



# Physical Characteristics of Urban Square and Sociability (Vitality) in the Context of Urban Revitalization: A Review of the City Square, Sydney

Yang He<sup>(✉)</sup>

The University of New South Wales, Sydney 1466, Australia  
z5315586@ad.unsw.edu.au

**Abstract.** Urban revitalization is a response to the various expectations and dissatisfaction of people living in cities regarding the buildings they live in, the surrounding environment, or life activities. Public space, as an important component of the urban renewal system module, is an urban space where various activities and events are carried out, which can reflect people's expectations of the city. This study draws on the evolution of city squares in Sydney, Australia, in different urban renewal contexts, aiming to analyze how their design has evolved to accommodate urban life and urban renewal. Methods of data collection and spatial analysis were used to examine the relationship between the physical characteristics of the square and people's activities. The results of the research show that square designs should be human-oriented and meet the changing social, physical, and environmental needs to satisfy people and their future lifestyles.

**Keywords:** Urban revitalization · Urban square · Sociability · Physical characteristics

## 1 Introduction

Revitalization means giving new life and vitality to an area, while urban revitalization means giving new life or strength to a community [1]. When urban regeneration is considered, especially as the success of urban spaces has proven to be a useful tool for revitalizing a neighborhood and a city, the shaping of the urban public space needs to be rethought – not only including the emerging public spaces but also those evolving and typical public spaces such as squares. The square is a physical space where life takes place between buildings. Commonly used squares are places of social interaction and one of the indispensable mechanisms for stimulating interaction between people and the city [2]. Social activities are various activities that depend on the presence of others in public space, including passive contact, the most common social activity, that is, simply seeing and hearing others [3]. Good urban spaces have a point: supply creates demand, that is, good spaces attract or create new constituencies. During the multiple revival waves from the past to the present, the public space square is often sanitized, gentrified,

and strengthened, and the vitality fluctuates accordingly. However, some squares are still activated multiple times in the process as a vibrant gathering space in the city.

The aim of this research is to study the evolution of Sydney square design and how these changes have changed people's use of squares. An exploratory study is conducted using the example of a city square located in the Sydney central business district. Martin Place has gone through three major phases of transformation. The aim of the research was first to understand the urban renewal context of the transformation process and then to unravel the physical character of the square. Second, spatial changes are analyzed for their impact on square activities. Finally, the relationship between the physical character and sociability of urban squares is discussed in order to formulate lessons for square qualities that contribute to the regeneration of urban centers.

## 2 Literature Review

Public space is a place where public life unfolds. It is recognized as the carrier of urban regeneration and an important part of building a competitive and compact city [4]. In public spaces, people can physically become part of a larger community. Connections, exchanges, and interactions between people are facilitated in public spaces. It is here that networks of relationships of different types and forms overlap and meet. The combination of walking, gathering, outdoor dining, etc. are influenced by physical environment factors. The impact of the quality of the built environment is transmitted to people, which in turn affects their personal lifestyles [5]. There is a direct link between street quality and street activity, and simple physical changes can often significantly improve the use of urban space [2]. Social life is used as an indicator to measure urban vitality and measure people's satisfaction with their physical environment [6]. In the context of this study, according to Gehl and Mehta's classification and definition of sociability [3, 6], sociability is defined as the public being drawn to a space that ensures or even encourages their longer stay to socialize.

A city square is an open public space that reflects the identity of the city and the cultural background of the community. Since ancient times, city squares have been the places where people from the community gather and where "urban life" takes place, so city square design should be part of urban design [7]. A good square should be a place that can provide social life for the crowd, and it should change according to the needs of the crowd and the advancement of the times, because urban life is always changing. Just as the public space is the playground of society and the public domain is the playground of society's self-transformation [8].

In the 21st century, under the urban background of the period of rapid economic and technological growth, urban communities re-examine themselves and research and respond to new challenges brought about by new changes [9]. The role of urban squares as social spaces is as important in the past as it is today, and even in future urban renewal. It is important to relate each square to its local context, physics, and society. Based on the existing work in the region, this paper studies how design shifts in urban squares alter their sociability.

### 3 Methodology

This project was part of a literature review of the urban square design in the context of urban renewal. The city square in Sydney is selected for this paper because it has gone through three main design stages under multiple important nodes of urban renewal. The design is dedicated to activating the vitality and affecting the sociability of the square. These methods include literature review, content analysis, collection and reference of secondary data, as well as analysis by researchers using spatial maps [10, 11]. Secondary information on the major urban planning strategies, public space design, and architectural history of Martin Place over various periods was collected. Much of the work was done to integrate various narratives, thereby discovering the changes in dynamism resulting from differences and divergences in the design of the square over time. Spatial analysis was combined on the basis of literature review and secondary data collected, and the analysis plan of past and present was drawn to understand the relationship between the spatial characteristics of the square and people's activities. This includes defining boundaries, surrounding context, connection networks, street frontages, visibility, connectivity, and placement of design components [2, 12, 13].

### 4 Findings

#### 4.1 Context and Location

From the late 18th century to the present, this unique public place has been dedicated to the activation of Sydney, both as a dignified and solemn memorial space and a meeting place in the city's daily life. The square runs through the city center, including 6 main streets of the city from George Street to Macquarie Street. The square has always been the financial center and heart of the city. Its immediate background is the major financial banks and commercial buildings whose architectural styles range from colonial to modern, as well as the magnificent Italian Renaissance Post Office. At various times, the animation of Martin Place has been related to the human occupation and activation of the space itself, as well as the inanimate objects that create communal living environments.

#### 4.2 Spatial and Social Transformations

From the 1860s to the present, the City Council redeveloped the City Square in several stages for urban renewal. The floor plan below illustrates the changes in the shape of the square and surroundings from the early days to 1972 in relation to the surrounding buildings within the community (Fig. 1–4).

#### 4.3 Urban Regeneration and Social Transformations

**Phase I: 1870s-1960s.** In the 1860s, architect James Barnet was invited to rebuild the post office in the heart of Sydney. After reconstruction, the public space in front of the post office was envisioned to become the street of the greatest city of the Commonwealth of Nations in the future. It was also the beginning of a plan to transform Sydney from a

colonial town in the 19th century into a British metropolis comparable to rising regional centers such as Leeds or Birmingham in the context of urban renewal. This is built based on three needs: 1. The lack of public space cannot meet the needs of the crowd. 2. The clutter of downtown slums was cleaned up for public health considerations. 3. The city square supporting the General Post Office adapts to the growth of postal demand. After a series of efforts by the government and designers, the small square in front of the post office was continuously expanded and extended, and the old and messy buildings were demolished. Finally, the square was completely expanded in 1935. At the same time, large commercial and financial institutions continue to fill the area.

**Phase II: 1970s-1990s.** In the 1970s, under the populism of urban revival, the city council orientated citizens prior to cars, converted traffic roads into pedestrian squares and streets, and hoped to use pedestrian zones to spread active areas. Architects Clarke and Gazzard proposed in 1968 that part of Martin Place in front of the post office be included in the City of Sydney's strategic plan as a modest component in a larger model of the city's 'accessibility'. The general idea is an urban core, free from major vehicular roads, with a modern mixed public transport network. The Sydney Urban Strategic Plan is structured around four broad objectives: the first is 'governance', the second is 'accessibility', the third is 'diversity', and the fourth is 'environment'. Ultimately, 'movement' is achieved through the goal of improving urban 'access', and 'activity' is redefined as the desire to increase the diversity of community services [14]. From 1971 to 1979, the square gradually became a pedestrian street, which not only stimulated the vitality of Martin Square itself, but also further activated the core goals of the Sydney Urban Strategic Plan.

**Phase III: 2000s-now.** Around the 1990s, in response to structural changes to the surrounding buildings, the City Council commissioned architect Clarke and construction firm Denton Cork Marshall (DCM) to assess Martin Place. The focus of the square has changed to environmental heritage and townscape, and a master plan for urban design that is completely opposite to the second phase has been formulated. The focus of the design shifts from shaping the public life experience at the street level to the grand sight of the urban landscape. By emphasizing the surrounding grand heritage buildings and erasing the multifunctional installations on the square, the square restores the coherence and grandeur of the past space for the grand sight of the cityscape. Martin Place is biased from a daily gathering center to a commuter and ceremonial memorial space.

#### 4.4 Spatial Characteristics of the First Stage Design

In the first phase of design evolution, Martin Place slowly shifts from a daily social, commercial, and celebratory space to a civic and ceremonial center. It shifts from the former Post Office Square, which was originally used to showcase the grand north facade of the rebuilt General Post Office building, to the ceremonial and commercial central square on the street between Geogre St and Castlereagh St, and finally to the expansion of Martin Place to encompass Geogre St to Macquare St, becoming a pedestrian and vehicle street running through the city center. The city hoped that the square would serve for the rebuilding of the General Post Office at the time, replace the dense and messy small estates in the city center, and speed up the construction of the city center.

In response to this expectation, and also based on government and funding constraints, the space and components of the square (street) are simply divided into one roadway and two pedestrian streets (see Fig. 5 and Fig. 6).

**Space Design (Physical Features) and Sociability.** Following the colonial period from the end of the 19th century to World War I and World War II, Martin place was positioned as an urban arena for public gatherings and official events, as it arose from the General Post Office (GPO), a key place for the dissemination of news that engages the citizens of the entire city. Parades, parliaments, and commemorative activities run through the entire site, but citizens can still gather spontaneously to socialize in daily life. According to the research on the relevant literature of Martin Place [15] and the collection and investigation of the data of the Sydney City Archives, the factors that led to the rich sociability of the square during the 1900s to 1930s are: 1) The square offers a rare opportunity for a open urban space for public use in a busy, dense city center. 2) The edge of the square, the street frontage, including fine-grained ground-floor retail stores, awnings, carved and colonnaded spaces (loggias) of the General Post Office building, and various kiosks along the pedestrian street constitute an active street frontage. This enriches the walking experience for citizens. 3) Components located on the central axis of the square space, under the cruel background of World War I and World War II and the era when only the rich could own clocks, the importance of the World War I monument and the clock column is unquestionable, and can attract crowds to the square. 4) The coherent central axis space enables pedestrians to have a clear sight. 5) In the busy city center, the buildings on the edge of the square, such as the General Post Office, several large financial institutions, enterprises, hotels, and restaurants, are all powerful social nodes. For example, as a key place for news dissemination, the colonnaded space (loggia) in front of the General Post Office has become a social center and rest space for citizens. These nodes draw people into the building and generate sociability.

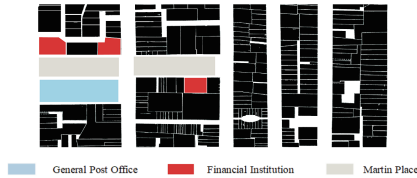
The early designs of the city square corresponded to people's needs, yet these physical features also revealed the shortcomings of Martin Place itself. In daily life, sociability mostly occurs at the edge of the square, relying on the ground floor of the building facing the street. The closed financial buildings that are constantly filling and changing around the square are not like the colonnade space of the General Post Office, which provides opportunities for contact with passers-by. More representative of the unique financial power and motor vehicle-oriented design closed coarse-grained buildings keep occupying the space of fine-grained buildings, that is, the "Manhattanized" streetscape appears in Martin Place. The active motorized streetscape brought about by functionalist planning leads to poor pedestrian facilities on the square and conflicts between pedestrians and vehicles. Citizens' spontaneous daily entertainment activities in Martin Square have gradually disappeared, which further reveals that with the renewal of the city, the concentration of urban financial services and a large number of office populations have enriched the surrounding area, rather than Martin Square itself [15].

#### 4.5 Spatial Characteristics of the Second Stage Design

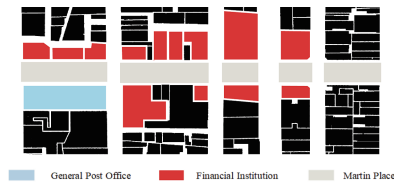
The second phase of the square's design evolution is a fully pedestrian-based public space focused on activating vitality. Martin Place is more of a central meeting place for everyday life in the city. The City Square is designed as a fully pedestrianized,



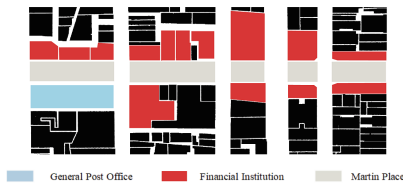
**Fig. 1.** Plan of Sydney 1880: scarcity of public activity and public space in Sydney center (Source: Dove 1880).



**Fig. 2.** Plan of Sydney 1910: A square was constructed and expanded in stages with the demolition of buildings (Source: Roberts & Moffat 1910).



**Fig. 3.** Plans of Sydney 1938–1950: more large financial offices surround the square (Source: City of Sydney 1938–1950)



**Fig. 4.** Plans of Sydney 1949–1972: Pedestrianization of the square began in 1971 (Source: City of Sydney 1949–1972).

multi-purpose city street. According to the Sydney Urban Strategic Plan, the city hopes that the Pedestrian Plaza will enrich the city's street life as a modest component of the larger model of urban "accessibility" in the Urban Strategic Plan. In response to this expectation, the design of the square, pioneered by Clarke and Gazzard, presents a cascading sequence of urban environments, with pedestrian activity in every space. Green elements (canopy) and various framing elements further fill the scene, all of which make more frequent social activities more likely see (Fig. 7 and Fig. 8).

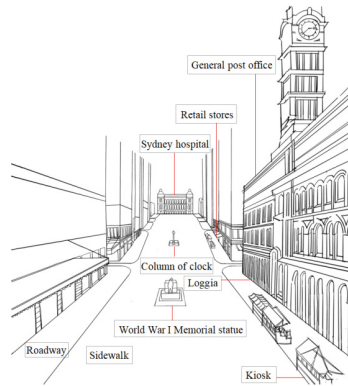


Fig. 5. Spaces and components of the first design stage.

**Space Design (Physical Features) and Sociability.** Due to its own privileged location and strong surrounding social locations, coupled with the multifunctional pedestrianized square, this made the square an active daily central gathering center at the time, where people spontaneously gathered to generate socialization. Based on the study of literature related to Martin Place [15, 16] and the collection and investigation of data from the City of Sydney Archives, the factors that led to the reactivation of the square to provide socialization were: 1) The formerly active motorized square was completely transformed into a pedestrian square serving pedestrians. 2) The marginal composition of the square, i.e. the diverse custom street furniture, the kiosks, the period building façade, and the street-level stores, cafes, restaurants, bars, etc. opened by the General Post Office building, constitute an active street-level space that further expands the possibilities for the human generation of sociality at the threshold of the building. 3) The construction of the new street-level buildings leans in the direction of humanizing the city, giving the urban space a diversity of targeting people. For example, the link between the MLC building and Martin Place is partially transformed into a vertical sequence of food courts and upper and lower squares, where the public is introduced to the site for shopping and dining. 4) The spatial composition of the square was filled with green and architectural elements that provide for multifunctional pedestrian use. The entire scene is filled with dense green elements (tree canopy) that provided shade and soften the entire square. Different functional architectural elements are distributed in different sections of the square, including custom street furniture such as semi-circular movable seats, temporary kiosks, circular lower theaters, multiple fountains, and large sculptures, which together divide and compose the space. The varied colonial to modern architectural styles surrounding the square provided a wonderful pedestrian experience. All of these elements encourage people to stop, rest, and move. 5) The pedestrianized square is integrated into the “Wynyard Pedestrian Network”, an integrated vertical and horizontal pedestrian system that pedestrians can experience across the city. The combination of multi-level pathways above and below ground and multi-functional pedestrian “squares” not only eliminates conflicts between pedestrians and automobiles, but also provides pedestrian visual drama and spatial diversity in the urban walking experience.

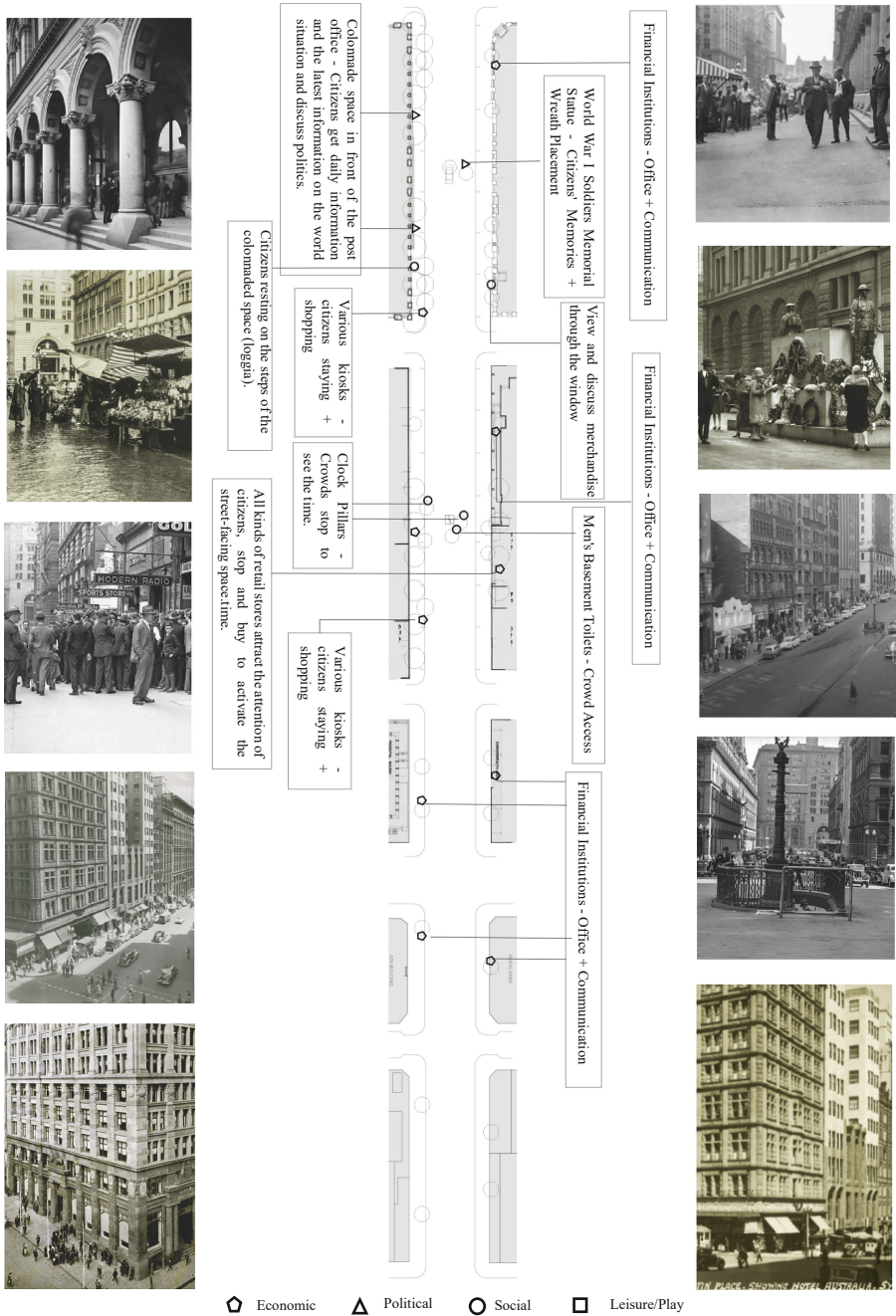
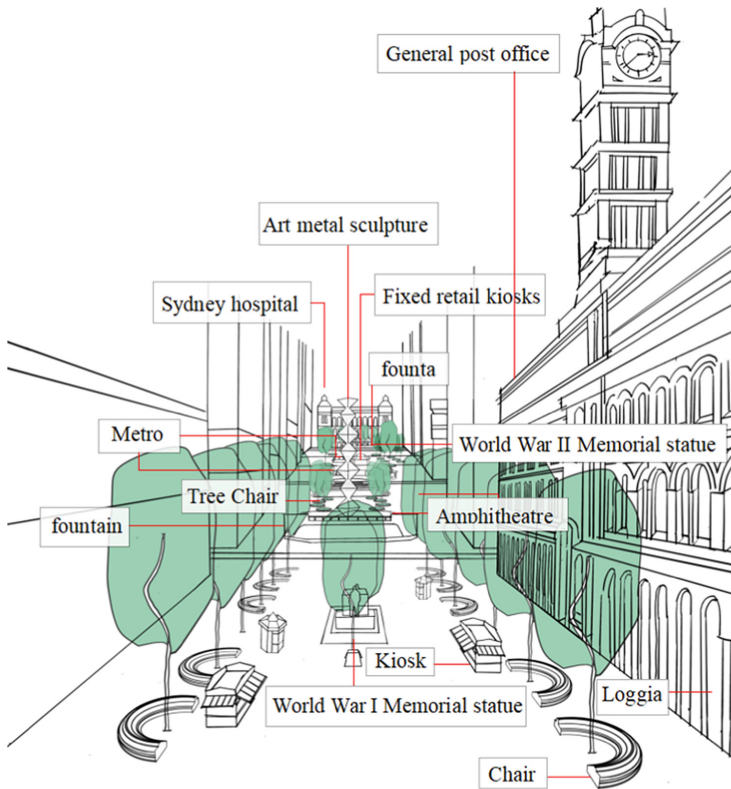


Fig. 6. The plan and photographs showing a sampling of activities on Martin Place that serves the many roles of public space (Photograph credit: City of Sydney 1900s-1930s).

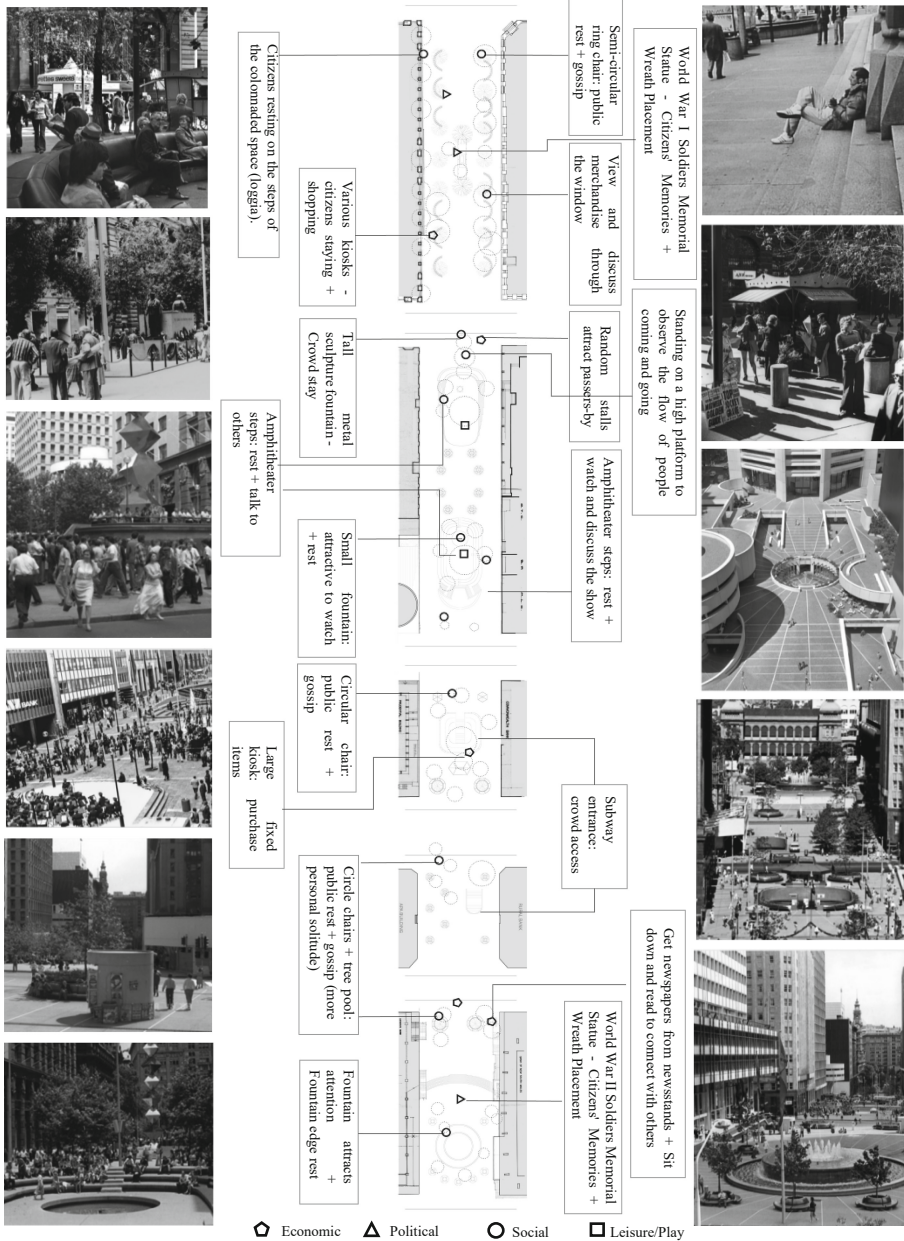




**Fig. 7.** Spaces and components of the second design stage.

This means that their proximity will provide more opportunities for social interaction and exchange. 6) The surrounding financial offices and additional subway stations are strong social nodes. The multi-functional square can accommodate office workers from surrounding institutions and pedestrians coming to the square to dine and interact with others.

The functional design of the city square was entirely human-oriented, responding to the diverse needs of people and echoing the core principles of Sydney's urban strategic plan to create an interconnected urban realm. On a day-to-day basis, people pass through Martin Place, were drawn to the various elements, linger and thus interact with others. Yet these physical features also reveal that Martin Place's own design neglected its own unique character and heritage. From the early evolution of the design, the square had been referred to as Sydney's civic and ceremonial center. The space was packed with elements that provide the conditions for people to gather and happen, but the square was like a cluttered marketplace, obscuring its source, a dignified space of remembrance. Because of its unique past and the imposing architecture that surrounds it, the vitality of Martin Square must be established in other ways [15].



**Fig. 8.** The plan and photographs showing a sampling of activities on Martin Place that serves the many roles of public space (Photograph credit: City of Sydney 1970s- 1990s).

#### 4.6 Spatial Characteristics of the Third Stage Design

The third phase of the design evolution for Martin Place shifted the focus from shaping the experience of public life at the street level to the perception of the city through key views and vistas, and controlling the configuration of the buildings around the square to protect views of the landscape. The city wanted to restore a sense of grandeur and coherence to the square space, protect views of the cityscape and preserve the spatial character of each section of the square. In addition to this, the square inherently has a dual role in the city, both as a “daily traffic” and as a “special ritual and commemorative need of the city”. In response to this expectation, the design was developed by architects Johannsen + Associates and landscape architecture firm Spackman Mossop. The arrangement of the entire street space is divided into a multifunctional space in the middle and commuter spaces on both sides near the building (see Fig. 9 and Fig. 10).

**Space design (physical features) and sociability.** Due to its own privileged location and strong surrounding social locations, combined with the multifunctional pedestrianized square, this made the square an active daily central gathering center at the time, where people spontaneously gathered to generate social interaction. Based on research and surveys and site investigations of O’Callaghan, Hogben and Freestone, Gusheh [15, 16], and the City of Sydney Archives the factors that led to the square providing sociability were: 1) The edge of the square, i.e. the fine-grained façade of the ground floor of the

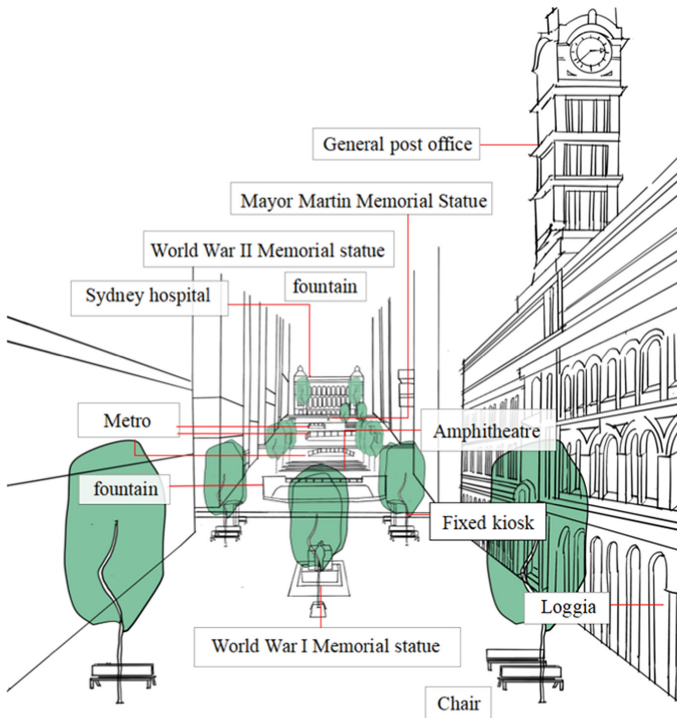
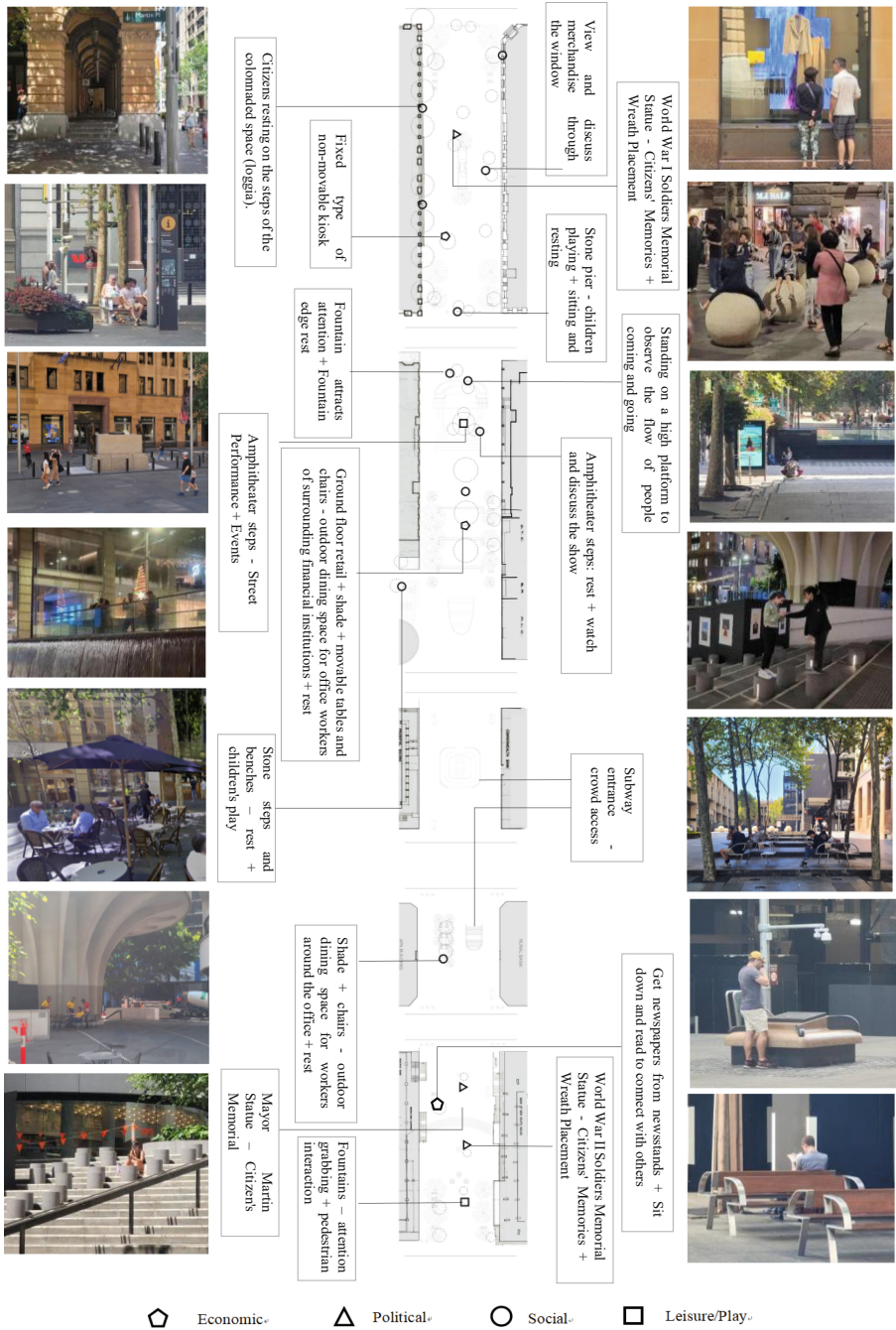


Fig. 9. Spaces and components of the third design stage.



**Fig. 10.** The plan and photographs showing a sampling of activities on Martin Place that serves the many roles of public space (City of Sydney 2000s-now) (Photograph credit: original).

street-facing buildings, such as the stores, cafes, restaurants, and bars on the ground floor of the General Post Office building, the space of the corridor columns (lanai) and the retail restaurants under the tall office buildings constitute active street-facing spaces that attract the attention of pedestrians to stay, rest and provide services. 2) Opportunities for spontaneous activity by pedestrians and surrounding office workers are provided by the spatial mix of the square. With active street-level stores, two rows of shade trees, movable tables and chairs, and a flat terrace on the square's central axis, people gather spontaneously in this space to rest, eat, or interact. 3) The construction of the new street-level buildings further leans in the direction of humanizing the city and giving more diversity to the urban space. Examples include the mushroom-shaped buildings and stone benches at the link between the MLC building and Martin Place. The ground floor of the mushroom-shaped building not only provides shade and stone benches, but also has animated projections on the skin of the building to attract people. The stepping stone bench provides secondary seating. 4) The space of the square has been significantly simplified, with the rich architectural elements of the past, including custom furniture, mobile kiosks, and lights, reduced to a single fixed form and arranged in a sequence to delineate the activity and commuter spaces. Green elements were also simplified, with the dense shade trees reduced to a major array of trees. In addition, large amphitheaters, fountains, and sculptures have been reduced and replaced with smaller installations. All of these elements allow for greater visibility, smooth sight lines from one end of the square to the other, and less interference between the event spaces and the commuters.

The design of the city square has been extremely simplified, preserving well the coherent view from the urban landscape perspective and leaving a large space for the rituals and activities of the Tertiary period. However, as Ken Maher in 2015 assessed, the increasing role of Martinplatz as a focal point of urban public life has diminished the quality of its public realm interventions [15]. On a daily basis, public spaces are more heavily weighted as commuting spaces than as social spaces. Crowds rarely stay spontaneously in spaces where social activities occur, even with magnificent cityscape sightlines. In fact, human sensory vision is essentially horizontally oriented forward, and one's street walking experience can only encompass up to the ground floor of the building, the sidewalk, and what happens in the street space itself [3]. Martin Place as a tired space needs to be revitalized and further energize the city center [17, 18].

## 5 Discussion and Analysis

### 5.1 Phase I

Public spaces should be designed in such a way as to create physical environments that meet the needs of diverse users and promote a vibrant public life [19]. As one of Sydney's earliest urban open spaces, City Square was born out of the intersection of political and social demands based on a public space strategy driven by architect Barnet.

In the first phase, the city council wanted the square to replace the dense and dirty small properties in the city center at the time, further accelerating the construction of the city center. The space was designed to simply divide into vehicular and pedestrian lanes. Initially, the surrounding dense built environment, the flat square, and the key site for news dissemination (the Post Office with its loggia) provided a strong attraction and

people gathered spontaneously for social activities. Subsequently, the physical character of the square evolved in response to the needs of the community, with a World War I monument, clock columns, a post office, spatial extensions, and an accompanying fine-grained ground floor of retail stores, entertainment venues and financial institutions. The square, or the life between the buildings, is enriched with commemorative, parade, commercial, entertainment, and daily gathering activities.

However, the City Council did not see in the self-reinforcement of urban square life the social vitality point of the square itself and the close connection to urban renewal. The City Council then positioned the square's office and financial character as a strategy to replace retail and entertainment life. The coarse-grained financial institution buildings with no interaction with the edge of the square gradually replaced the human-oriented, fine-grained retail stores on the ground floor with frequent interaction with the square. The slow speed, small size, and detailed street experience that pedestrians need are ignored and abandoned, ultimately leading to the disappearance of the square, or the life between buildings.

## 5.2 Phase II

The Town Square later evolved into a central space for social and vibrant daily gatherings. In the new square design, the urban revivalist representation of power institutions needed to ensure that citizens came before cars. The square was designed as an active pedestrian-only zone, responding to the conditions required for the generation of various activities through a multifunctional design that activates the urban square itself as a space. The role of the square's surroundings is enhanced in supporting the life of the square, with a stronger financial center and subway stations. Each of the square's five segmented spaces has a corresponding theme and function; rest, outdoor dining, stage performances, etc. Green shade elements and gray architectural elements are paired with each other to fill the site and promote people to stay and generate activity. The new vertical and horizontal pedestrian system is integrated with the surface of the square, and the combination of multi-level passages above and below the ground and multi-functional pedestrian "squares" solves the conflict between pedestrian and vehicular traffic, and significantly enhances the pedestrian experience. The spaces and installations of the square correspond to the surrounding environment, responding to the needs of the surrounding financial offices and commuters for rest and outdoor dining.

## 5.3 Phase III

The town square remains a socially appropriate everyday space, but the level of activity has been reduced. The design of the city square was simplified in order to preserve a coherent view from an urban landscape perspective, as well as for the rituals, events and daily commutes of the Special Period. A superior sightline environment helps people discover activities and thus gather. Sightlines are important, and if people cannot see a space, they will not use it [2]. However, the minimalist design, which focuses too much on sight lines and pedestrian commuting, has made the mixed-use square less responsive to people's needs and less walkable, with fewer spaces for resting, outdoor dining, and people having to rest on secondary seating, such as steps or stone piers. In the process,

new social activity points emerged spontaneously, with flat spaces, new ground-floor retail restaurants on the street level of the financial buildings and shade trees on both sides forming active outdoor dining spaces.

The privileged location, Sydney's financial center, and the richness of the surrounding built environment brought a constant flow of people and events to the square, and this trend has increased over time. However, throughout the physical and social evolutionary phase of the square, there is still a gradual waxing and even waning of life between squares or buildings. Based on this long period of evolution, it can be understood that the dynamic of square life depends on the people who gather and stay in space. As Jan Gehl writes, the number of people or events by itself does not really reflect the level of activity in an area, more people using the public space and encouraging longer personal stays does [3]. Secondly, it is clear in the third phase that the city council has realized the potential of the square in its own right and its close connection to urban renewal. The design of the square is pedestrian-oriented and treats the urban square as an important component of a huge model of urban renewal. The pedestrian square, integrated into the city's comprehensive pedestrian system, provides a superior pedestrian experience and resolves the conflict between motor vehicles and people. The multifunctional squares respond to a variety of people's activity needs, making it possible for more people to use and individuals to stay longer in public spaces. The new commercial buildings in the second phase are consciously constructing the excessive space between the buildings and the square, making the square and the street-level buildings interpenetrate each other. It is also noteworthy that the fine-grained retail stores on the ground floor of the buildings that disappeared in the first phase begin to appear in the third phase and constitute active living spaces with terraces and shade trees. All of these physical features interact with each other to enhance the social nature of the square.

## 6 Conclusion

This study demonstrates the use of spatial analysis and incorporates research data from various time periods. Floor plans drawn from literature reviews and secondary data are used as a way to examine how the physical and spatial qualities of a square have an impact on its function as a public space. The findings and analysis indicate that the physical characteristics of the square, encompassing layout, space, and components, do have a significant impact on the sociality of the square. The placement of elements, functionalization of spaces, pedestrian-specific optimization of the pedestrian system, granularity of the street facade, and the provision of green space and connectivity under a human design basis are key criteria contributing to the sociality of the square. City squares are just one example of the many squares that have undergone physical changes that have either diminished or increased their activity as social nodes. The finding of reviewing city squares and mapping their spatial characteristics can provide methods and criteria for assessing and studying other squares. This means that a public space like a square needs to be understood in stages, in an urban context, and from multiple scales and perspectives. For example, the generation of its spatial and physical characteristics and the connections between them under urban planning strategies. Future research on city squares and other urban squares could investigate the history of past Phase I and

Phase II squares in greater depth combined with the people using them at the time and planning strategies, and Phase III urban squares depicting user activity patterns, and user narratives, which may further reveal the connection between urban squares and urban renewal. This study finds that spatial diagrams are critical to understanding the spatiality of square design. This exploratory study concludes that the design of urban open spaces may require human-driven scales and needs, combined with non-stop evolving designs under the larger module of urban regeneration to activate public space vitality.

## References

1. Holland, S.: Weaving policy, people & place together, revitalizing broadway east what does “revitalizing” mean? (2014). Accessed 20 April 2020 from <https://mpnh.org/Assets/Document/Wpppt/Revitalization%E2%80%9393%20Working%DEFinition1.pdf>
2. Whyte, W. H.: *Social Life of small urban space*. 8th edition. New York: Project for Public Spaces (1980).
3. Gehl, J.: *Life Between Buildings Using Public Space*. Washington DC: Island Press (2011).
4. Madanipour, A.: Urban Design and Public Space. *International Encyclopedia of the Social & Behavioral Sciences*, 789–794 (2015). Accessed 5 December 2022 from [https://www.researchgate.net/publication/304183306\\_Urban\\_Design\\_and\\_Public\\_Space](https://www.researchgate.net/publication/304183306_Urban_Design_and_Public_Space).
5. Askarizad, R., Safari, H.: The influence of social interactions on the behavioral patterns of the people in urban spaces (case study: The pedestrian zone of Rasht Municipality Square, Iran). *Cities* (2020). Accessed 6 January 2023 from <https://doi.org/10.1016/j.cities.2020.102687>.
6. Mehta, V.: Streets and social life in cities: a taxonomy of sociability. *URBAN DESIGN International*, 16–37 (2019). Accessed 5 January 2023 from <https://link.springer.com/article/https://doi.org/10.1057/s41289-018-0069-9>.
7. Memluk, Z. M.: Designing Urban Squares. in Ö Murat (ed.), *Advances in Landscape Architecture* (2013). Accessed 11 November 2022 from <https://www.intechopen.com/chapters/45404>.
8. Bunschoten, R.: *Public spaces*. London: Black Dog publication (2002).
9. Zhu, R., Pinheiro, F. V.: Improvement and revitalization of public spaces in the historical centre of Macao towards the creation of a new sustainable urban environment. *IEEE* (2010). Accessed 21 November 2022 from [https://ieeexplore.ieee.org/abstract/document/5661415?casa\\_token=oKmQTBfZ1KQAAAAA:tUGKRt-OvxHCMRgGW91JvEeM9N\\_70zqYU9H-ZR5ToL5aF9Nk8XffdcK7lnk298wsgJTK8g](https://ieeexplore.ieee.org/abstract/document/5661415?casa_token=oKmQTBfZ1KQAAAAA:tUGKRt-OvxHCMRgGW91JvEeM9N_70zqYU9H-ZR5ToL5aF9Nk8XffdcK7lnk298wsgJTK8g).
10. Denscombe, M.: *The good research guide: for small-scale social research projects*. Maidenhead: McGraw-Hill (2007).
11. Zeisel, J.: *Inquiry by design: tools for environment behavior research*. New York: Cambridge University Press (1984).
12. De Arruda Campos, M. B. M.: *Urban public spaces: A study of the relation between spatial configuration and use patterns*. PhD, University College London, London (2000).
13. Zucker, P.: The square in space and time. In D. Watson, A. J. Plattus & R. G. Shibley (eds), *Time-Saver Standards for Urban Design*. New York: McGraw-Hill (2003).
14. Sydney: Council of the City of Sydney 1971. *City of Sydney Strategic Plan 1971*.
15. O’Callaghan, J., Hogben, P., Freestone, R.: *Sydney’s Martin Place: A cultural and design history*. Sydney: Allen & Unwin (2016).
16. Gusheh, M.: Martin Place Pedestrian Precinct: Life Between Institutions. *Proceedings of the Society of Architectural Historians Australia and New Zealand* 32, Architecture, Institutions and Change (2015). Accessed 11 October 2022 from [http://sahanz2015.be.unsw.edu.au/papers/Gusheh\\_Martin-Place-Pedestrian-Precinct.pdf](http://sahanz2015.be.unsw.edu.au/papers/Gusheh_Martin-Place-Pedestrian-Precinct.pdf).



17. Gehl Architects 2007, Sydney-Public Space Public Life, City Of Sydney.
18. McNeill, D.: Fine Grain, Global City: Jan Gehl, Public Space and Commercial Culture in Central Sydney. *Urban Design* 16(2), (2011). Accessed 1 December 2022 from <http://dx.doi.org/https://doi.org/10.1080/13574809.2011.548977>.
19. Song, Y., Dang, A., Li, J.: Defining the ideal public space: A perspective from the publicness. *Journal of Urban Management*, 479–487 (2022). Accessed 5 December 2022 from <https://doi.org/10.1016/j.jum.2022.08.005>.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

