patterns**

The main arterial streets of Agiou Konstantinou, Panepisthmiou, Tsaldari-Stadiou, Tritis Septemvriou, Athinas and 28 Octovriou-Patission meet at Omonia square. The movement in the space is divided into two parts. The underground corridors that are used quite a lot and the sidewalks of the blocks surrounding the square, where a circular movement of people can be identified. There is also a linear path at the square that is mainly used when someone wants to cross the square from the west part to right. Most of the people are using the underground corridors, which can be explained by the fact that the accessibility of the square is problematic and crossing the streets can be a quite stressful experience, due to the heavy traffic.

Fig.12, Omonia square today, source: https://www.tripadvisor.co.uk/LocationPhotoDirectLink-g189400-d198947-i105975316-Omonia_Square-Athens_Attica.html

Map 9, The pedestrian movement around the square of Omonia, is defined by the light green line, source: open street map modified by the author
Size and scale

The square has a typical but not the magical size of 40*80 Gehl J., (2010), since the longest length of the square is 100 meters and the longest width 60 meters. As Gehl J., (2010) has mentioned in less than 100 meters distance, the pedestrian can identify movement and generally recognize the body language and at 25 meters can observe the expression of the face. The wider area of Omonia is quite large though. The buildings that surround the wider area have an average height of 32 meters except from the neoclassical ones that have significantly lower height. Generally the space is lacking human scale.

Visual experience

A mix of mainly modernistic and neoclassical buildings surrounds the public space. As the urban form of the entire area was transformed during 1960-1975, a variety of facades characterizes the built environment, and most of them are influenced by the principles of modernism. Rigorous lines, glass materials and arcades in the ground floors, are the main features of the exterior sides of the modernistic buildings. Still there are few neoclassical buildings, around the square, that break the experience of monotony, derived from the almost 9 floor modernistic buildings.

The modern structures are the results of the combination of the principles of modernism with the Greek building legislation (General Construction Code/1929-1964). Representative examples of that amalgamation are the internal and external arches and the omission of the corners, as it can be seen in the following diagram. It is worth mentioning that the small plots with the increased permitted construction height, led to the vertical development of the modernistic structures.
Regarding the form of the square, there are some obstacles that prevent the pedestrian from looking at the center of the square, when someone is standing in the northern and the southern part.

In overall, the problematic relation of the square with the adjacent blocks and the streets, offer a very stressful urban experience. In addition, the feeling of alienation emerges when somebody is walking in the area due to the lack of human scale. The repeated lines and grey patterns constitute a monotonous environment. However, while walking on the sidewalks of the blocks surrounding the square, the entrances of the small shops, the kiosks and the advertisement signs offer a dynamic urban experience.

Facilities/furniture
The square is lacking appropriate sitting spaces, such us benches, and has no covered space to protect people from the rain or the warm sunny days. The feature of wa-
ter is absent in the space and even if the required water infrastructure was part of the final plan, the structures remain dirty and abandoned. People walking there can notice the empty water channels and the neglected fountain structure. Regarding the green spaces, the square has few trees and flower beds, and still concrete element prevails. Several times, tree pots have been placed in the square just to provide more green, but are mainly individual interventions, that doesn’t really changed the ‘concrete’ landscape.

Environmental Conditions
A mix of things such as the concrete materials of the square, the lack of structures protecting from the natural elements, the high temperatures during the summer and the constant traffic pollution, transform the square into an unpleasant space. In addition, the square is usually dirty and during the warm summer days, the heat island phenomenon occurs.

As it can be identified from the diagram above, the asphalt road surface along with the high floor buildings, the glass facades, the air conditions, and the heat produced by the vehicles, increase the temperature creating a suffocating atmosphere. The lack of adequate green structures and the absence of water are great omissions associated with the conditions prevailing in the square. It is worth mentioning that the crowded spots are mainly the sidewalks opposite the square where there is enough shadow.

Urban Life
Omonia is located in the urban core of the city were mainly offices, commercial activities and hotels are operating. Popular public places such as the Syntagma square, Varvakeios market, square of Monastiraki, Politechnion and other central places that attract people, are in walking distance from the square. Therefore the wider area is usually crowded during the shopping hours and as Andriopoulos Th.,[ 2015] has noticed “it has become an urban field through which all social classes, races and ages cross and this heterogeneity is clearly mani-
fested in the roads radiating from the square.”

People using the square usually are not standing for a long time in the space. They walk through the space aiming to move to the other side, or use the staircases to reach the metro platforms. During the office hours, the pavements of the blocks that surround the square constitute a bustling space and remain like that until late, since coffee places, take-away food shops and multiethnic small shops remain open until late as well. The lack of facilities in the plaza and the fact that most coffee places are remoted from the square, prevent people from walking in the square. Still different users can be found in different hours of the day, such us pensioners that are standing to rest in the space during their morning walks or immigrants hanging out there.

It is worth mentioning that is not an attractive space for kids and families in general. Frequent-ly drag dealers are also present in the square. The huge traffic moving around the square transforms the space into a very unpleasant environment for developing any social activities.
History of Sergels Torg

The square of Sergels Torg, initially emerged on Lilienberg’s general plan of 1928 and it appeared in the plan only when the extension of Sveavagen towards the south was decided (Sidenbladh G., 1981). Despite that the city authorities considered several alternative solutions, regarding the interventions on the urban grid, the idea of a new square has been always part of the proposals presented by Sidenbladh G., (1981). Based on Markelius’s 1946 plan, the square was at the beginning a “vague outlined circulation site with a rectangular midfield that was approximately 90 x 45 m” (County administrative Board of Stockholm, 2000). ‘Sveaplatsen’, as it was called then, was part of a traffic based design solution that was also aiming to provide some recreational activities, that until then didn’t really exist in that area (County administrative Board of Stockholm, 2000). However, that goal was never achieved.

Later in 1954 the plan was reformed and a two-level solution was proposed according to the former municipal document. The traffic circulation became smaller as the space was separated in two parts (County administrative Board of Stockholm, 2000). The pedestrian movement was now separated from the traffic flow. Wide staircases were designed to connect the square with the street level and they were formed as a space where people could sit on according to Andersson T., (2013). In the traffic circulation part, a fountain was created and a crystal structure designed by Edvin Öhrström, was placed at the center, as Andersson T., (2013) has mentioned.

In 1960 the square was finally named ‘Sergels Torg’ and the area adjacent to the square remained under construction until 1975, when the entire urban renewal project was finally completed (County administrative Board of Stockholm, 2000). It was then that the former district of Klara with the dense urban grid, the dark and dusty quarters with the low sanitation standards, as Andersson T. (2013) describe it, was transformed into a modern commercial and business center. The Sergels Torg plaza was completed in 1967 and was the core of the modern district according to the previous author. However soon the criticism revealed since the new space was a large windy public space, without trees, in contrast with the district that exist there before the demolition according to Andersson T., (2013). As it is described in the same text, in the following decades it became abandoned by the public and illegal activities emerged in the square. In 1998, there was an effort to reform the square, but citizens based on the memories and the experiences they had already built in the space, convinced the authorities not to reform the square and thus only gentle interventions were implemented(Andersson T., 2013).

Urban Context

Nowadays, Sergels Plaza is one of the most popular meeting places of the city, as it is positioned in the central business and commercial core of the city and has a great advantage in terms of centrality. The square is mainly used as a transit space, getting in or out of the metro, and since there are many shops placed at the covered space next to the metro ticket hall, people have another significant reason to walk underground. In addition, the space is working as an accumulator of the pedestrian flow towards and from the commercial pedestrian.
street of Drottningatan, which is a very popular shopping street of the city. In addition, the plaza is characterized by the dominant building of Kulturhuset, that is positioned in front of the public space and is directly accessible from there.

Sergels Torg is a significant public space for the entire city, and is positioned in the core of an area that is considered as cultural heritage of national interest, based on the municipal document (County administartive Board of Stockholm, 2000). In addition, as the same document is mentioning (County administartive Board of Stockholm, 2000), Sergels Plaza is a standard place for demonstrations, manifestations, cultural expressions, and celebrations, and is characterized by several social issues.

Formal and non formal Conditions

The shape of the square

Sergels Torg consists of the traffic circulation node and the sunken plaza. Both spaces are characterized by curved elements, that indicate the given priority to traffic circulation. The square doesn’t constitute a typical square, due to the level that it is positioned, and the way that is enclosed by the built environment.

Regarding the enclosure, as the square is a sunken plaza, is placed in a lower lever than the streets. In that level, the space is directly enclosed by stores that are operating under the street, where the metro ticket hall is also placed. The southern part of the space is defined by the modernistic high floor building of Kulturhuset, while the west side by the wide staircases, that link the square with Drottningatan street. Certainly, it is not a typical square and the weakness of the space is the “indefinite relationship of the plaza with the underground spaces” according to the municipal document (County administartive Board of Stockholm, 2000).

Movement patterns

Main arterial streets, such as Sveavägen, Hamngatan and Klarabergsgatan, meet at Sergels Torg, while several underground highways, absorb the heavy traffic. By observing the square someone could easily notice that the covered space, where the metro ticket hall and the shops are located, is functioning as pedestrian passage. Many people are using the underground corridors in order to move to the other side. On the level of the streets, when pedestrians want to reach the opposite side, are obliged to move around on the sidewalks of the adjacent blocks, in order to find the pedestrian crossing points. It is worth mentioning, that the traffic circulation node is not accessible as it is not used as pedestrian safety island.

Regarding the plaza, it has been noticed that people are mainly moving from the staircases towards the entrance of the metro, that is placed in the northwestern edge of the square.
Size and Scale

The square has a size of approximately 50*70 meters, however the wider area of Sergels Torg is a large space of 160*60 meters. Thus, by focusing on the square, someone could notice that the average dimension doesn’t exceed the 100 meters, which is the point that “we can see movement and body language in broad outline” (Gehl J., 2010). However, the scale of the square in relation to the scale of the adjacent building of Kulturhuset, seems to be disproportionate.

Regarding the general space, the dimension exceeds the limit of the “radius of 100 meters” and that makes the space quite large for the “eye to grasp events” as Gehl J., (2010) have identified.

Visual experience

Sergels Torg is visually (not physically) enclosed by buildings that have been influenced by the principles of modernism. The modernistic structures are occupying entire blocks and the form is following the rules of modernism. The lack of human scale in the buildings and the size of the streets generates a sense of alienation, when somebody is walking in the space. In addition, the grey colors, the repeated rigorous lines of the facades, and the lack of vertical orientation create a sense of monotony to the people using the space. The black and white pattern which covers the floor of the plaza, doesn’t really disturbs that monotony, while the undefined relationship of the square with the covered space (underground space), where the shops are located, generates a feeling of discomfort.
Facilities/Furniture

In the wider area of Sergels Torg, urban furniture can hardly be identified. However, at the northern part of the area there are benches looking at the fountain. In addition, the wide staircases at the west of the square are used as sitting space. As it has been observed the municipality is frequently install benches at the square, aiming to provide more sitting choices.

Regarding the facilities, kiosks and other stands are placed occasionally in the area. During Christmas period, light structures are being modulated at the square for the Christmas market. In addition, when the weather is getting warmer, Kulturhuset is placing coffee tables on the southeastern part of the square.
Overall in a daily basis few activities are taking place in the area, but many people are walking through that space. During winter time, the space is quite exposed to the natural elements and therefore events are rarely taking place there.

Green structures are absent from the space but sporadically tree pots are places on the pavements around the square. The feature of water can be found only in the traffic circulation node, but the traffic on the arterial streets is blocking the people’s interaction with this attractive element.

**Environmental conditions**

The entire area is exposed to natural elements and due to the low scandinavian temperatures and climate conditions, the walking experience can be quite unpleasant during the winter days. The square has no protection from the wind or the rain, but during these days people can stand under the covered space (on the underground level), where the metro ticket hall and some shops are placed. Another issue that can be identified on the space, is the shadow formed by the building of Kulturhuset, and by other buildings surrounding the area. It has been noticed that the height and the orientation of the structures is blocking the sun rays.

![Fig. 28, Shadow formed by a building in the northern part of the square, source: Apostolopoulou I., (2017)](image)

![Fig. 29, Shadow formed by kulturhuset, source: Apostolopoulou I., (2016)](image)

**Urban life**

The square is positioned in proximity with important public spaces such as the Hötorget market, the Drottninggatan commercial street, and the main square of the city, kungsträdgården. Thus, the wider area of Sergels Torg is usually crowded.

Sergels Plaza is a sunken public space where public life and activities are difficult to occur. As Whyte W., (1980) has mentioned "with two or three notable exceptions sunken plazas are
dead places”. As Whyte W.,(1980) has stated, the experience of standing at that space can be quite unpleasant since “once you are there you feel as you were at the bottom of the well”. When somebody is standing at the ‘bottom’ has a limited view to the higher level and immediately feels that can be easily observed by others standing on a level above, as it noticed by Whyte W.,(1980). Thus, a feeling of discomfort is generated when someone is standing at that point, which explains why people are mainly using the edges of the Sergels Plaza or the wide staircases to stand, while waiting for somebody.

Even though it is a popular meeting place, it is not perceived as a destination place. After the shop’s closing time, the square is gradually becoming a vacant space where only some vulnerable users are standing at the space, as it has been identified through observation. The area is mainly crowded during the hours that the shops and offices are open, as the entire area is lacking entertainment or recreational activities.
**Comparison of formal and non-formal conditions**

**Urban morphology comparison**

The comparison of the morphological features that have been already extracted, will unfold the way that the built environment creates common implications on the urban experience in the two cases. The evaluation of the findings from the analysis of the urban form is also used as a method to highlight the differences that affect the human experience.

**Historical evolution of the urban form**

The central grid lines of Stockholm have not changed to any great extent since 1866, based on the following maps. Sveavagen was redesigned though, it was extended to the point that meets Hamngatan. At the new street junction, the buildings were demolished, the blocks were reformed and the Sergels Torg was built.

Similarly, the basic urban grid lines, part of the plan of Athens in 1862, have not changed. However, the urban grid has been expanded enormously. Omonia square was since that time planned to be an important public space of the city, where all the important streets were passing through.

Map 11, Plan of Athens in 1862 by the German officer C. von Stranz.

source: http://www.eie.gr/archeologia/En/chapter_more_10.aspx

The urban grid of the center today
While analyzing the central areas in both cases, differences on the size of the blocks were identified. Thus, few blocks were extracted randomly from both urban grids in the same scale and were placed hierarchically, based on a size order. As it can be identified from the following diagram, the center of Stockholm has large blocks which usually have a rectangle form. In contrast, Athens has much smaller urban blocks, where geometrically irregular forms can be found quite often.
In addition, as it has been revealed, the form of the blocks has completely changed after the urban renewal project, initiated in 1960. The evolution of the blocks in both cases can be identified in the following diagrams. Particularly in the case of Sergels Torg, there are blocks that were not demolished and still contain many buildings. Whereas those that were constructed after 1960 around Sergels Torg, contain usually only one big building structure. In addition, the inner part has many united or separated uncovered spaces while most of the blocks that were built during the renewal project have no inner uncovered spaces.

Omonia's extensive reconstruction process didn't affect in the same way the form of the urban blocks. The urban blocks still consist of many small plots that are related with the small ownerships that characterize the Greek ownership of property. After the 1950, and based on the process of “flats-to-land” as it has been explained in a previous chapter, many old neo-classical buildings were replaced with almost nine floor buildings of offices, commercial stores, or hotels. Today the blocks still consist of many plots that belong to different owners, and as a result the covered space of the buildings, being built even after 1960, doesn’t occupy the entire block. It is worth mentioning though, that the construction of the new structures was associated with a shrinking inner uncovered space, due to illegal extensions of the buildings.
The difference between the size of the blocks and the number of the plots per block in Omonia and Sergels Torg is obvious in the following diagrams. The Athenian square is surrounded by considerably smaller blocks that contain many small plots/ownerships. Whereas, Sergels Torg is enrobed by large blocks with only one building structure inside. Similarly, the uncovered spaces inside the blocks of Omonia are as many as the building units are, while in the case of Stockholm many of the blocks around the square have no inner uncovered spaces. It is worth mentioning though, that these spaces are not used in Athens and therefore social activities take place in the public space and there is no semi private or private courtyards to attract life.
Urban land uses

The intense of activities that are taking place in the public space are to a large extent associated with the type of land uses that surround the space. In a mixed used area is usually expected to find livable streets and public spaces. According to Gehl J., (2013) “most of what we take in visually is at eye level, and in relation with the buildings, it is primarily the ground floor level that catches our eye”. Thus, active, or passive ground floors affect significantly the experience of the pedestrian and have great implications on the intense of activities that are taking place at the edges. As it has been claimed by the sociologist De Jonge (1967) except from forming the physical word, edges also determine the human behaviour providing shelter and comfort.

The land uses on the ground-floor level define in a great extent whether the façade will be
active or passive. Based on Kickert C.C,(2015) categorization, usually offices are found to have passive facades, whereas shops and especially small retailers have transparent façades aiming to attract people and potential consumers.

Taking into consideration that fact, it became essential for the current research to define the uses of the frontages of the blocks opposite to the two public spaces. However, in the current work, the analysis is focusing only on the ground floor level, assuming that the upper floors are mainly hosting office or commercial activities, due to the fact that both cases constitute the cores of the central business and commercial districts.

The following diagrams are highlighting the similarities and the differences as regard the uses of the frontages. Particularly as it can be identified, Omonia area is dominated by commercial and coffee-food activities. Similarly, in Stockholm commercial and coffee-food activities prevail. Offices are also present in both cases and as it has been identified through observation, they have blind or “boring” facades.

It is worth mentioning though, that in both cases, few commercial and food related uses have direct accessibility to the public space. Thus, it would be an omission not to highlight that Sergels torg has fast food shops in the level of the square (under the ground floor level), which attract many users on the edge.
Another element that is apparent in both diagrams is the lack of residential uses in the ground floors and since both are considered as business and commercial districts, it is not expected to find many residential flats on the upper floors.

While looking at the differences, quite many hotels can be distinguished in the case of Omonia, whereas in Sergels torg just one having an active frontage. Regarding the cultural activities, Kulturhuset is a dominant structure related to the public space, whereas in Omonia cultural activities are absent when looking at the frontages opposite. In addition, in the latter case many recently vacant frontages can be identified, whereas in Sergels Torg none.

**Morphology of the Squares**

Based on the analysis conducted for both cases, it has been revealed that the two public spaces are not designed as typical squares, such as Norrmalmstorg does or the square of kotzia in Athens. Both shapes contain curves, design elements which are directly associated with the purpose of facilitating traffic circulation. Thus, it is proved not only by the history, but from its design details as well, that prioritizing the traffic flow over pedestrians, constitutes in both cases a dominate element of their design process.
Regarding the visual experience, as it was pointed out from the analysis, both squares have visual obstacles. When somebody is standing on the square of Omonia, can't really get the entire view, due to the relief of the square and the air ventilators of the metro. Similarly, someone standing on the Sergels Plaza, is not able to see further than the square, due to the difference between the level of the square and the level of the street. In addition, when pedestrians are walking on the sidewalks of the adjacent blocks looking at Sergels Plaza, can hardly notice what is happening in the square, due to the distance and the different level that the square belongs to. Such visual obstacles are important limit the attractiveness of both public spaces.

A great difference between the two cases, is the way that the built environment is formed on the visual experience. Particularly, Omonia has a vertical orientation as regards the modernistic buildings, whereas Sergels Torg is characterized by large modernistic structures that are
usually developed horizontally covering the entire block (with the exception of the towers).

Movement Patterns

It has been already demonstrated by Jan Gehl's urban research, that the built environment influences the urban experience and thus it is expected to affect the movement patterns. As it is shown in the following diagram of Omonia, people are moving around the square and are crossing the square only when they want to move from west to east side or the opposite. Through observation it was also revealed that many people are choosing to cross the square using the underground corridors. Similarly, in Sergels Torg people are mainly moving around the traffic circulation node or are crossing the space through the underground corridors. The physical obstacles of the space, such as the difference between the level of the square and the street in Sergels Torg, prevent people from walking directly in the square when standing at the sidewalks of the adjacent blocks. At the same time, the barriers in the northern part of Greek square prevent people from having a direct access in the square. Such obstacles prevent people from using the public space. In both cases the way that the public space is formed in relation to the streets implies that the principles of planning prioritized vehicular traffic over pedestrians.
Urban life

The two squares are mainly functioning as meeting places and transit nodes. Despite the fact that few people are standing in the space, mainly looking at others passing by, both spaces are not really perceived in the urban context as destination places. An interesting element though is the mix of different social classes, nationalities and ages that cross those two spaces. A multiethnic atmosphere characterizes the squares. Another common element that has been noticed through observation is that few people prefer to stand in the middle of the space, whereas the majority stands at the edges.

However, as it has been noticed Sergels plaza is used more than Omonia. The shops operating at the underground space, along with the fact that the square is positioned on the way of getting out of the metro, transform the space into a bustling passage. In contrast, the pedestrians at Omonia, mainly bunch up on the sidewalks of the blocks opposite to the square.
Facilities/Furniture
The two public spaces are lacking adequate sitting spaces. On the other hand, it is worth mentioning that in both cases the staircases are used as sitting spaces, which demonstrates that people would might use more the spaces, if proper urban furniture were placed in the right spots. In addition, the water feature is absent in the two squares and even if the traffic circulation node of Sergels Torg has a fountain, it is not accessible to the pedestrians. As the analysis revealed, the concrete element prevails in both squares, since there are a few green structures. It is remarkable though, that in both spaces tree pots have been placed occasionally to improve the urban experience.

Furthermore, as it has been noticed, there no facilities for children and as it has been explained in a previous chapter, both spaces are not attractive for those types of users.

Environmental Conditions
Omonia and Sergels Torg are not designed in a way that protect the users from the natural elements. Particularly Sergels Torg is exposed to the wind and the rain. In addition, the buildings surrounding the square create unpleasant shadows in the square, due to their height. It worth highlighting, that the sunny days are highly appreciated in the Scandinavian public space. On the other hand, Omonia is exposed to the warm sun and people are forced to stand in the shadows at the pavements of the blocks opposite to the square.

Fig. 30, “The man and the wind” at Sergels Torg, source: https://edgeofhumanity.com/2015/07/09/sweden

Fig. 31, Old man walking at the square during a warm sunny day, source: https://ardalion.wordpress.com/2010/07/07/omonoia
Conclusion and Proposed Interventions

As it has been identified in the analysis the two urban cores have undergone through a similar development history where the turning point was in both cases the period 1950-1970. During that period, a dramatic transformation took place in the two urban cores and did entirely changed the built environment and the urban experience that the former districts were offering to the users until then.

The principles of Modernism have apparently influenced the urban planning and the development processes in the two centers and as consequence old buildings, as well as public spaces that had been built according to the former architectural and planning principles disappeared from the urban grid. New modernistic structures sprang up and traffic oriented planning policies for the public space were established. A concentration of commercial and office activities took place and gave a monofunctional "Commercial and Business Center" character in the former districts.

Looking at the historical transformation of the buildings in the urban core it has been revealed that in the case of Sergels Torg "no compromise was made with the preexisting city" as James C. Scott (1998) has noticed when criticizing modernism. In the case of Omonia, since the transformation was not part of a public renewal project that was rejecting the previous built environment, the implementation of a modernistic approach was driven by the effort of the developers to generate more profit.

Through the analysis, shared modernistic morphological patterns were unfolded and thus it became apparent that modernism has influenced various components of the urban form. As it has been revealed, modernism influenced the shape of the urban blocks and the form of the plots. The urban blocks in the urban core of the Swedish capital were transformed into bulky and monotonous blocks containing one large unit that has no internal uncovered space. Even though the number of the plots per block was not considerably reduced in the urban core of Athens, the construction of the new units was associated with a shrinkage of the internal uncovered space of the preexisting blocks. That transformation has influenced the activities in the public space since semi-private or semi-public spaces cannot easily be found anymore and pedestrians have two choices, either to enter a commercial store and consume or stroll around in the crowded streets. The absence of internal uncovered space in both cases is also associated with the fact that the modernistic districts are not considered today as attractive spaces for residential uses, a fact that certainly influences the type of activities taking place in the public space.

The monofunctional character constitutes another similarity that was identified through the analysis of the two cases. The downtown in both cases is densely built up with commercial and offices blocks. Residential blocks are almost excluded from the urban core and especially from the area around the squares. That is certainly not an element emerged randomly at the urban core of modern cities. According to Lamarche Fr., (1972) there is a strong economic advantage related to the concentration of offices, financial institutions, and administration services in the same place.
As Lamarche Fr., (1972) has noticed the property capital is mobilizing the spatial arrangement of commercial, financial, and administrative activities in order to increase the profit produced by those activities, facilitate the movement of other capitals (industrial, commercial and financial) and to reduce the cost of capital production. In addition as (Karydis D., 2006) has mentioned, since the property capital facilitates the commercial and financial capital, there is a little interest in building residential blocks in such privilege areas for the increase of the profitability of the property capital.

The concentration of such activities and the elimination of residential buildings have several implications that are mainly affecting the public space and the experience of the urban core at eye level. As Jacobs J., (1961) has noticed one of the conditions that an urban district should meet in order to have vibrant public spaces, is the provision of variety of functions that can bring life throughout the day. Indeed, it was noticed through observation that during office and commercial hours, both areas are crowded, but afterwards the public space and the sidewalks become inhospitable places. It is worth mentioning though, that since Omonia presented a wider variety of functions at the frontages than Sergels torg, attracts users for longer time (than the office hours) at its sidewalks.

As regards, the way that the public space is designed and functioning common patterns were unfolded. Curved elements are present in both cases signifying that the traffic circulation has been a priority in both cases. As it has been also revealed there has been a clear intention in both cases of separating the pedestrian and traffic flow. The obstacles positioned in the northern and southern part of Omonia and the sunken plaza of Sergels Torg demonstrate that the design process was influenced by the modernistic approach of separating the two flows. As it has been revealed by the analysis pedestrians are not able to cross the streets from several points and the underground corridors are preferred as non-disturbed pathways.

Furthermore, by analyzing the space qualities it became clear that green structures and water element are absent from the spaces and concrete element prevails in both cases. Such an observation demonstrates the intention of the city authorities to form Omonia and Sergels Torg as transit nodes and not as places that invite people to stand and develop social activities.

Not only shared morphological patterns were recognized while analyzing the two cases, but also common social characteristics. It was revealed through the current research that similar formal conditions influence in the same way how people perceive the space and how they behave in the space, regardless the diverse economic conditions or cultural contexts. As Gehl J., (1980) has stated the urban form determines in an great extent the social life and the human activities and thus it came as no surprise that the two spaces are used is very similar way. The lack of facilities and the absence of attractive space qualities create in both cases a feeling of discomfort. Even if both places are functioning as popular meeting places, they are perceived as thoroughfares and few users are using the space as destination place.

Apart from the similarities mentioned above, there are some elements in each case that differentiate the experience of the users. Positive design features and planning policies can be
extracted from both cases and implemented accordingly, to improve the public life. Particularly the presence of Kulturhuset at Sergels Torg adds an important cultural character to the space. Kulturhuset is a dominant element directly associated with the square and its history. In the case of Omonia two emblematic neoclassical hotels, “Bageion” and “Great Alexander” used to be cosmopolitan places of the middle class of the city, decades ago. Now they both remain abandoned and efforts have been made to renovate and reopen these historical buildings. Both are part of the cultural heritage of the city and it would make sense to be used as cultural centers (based on the example of Kulturhuset), converting the street in front, to a pedestrian-only use and thus reactivate the square with cultural events and other activities.

Another important feature that attracts people at Sergels Torg is the pedestrian commercial street of Drottninggatan that during the shopping hours is becoming a bustling space. The street is directly accessible from the square and the later functions as an accumulator of the pedestrian flow aiming to walk on that street (due to the metro station). Athens could adopt such a feature and pedestrianize the street of Athinas that leads to the popular market of Varvakios or the street of Stadiou, where there is also an intense of commercial uses along the street axis. Such a planning decision could revitalize the area and connect directly, through a pedestrian network, the case of study with another significant public space. Besides, as Salingaros N.,(2009) have noticed the success of a commercial area is depending on the density of pedestrian connections along the area. Through his diagrams it becomes apparent that case (a) that shows a shopping mall has the fewer connections than the case(b) which represents a commercial area that is separated by a street with traffic. The case (c) provides the most connections as it concerns a pedestrian commercial street like Drottninggatan. Thus, the diagrams of Salingaros N.,(2009) clearly show that transforming a commercial street next to Omonia into pedestrian space, will reboot the commercial activities and spread the positive impacts into the public space.

The analysis of the case of Omonia also highlighted positive elements that could be implemented in Sergels Torg. After researching and illustrating the land uses around the square it became apparent that there is a wider variety of land uses in Omonia than in Sergels Torg (at least when considering the ground floor level). However in both cases a concentration of commercial and office activities is prevailing. As Salingaros N., (2009) has stated a “well functioning square should be surrounded by opposite or complementary nodes of human activity” such as (office-residence, cultural center-office, office-restaurant etc). Therefore planning policies that can increase significantly the variety of functions in the wider area, will enrich the life and the activities taking place on the public space of the two urban cores. As Jacobs J.,(1961) has underlined “city districts must serve more than one function, in order to attract people at different times of the day and night”.

Another element that could be extracted from the built environment of Omonia, as a positive feature that improve the urban experience, is the vertical orientation of the plinth. As Karssenberg H., et all (2016) have noticed “the ground floor determines the 90% of the building’s contribution to the experience of the environment”. As it has been identified from the diagrams, the blocks around the square of Omonia offer a plethora of small retailer’s shops.
and fast food restaurants, located at the ground floors. Those functions have gradually transformed the plinth into an interactive and visually rich place that attract hundreds of users every day. The monotonous facades of shopping malls and offices that surround the Sergels Torg wider area, are offering a flat and impersonal experience to the people using the sidewalks. Consequently, the implementation of a vertical orientation plinth policy, would make a great contribution to the improvement of the urban experience.

Finally, the analysis of the formal and non-formal conditions of the two squares demonstrated that the way they are currently formed and function, next to arterial streets of the city, does not encourage the pedestrians to use the space as a destination place and develop social activities. Nowadays, cities such as Oslo are taking decisive measures to eliminate the use of private cars inside their urban core, aiming to give more space to pedestrians. Such a practice will revitalize the urban cores, reinforce the development of carefully planned pedestrian networks and will provide resilience against to a potential social and economic decline.

It is worth considering that the economic and social decline that the Greek capital is currently suffering from, would be worse if the modernistic principles had affected the way that the entire city was developed. Currently, Sergels Torg seems to be a popular transit space of the city where commercial activities thrive, but it is worth raising the question of how resilient is the urban life and the human activities, being captured today at the sidewalks, to a potential economic or social decline?

The current research unfolded significant shared patterns of the built environment, that produce similar implications on the urban experience. Despite the varying cultural contexts, the built environment affects in a very similar way the behavior of people in the public space and the type of activities that are developed there. Through the analysis it was revealed that the urban life is depending to a great extent on the built environment and the principles of planning that have gradually formed it. The findings of the research, proved that the former obsession of the planners to control the urban life through separating the functions and activities, is still present on the urban cores. Thus, the city authorities, planners and architects need to readdress the “kind of problem the city is” (as Jane Jacobs has successfully addressed in 1961), especially while dealing with the issues of the urban core, and provide human oriented planning and design solutions.
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Figures

• Fig. 1, available at: https://www.pinterest.com/pin/368661919478685724/

• Fig. 2, available at: http://www.athinorama.gr/events/article/thomas_maloutas_i_polukatoikia_tis.antiparoxis_sto_mikroskopio-2504276.html

• Fig. 3, available at: http://www.athinorama.gr/events/article/thomas_maloutas_i_polukatoikia_tis.antiparoxis_sto_mikroskopio-2504276.html

• Fig. 4, Mpiris M. et Kardamitsi M. A., (2001) The Neoclassical Architecture in Greece, Athens, Melissa

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• Fig. 22, available at: https://commons.wikimedia.org/wiki/File:Sergels_torg_1967_Glase.jpg
Maps and Schemas

Illustrations, diagrams and maps not given a source in the captions are by the author and are not included in the following list:

- **Map 1**, available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_%2880%293_statistics_on_household_and_family_structures
- **Map 5**, available at: https://stockholmskallan.stockholm.se/
- **Map 6**, available at: https://stockholmskallan.stockholm.se/
- **Map 7**, available at: https://stockholmskallan.stockholm.se/
- **Map 9**, Background map available at: open street map
- **Map 10**, Background map available at: open street map
- **Map 11**, available at: http://www.eie.gr/archaeologia/En/chapter_more_10.aspx
- **Schema 1**, available at: https://skeletos.gr
- **Schema 3**, available at: http://www.greekarchitects.gr/gr/home