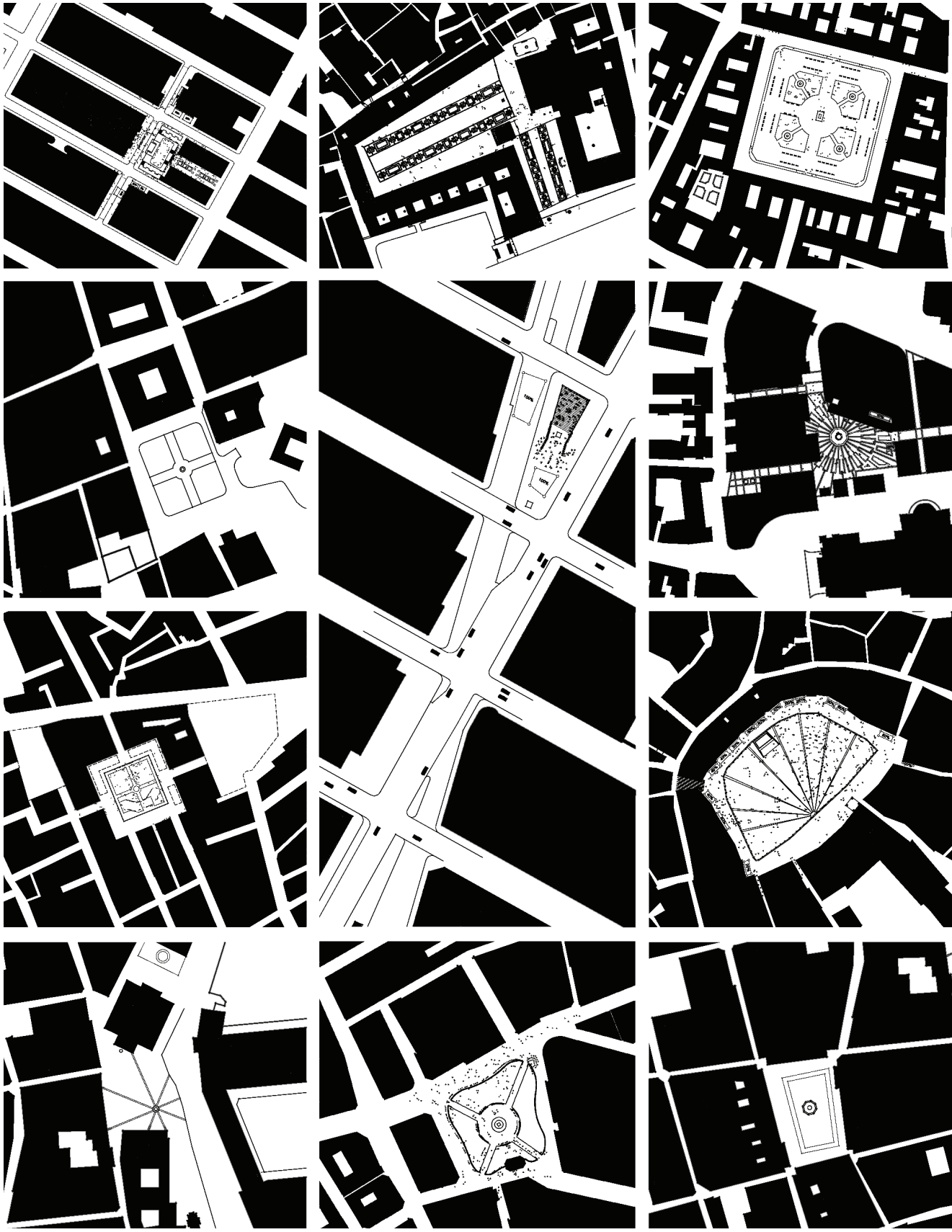# Embracing the **square:**

an international study into the effects
of the European 'square' typology on
its surrounding neighbourhood, and
the relevance for Sydney.

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Duncan Corrigall was awarded the Byera Hadley Travelling Scholarship in 2011.
Cover image (from top left): Rockefeller Plaza, Piazza San Marco, Place des Vosges, Plaza de Armas, Times Square, Paternoster Square, Soho Square, Piazza del Campo, Plaza San Francisco, Leicester Square, Plaza Vieja. Illustration by Duncan Corrigall.

Investigating the effects of the European 'square' typology on pedestrian behaviour and commercial activity in Havana, London, New York, Paris, Siena and Venice.

This research advocates for the European 'square' typology to be implemented within central Sydney on the basis that the civic, social and commercial value of a square exceeds that of the built-upon area it replaces.

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Introduction

An investigation of precedents in Havana, London, New York, Paris, Siena, and Venice uncovered particular typological attributes that influence pedestrian behaviour and the activity levels of nearby shopfronts. The extent of active façades in a radius around each square are recorded alongside the number of seated and walking pedestrians to visualise the pedestrian densities within the squares and the activity levels in the areas around them. These mapping exercises are then compared with the particular typological arrangements of each square — the degree of enclosure, slope of the ground, any accentuating buildings, the arrangement of surrounding streets, and the nature of the join between street and square – as well as their different histories of development and their on-going management policies.

From this, the project identifies a series of repeatable attributes of public spaces that have wide-ranging influences on their surrounding neighbourhoods. Squares should be implemented in a series of incremental improvements, rather than a single period of intensive development. Once built, they need to be purposefully managed to encourage a sense of public ownership. A pronounced ground slope encourages cross-circulation through the open area to every section of the periphery.

The street pattern is equally influential, funnelling pedestrian movement in particular patterns that support active shopfronts. Offset or hidden street entries terminate shopfronts at the periphery, while an open-air street that visibly continues past the limits of the square pulls pedestrians through to the neighbourhood. Pedestrian routes into the square can be controlled: if the entrance to the square is narrow relative to the street width then people remain on the street, whereas a wide square entrance pulls patrons immediately into the square at the expense of perpendicular streets enroute. A particular street type — the direct parallel — is found to have the highest level of active street-fronts of all street types associated with a square.

These principles have direct relevance to Sydney. The City of Sydney Council plan to demolish the block in front of the Town Hall has the potential to create a similarly exemplary public space if done properly. The final chapter of this report (Conclusions: Local Application) examines how the principles uncovered can be applied to this local context, arguing that mere demolition will not be enough. A series of incremental changes are identified that could establish a successful new square as well as improve the fundamentally flawed Sydney Square alongside it.

Background
Introduction

'Outside the Square' advocates the widespread implementation of the European Square typology in Sydney. Certain typological attributes that affect the level of activity in surrounding streets and neighbourhoods are extrapolated from a handful of international precedents. The square is shown to provide amenity well outside of its periphery, encouraging high pedestrian visitation and active shopfronts through to the area around it. The degree of enclosure, slope of the ground, and the inclusion of an accentuating building is found to modify pedestrian behaviour and influence shopfront activity levels. The vibrancy of the greater neighbourhood is also heavily influenced by the street pattern: how streets enter and continue through the space; how separated parallel streets link to the space; and the hierarchy of vehicle and pedestrian implied in each street arrangement.

The project is consciously oriented towards Sydney's future development, providing a series of repeatable principles directly relevant to a city without a defining public square. This fits within a continued interest shown by the City of Sydney Council, which has identified three locations for the establishment or enlargement of urban squares in the Central Business District.[1] The Council's most ambitious proposal is the demolition of half city block in front of Sydney Town Hall coupled with the pedestrianisation of the main street.

Sydney has only a handful of central city squares, but none that provide the same quality of public amenity as the exemplar contained in this report. The city's namesake, Sydney Square, is a dead space despite between situated between the two landmark buildings of St. Andrew's Cathedral and Sydney Town Hall. It has only one remotely active side, it fades away towards George St and it is poorly connected to the other streets around it.

Martin Place is a long narrow pedestrian mall, surrounded mainly by financial institutions in heritage-listed buildings. While it is a very successful events plaza, day-to-day it offers little to the surrounding area beyond a thoroughfare. Relatively few shops or cafés open onto it, and the plaza lacks both formal and informal sitting areas. Most of the streets feeding *onto* it really only lead *through* it and lack active street fronts as a result.

Taylor Square, Richard Johnson Square and Railway Square are varyingly successful, but they are really expansions to thoroughfares rather than true public squares.

"The square … thrives on the rich tapestry of civic chaos. It may be a retreat from the street, but only a short one, for safety's sake. The city is never more than a holler away. The square is its heart and the beat should be felt."
-John French[2]

A good square offers a place to meet, sit, shop, be involved or rest; it provides all the desirable pedestrian amenities of a dense urban environment in a contained area. It shares some of these qualities with parks and laneways – two forms of public accessible space more regularly discussed in Sydney – but is unique in its combination of them. Parks offer a welcome escape from an urban environment, but they are insular by nature and do not necessarily integrate with the city. The proposed headland park in Barangaroo is a timely example; a very large park in a scenic location, but one that is disconnected from the city grid; it will

History of the Typology

be near the city centre rather than part of it. Conversely, laneways are by definition part of the city street network, supporting cross-circulation and pedestrian access, but they offer little space for congregation. The square does both – providing an attractive social location while interacting with the city network, linking neighbourhoods and encouraging cross-circulation through them.

This study will show that, by integrating with the streets around it, the active pedestrian environment within a square continues outside its periphery to invigorate surrounding streets and shops throughout whole neighbourhoods.

Despite being geographically widespread, squares share a common European ancestry and parallel periods of advancement. European colonial powers exported the typology throughout most of the world in tandem with their own development, so the history of the typology within Europe establishes that in the colonies. While other books are quoted below, this chapter draws most heavily from Paul Zucker's treatise *Town & Square*.

The Greek agora was the first urban open space typology that was not merely a convenient gap in the built fabric. There are earlier precedents of open gathering areas in India, Mesopotamia and Egypt, but for Zucker they were either too undefined or too private to be described as a 'square'.[3] The word agora means 'gather' or 'collect', as they were the open areas designated for democratic political gatherings. The open areas were progressively formalised as Greek government advanced, moving administrative and judicial functions into purpose-built buildings around the periphery, building arcades to complete the enclosure, and paving the ground surface. After the democratic assemblies were moved indoors the open areas were given over to a variety of social and commercial functions. William H. Whyte believes the agora at their peak were an excellent precedent for contemporary city centres: they were "part of the street network of the city; … not enclosed or segregated from the rest of the city but vitally linked with it";[4] and they were a gathering place where people visited for one function but stayed for another, allowing society to develop as a cohesive unit.

Roman cities inherited the typology but used it principally as a place for administration. Roman towns would build several fora to serve the various civic and commercial functions as needed. The forum is an important precedent because it represents the first example of the 'void' conceptualised as a space in its own right - something that could and should be designed. Zucker notes that this was the "decisive new element which the Romans –and they alone – contributed to the development of architecture and city planning: the feeling for the shape of the void space, for its artistic meaning, and for its modification by specific proportions and by a superhuman scale."[5] However, with the decline and fall of the Roman Empire the typology was temporarily lost even though other aspects of Roman planning retained their influence. Fora were filled with clutter until completely built over, and the peripheral arcades cannibalised for their building materials.

The typology was ignored by most cities in the early Middle Ages, which were characterised by a general lack of interest in any kind of public space. It was not valued and so rarely provided. Where squares did emerge they were primarily the broadening of a point on a trade route to create a marketplace, or as the open area around a church, town gate or town centre.

This was more prevalent in cities built on Roman foundations. They tended to follow the same rectangular street grid, easily facilitating the insertion of open areas. Medieval cities established on greenfield sites were instead typified by narrow, winding streets often without a clear ordering mechanism. When no allowance for public space had been incorporated in the 'organic' street pattern, it became

particularly difficult to establish a usable open space later. Effective public spaces could be incorporated into irregular street patterns – Piazza del Campo being the most notable example – but these were usually created as the city grew rather than through later demolition.

During the Renaissance, the Roman concept of sculpting the void was rediscovered and squares progressed from the exception to the rule. They became popular within European planning just as several nations embarked on huge colonial enterprises that covered the Americas, Africa, parts of Asia and the Middle East. While Zucker attributes the few exemplar of the Middle Ages to an unconscious body of knowledge inherited from Roman planners, throughout the Renaissance planners consciously derived typological principles from observations of Roman ruins. Spatial unity, connecting arcades and accentuating monuments characterised the squares of the period.

Renaissance squares evolved into the parallel styles of Baroque and Classicism in the 17th and 18th centuries. The former was characterised by visual arrests meant to add excitement and surprise to a composition without losing spatial unity. It was associated with the papacy in Italy, which sought to create emotionally charged environments to inspire faith. Classicist squares sought a more rational, logical order, promoted as a built reflection of an authoritative state.

Classicism was particularly influential in the squares of England, which had been unique in Europe in being only peripherally influenced by the Renaissance. Zucker believes England remained mired in the medieval emphasis on privacy,

creating squares that were "as 'private' as anything outside the home could be."[6] Built from the 17th to the 20th century, English planners and private developers installed residential squares only to increase the property and tenancy values of surrounding buildings, rather than to improve larger neighbourhoods. They were not designed in groups or sequences even when close together, with nearby squares closed off from one another instead of linking together to form a district. There are many neighbourhoods with large numbers of residential squares in close proximity, which in another society would have resulted in a powerful public domain.

The different roles perceived for the square by England compared to the other European nations explains why Australia features so few examples of the type. The typical English residential square had no relevance to remote convict-colonies and so the typology was not exported. The proliferation of squares throughout most other former British colonies is likely the result of the influence of other nearby powers, as the British Empire grew alongside and in conflict with several other European nations. The United States, for instance, encompasses territories once controlled by Britain, France, Spain, Russia and the Netherlands. Consequently, American cities feature some of finest examples of the typology, and certainly the most numerous outside of Western Europe. However, Britain was the sole colonial power in Australia, and its influence was absolute.

Furthermore, the urban growth of Australia sped up just as the driving forces of Baroque and Classicism were beginning to lose momentum. Adelaide, for example, was designed around a cluster of central squares but in a period where the artistic impulses of the previous half-millennium had been overtaken by primarily practical considerations. Driven by an evolving understanding of the connections between health and hygiene, planners again lost interest in the sculpted void.

The foregrounding of the practical functions became an identifiable movement by the twentieth century, Functionalism, in which the typology came to be considered redundant. Modernist visions of residential towers dispersed over vast landscaped fields were to allow inhabitants their pick of open space, and so there would be no need for the contained void of a square.

"Squares were literally declared unwanted. Instead, they were replaced by roads, paths and endless grass lawns. … No one could visualise how it would be to live in the new cities when the architects' aesthetics and the functionalistic ideas of healthy buildings became realities." - Jan Gehl [7]

Jan Gehl identifies this period as the first real break in the historical development of city squares, even more so than in the cities of the Middle Ages. Modernist planning devolved public amenity into "the neglected, the destroyed and the missing"[8] through a policy of urban dispersion, even while the global population exploded and urbanisation became rampant.

The central purpose of this study is to frame the square as a typology still relevant to the contemporary condition of Australian cities. The value of the typology is more expansive than as an artistic relic. Its potential to bring together civic, social and commercial functions remains valid in the current era of private-sector development.

Defining the Square

The square typology has been sufficiently investigated to define what makes a properly 'artistic' public space, in Camillo Sitte's terminology. The aim of this project is to analyse how these artistic principles affect the activity levels in surrounding streets and neighbourhoods. A series of examples have been explored to ascertain if artistic considerations mirror the typological attributes that encourage active shop fronts and vibrant pedestrian areas.

At its most basic definition, the square is a void defined by the surrounding built environment. The precise arrangements and scale of these surrounding buildings have a huge affect on the void they create, either through happenchance or an artistic 'sculpting' of the void. Prior scholarship has focused on three main attributes of the square; the proportions, the degree of enclosure, and the placement of accentuating buildings or other structures.

Proportion
Most theorists consider the proportional ratios of length to width to height an important attribute in the creation of an artistically structured public square. A square does not need to be rectilinear, as is seen in the shell-shape of Piazza del Campo and the bow tie of Times Square. In fact, only in English is any shape alluded to, with most other European languages instead using derivatives of the Ancient Greek 'plateia hodos', meaning 'broad way'. *Place* (French), *Piazza* (Italian), *Plaza* (Spanish), *Praca* (Portuguese), *Plateia* (Greek) all refer to a square's location and connection to the city rather than its shape in its plan.[9]

Most squares are instead rectangular, prompting a number of theorists to set firm ratios for what makes a well-proportioned square. Vitruvius set this ratio at 2:3, Alberti at 1:2 and Palladio set seven different ratios that should be followed for any indoor or outdoor room.[10] Sitte suggests it be a rectangle of no more than 1:3.

The ratio of width to height was also a matter of some debate. Alberti thought the height of the periphery to the total width of the square should be between 1:3 and 1:6. Sitte sets the maximum building height as the long-dimension of the square, so 1:1, although writing prior to the introduction of the skyscraper he was likely trying to set a maximum length to the square. Zucker argues the maximum building height should be that at which its architectural features might still be visible from the floor of the square, giving a height/length ratio of between 1:4 and 1:6.

Enclosure
Beyond optimum proportions, theorists generally agree that the tighter the sense of enclosure imposed by the periphery the better. San Marco in Venice is regularly used as a precedent, which uses a combination of arcades and offset streets to hide the breaks in the periphery. Zucker also considers the associated Piazzetta as fully enclosed, claiming the open-end purposefully frames the sea to form a perceivable although invisible limit to the square.

Camillo Sitte's set of typological rules for artistic squares are primarily concerned with structuring the enclosure. Sitte wrote in opposition to an increasing trend for squares to be fairly open, driven by concerns of health, hygiene and traffic. He argued these issues could be accommodated while still maintaining as unbroken an enclosure as possible, particularly focusing on the

streets meeting the square. These were not to meet two to a corner, as was becoming the norm, but instead follow the medieval tradition of entering at centre points with an offset to hide the street.[11]

Sitte also maintained buildings should hug the space tightly, with entries wherever possible covered by arcades. This would visually tie the periphery buildings together and increase the overall sense of enclosure. The number of entries should be kept to a minimum to limit breaks in the periphery. Views into and out of the square should be controlled and limited, designed to make the space look inward rather than radiating outwards to the greater city neighbourhood. The square should be structured as an outdoor room with clear perceivable limits and a palpable sense of enclosure.

Accent
The enclosure also benefits by orienting to a single, accentuating building. Zucker calls this the 'dominated square', where the open space focuses on one building – such as a town hall, church, or campanile – to avoid an overly uniform enclosure. This strengthens the inward orientation of the square, as the prime focus is a building within its periphery rather than a distant point in the city.

Each precedent examined in this study is accompanied by a figureground map with a selection of on-site observations. The overlaying of subjective data over measured drawings may reduce or confuse the sense of the image as an architectural plan, but it gives an insight into how the conclusions of this study were drawn. These maps should be considered foremost an insight into the process of analysis.

As the purpose of this study was to analyse how the effect of the typology on the greater city neighbourhood, the types of shopfronts in a radius around the square were mapped and separated into 'blank', 'semi-active' and 'active'. An shopfront was considered 'active' if it was open to the public and offered an everyday amenity, such as a café or shop. 'Semi-active' frontages are those shopfronts that take up large percentages of a street façade while only activating a fraction of it. A supermarket or a bank, for instance, will have a single entry but take up the ground floor of an entire block. Whether a section of street is labelled 'active' or 'semi-active' is a subjective assessment – some theatres, for example, are labelled active as they have many doors and varied façades, while others are designated semi-active as they have primarily blank walls scattered with advertising. 'Blank' frontages are street sections with no ground floor activity, or ground floors that offer no amenity such as a car park or closed office block.

The behaviour of people within the squares was also noted to give a sense of the level of activity on the day. The number and placement of seated visitors are recorded as plus symbols, while the number of people standing idle or walking through are described with a chevron bracket ('>')

denoting the direction they were facing. Café table extents are shown as rectangles with circles at the corners, and the estimated percentage of occupation. Whether pedestrians were seated or on the move is important, as Gehl argues that a person seated or stopped has a greater activation value than a person walking through.[12] A space in which one person sits for two hours is as active at any single point in time as one in which twenty people walk through one-by-one over the same period.

These are not the detailed plottings that might accompany a different report, but rather an indication of the general trends that were observed that day. The dimensional extents of active shop fronts were paced rather precisely measured. Pedestrian numbers and behaviours were noted while moving around the ground rather than accurately recorded from above through photographs. Some visitors will no doubt have been recorded twice, and by the time the observation was finished the seating numbers would have changed. However, the maps provide an insight into what the environment felt like on the day, which directly informed the conclusions of this report.

All figuregrounds are drawn at 1:2000 except for that of Havana, which is drawn at 1:5000. They are always oriented with north up the page.

blank streetfront
active streetfront
semi-active streetfront
cafe tables
stationary pedestrian
moving pedestrian

1:2000   0   20   40   100m

1:5000   0   50   100   250m
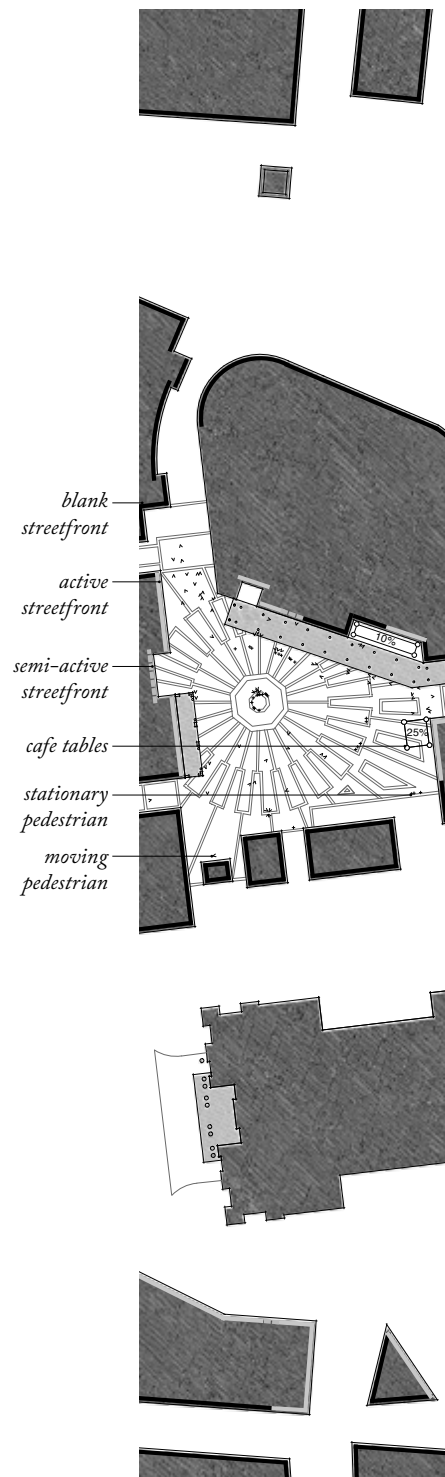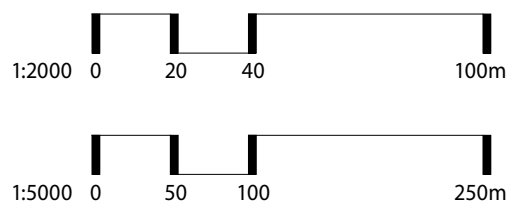
Piazza del Campo
Siena, Italy (1262-1419)

"This city square offers that rare combination of qualities. All functional and practical needs are convincingly met. It is safe and comfortable to walk, stand, sit, listen and talk here. In addition, all elements have been merged into a convincing architectural whole, where proportions, materials, colours and details reinforce and enrich the other qualities of the space."
Jan Gehl[13]

The city of Siena emerged from the amalgamation of three hilltop communities along a Y shape, with a valley in the split of the 'Y' becoming the site of the Campo.[14] Despite this 'organic' beginning and the street pattern that has resulted, Siena is a city that was very deliberately developed by its city planners. Even the particular curves of the streets may well have come from an aesthetic appreciation of Gothic art rather than as an emergent quality of the existing topography.[15]

The Campo itself was the target of some of the earliest known building ordinances, which dictated everything from building height to the window patterns. Zucker attributes these controls to the government's desire that the "architectural frame … should fit the splendour of the occasion" during the twice-annual *Palio* horse race that still occurs within the square *[fig 5]*. He believes the space that resulted is proof of "the subconscious survival of Latin space-consciousness in Italy" following the fall of the Roman Empire.[16] The piazza was paved in 1349 and the Fountain built in 1419, at which point the space was declared perfect. It remains almost unchanged today.

The success of del Campo can be measured in its continued attraction to local Sienese residents and students from the local University. Originally designed to accommodate the entire city during the *Palio* every year, the square has accommodated a fivefold increase in population alongside the influx of several hundred thousand tourists every year.

The fall of the ground surface is, it seems, perfect for sitting. Its slope is approximately 1 in 16 averaged over the north-south length of the central section, tilting more steeply at its northern end. People sit at every point on the square, with a preference for the steeper sections at the top but a clear willingness to sit anywhere. The bollards are used both backrests, leaning posts, and furniture. The ledge above the drain at the heart of the fan shape is used as a raised seat, as are the low walls around the fountain opposite. Every permanent attribute of the square is utilised by visitors *[figs 6-8]*. A parallel street begins as the same level as the Campo but rises more quickly, indicating the fall of the ground surface was selected more for comfort than as a result of the topography.

Campo is a dominated square, subservient to the Palazzo Pubblico. The visitor's attention is directed to the Palazzo by the shape of the periphery, the fall of the ground surface and the segmented paving. The street ringing the square is not technically pedestrianised, but traffic within the old city is restricted and only the section of road in front of the Palazzo is of any real use in navigating the city, meaning that cars have very little impact on the space.

Tourism muddies the sense of how much of the activation can be attributed to the square, but it should be noted that the streetfronts are not solely tourism-oriented. Siena is still a working city of which tourism is only one industry. Many cafés around the Campo are filled with

[figs 1 & 2]
arcaded entrances
into del Campo

[figs 3 & 4]
open-air entrances
into del Campo

locals and students as well as tourists, and grocery stores are positioned alongside the many Florentine leather shops.

The main street of Old Siena runs parallel to the arc of the Campo fan, connected by two open streets and three pedestrian alleys carved out of the low floors of the built periphery. The portion of the road running between the two open entrances, running parallel along the fan-shape of the square, is by far the area's most active. This can be attributed to its constant visual connections to the Campo – the arcade entrances mean that even without entering the square, a visitor is still very aware of walking alongside it *[figs 1-4]*. The high level of ground-floor activity on the main street continues most of the way to the Basilica to the northwest, another major tourist attraction. In the other direction its activity levels fade more quickly, perhaps because the distance between blocks increases.

Activity ceases even more abruptly to the southwest, where the road does not lead to any more attractions. The active fronts stop when the road bends and the square can no longer be seen. The same can be seen in the streets behind the Palazzo, which retain a level of activity until out of sight of the square. Here a secondary square is used as a car park, which would be tragic were it not for Campo amply satisfying the need for public space in this area.

The under-activation of areas behind a central building proved to be a common attribute to the dominated squares in this study. Dominating buildings tended to concentrate on a single façade, relegating the back and sides to service lanes.
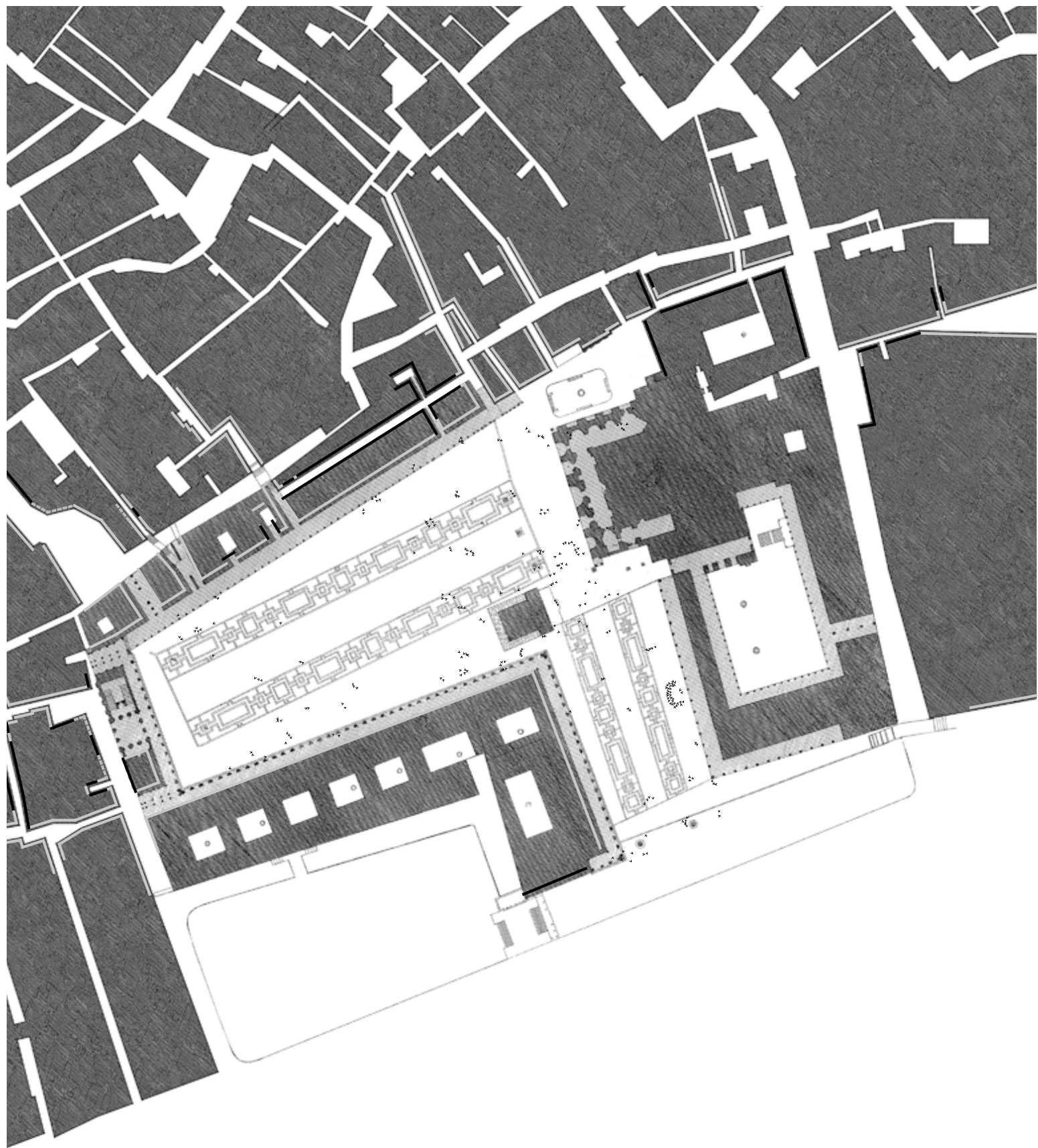
Piazza San Marco
Venice, Italy (est. 1000 - 1810)

Piazza San Marco and the linked Piazzetta together form one of the world's most famous public spaces, known both for the beauty of the buildings around their peripheries and the effectiveness of the spaces they contain. Although now overtaken by the tourism industry, their intricate arrangement with the city remains evident and so worthy of inclusion in this study.

The squares are variously claimed as medieval or renaissance, depending on where in their millennium-long history of development the squares might be considered finished. Early iterations of the Campanile and the church were in place by the 9th century and it was used as a market square by the 11th, but it was not enclosed until the 15th century, when the new Palace of the Doges created the Piazzetta along one side. The 16th century saw the square enlarged and many of the poorer-quality peripheral buildings replaced, with paving installed in the 18th and the final side of the square closed in the early 19th century. Only rehabilitative and reconstruction work has been undertaken since.

These squares are included in this study for their historical rather than their contemporary effectiveness. While there is a sizeable local population in Venice, San Marco has been thoroughly reoriented to the tourist market. This makes it difficult to analyse usage patterns, and to work out how much of the ubiquitous activity in the surrounding streets can be attributed to its typological attributes.

People no longer seem to use the square as a city space, but rather as a stop along a tourist route. Consequently, movement paths are dominated by people moving to the middle of the square for a photograph,

and then walking straight through to the next tourist spot. Visitors mostly face in the one direction, towards the Basilica, unless they are in the photo being taken. The ring of restaurants in the square are lively, with bandstands and tables extending deep into the space, but were relatively under-attended given their location.

However, the reputation of San Marco and the Piazzetta as a high functioning public space pre-dates mass tourism by hundreds of years, and the way it was previously used is remarkably well recorded *[figs 9-11]*. Painted records from the 18th century have therefore been used to extrapolate what the traditional pedestrian behaviour would have been, rather than presenting the stilted movements recorded on site.

Records show that the current situation of few informal or formal seating possibilities (excepting the restaurants) is true to its historical arrangement. People congregate, standing, in groups around the square. Wherever there is a base of a column or a couple of stairs, people sit.

A major difference to the contemporary arrangement can be seen in the painted records of the upper levels of the buildings around San Marco. Temporary sun shades were strung up between balconies in different locations on different days. Sometimes shades are seen similarly hoisted above ground level, extending the arcades to create small enclosed spaces alongside the thoroughfare. This looks to have occurred in an organic fashion based on individual use and the time of the day, creating changing patterning quite unlike the fixed zones of restaurant umbrellas in the square today. All this would have created a vibrant, active periphery that adapted and accommodated day-to-day

[fig 9]
Canaletto,
The Clocktower in
Piazza San Marco
(detail)

[fig 10]
Canaletto,
The Piazzetta
Looking to the
Clock Tower
(detail)

[fig 11]
Canaletto,
San Marco
(detail)

[fig 12]
Canaletto,
San Marco
with Basilica
(detail)

[fig 13]
*Canaletto,*
San Marco
(detail)

and seasonal climatic variability, varied uses and events – unlike the frozen scenery of contemporary San Marco. The current square is heavily controlled to avoid ruining the postcard backdrop, resulting in little activity above street level and an unchanging café arrangement in the plaza.

Mapping the active street façades brought up an interesting outlier: the one street that is *not* active *[fig 15]*. Every building that can be converted into a shopfront has done so; including buildings fairly out of the way. Signs pointing the wrong (or rather, less efficient) route between the various tourist spots confuse tourists into walking past shopfronts that might otherwise not benefit. Yet here is a laneway immediately parallel to the Piazza San Marco that has a zero activity level. It spans between two of the main feeder streets, and has an offshoot that gives direct access into the centre of the square. The lack of activation might be attributed to its narrow width – 2.6m wide – were it not for the fact that many of the streets in Venice that are even narrower have double active façades.

Instead, it is because this parallel street turns off the feeder streets after the Square is already visible *[fig 16]*. People en-route to an expansive open space *[fig 14]* will not choose to turn down yet another narrow lane, they will naturally continue through to the opening. It is too late for misleading signage. This contrasts to the situation in Campo, where visitors walk down a wide parallel street that starts before the square. Although always aware of the Campo alongside, visible through a series of covered arcades, the access routes are pinched and steep, providing less incentive to immediately abandon the active street *[figs 1-2]*. When the visitor reaches a wide open entrance, they take it *[fig 3]*.
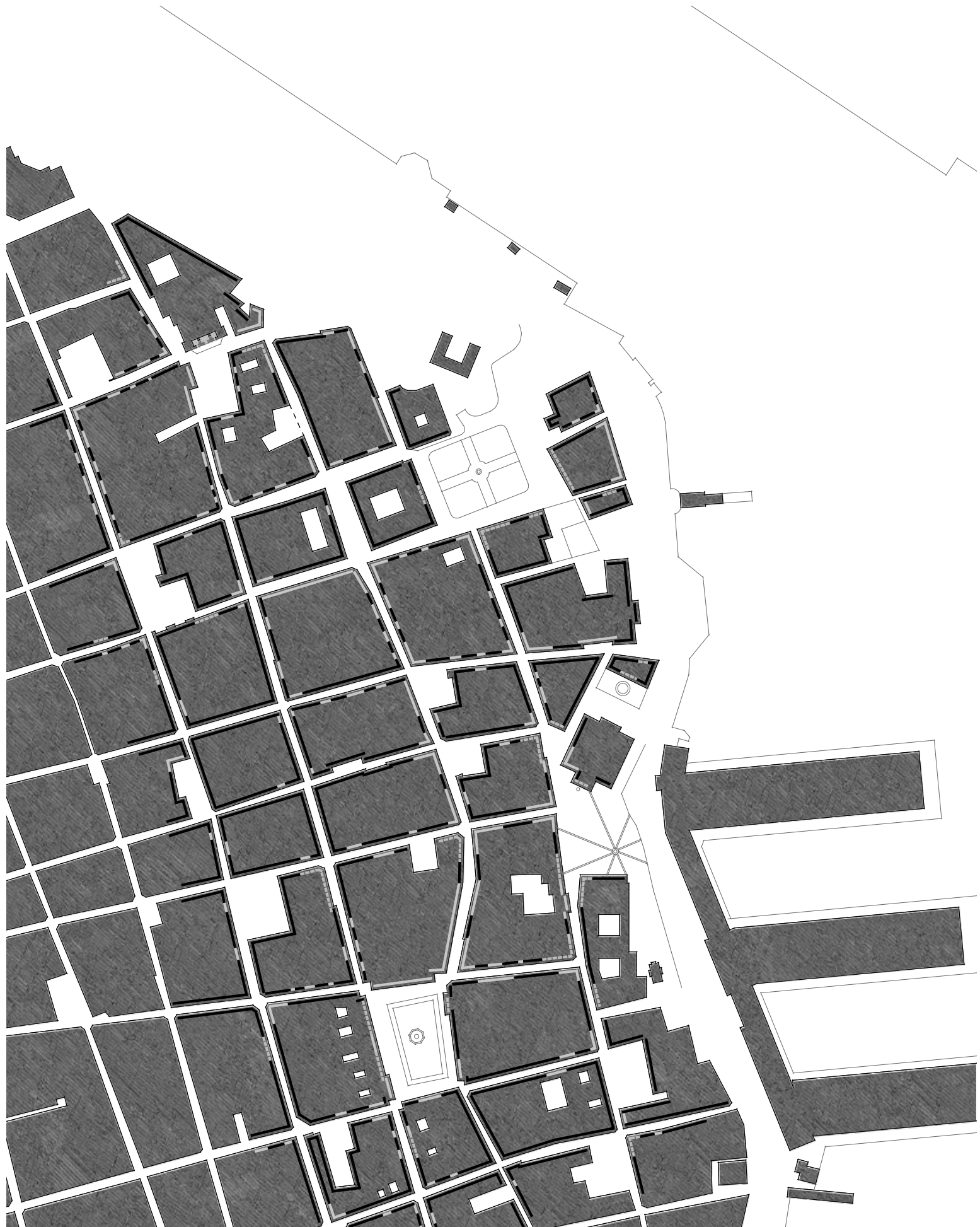
Four Squares in Havana
Havana, Cuba (1500s)

The neighbourhood of Havana Vieja (Old Havana) is structured around four rehabilitated colonial-era squares. This report examines how the city benefits from four of those squares interacting as a cluster, and the unique government body responsible for their rehabilitation. The city includes a fifth square from the same period, Plaza del Cristo, but is too distant to properly interact with the others and is run-down and underutilised despite technically being a target for rehabilitation. It was therefore excluded from this study.

Havana was built as Spain's main port entry to the Americas in 1519. It followed a generic settlement plan imposed by the 'Council of the Indes', the administrative arm of the colonisation.[17] This generic plan structured each city around a central square, which in Havana is the Plaza de Armas *[fig 17]*. It was built on a greenfield site with no reference to Cuba's native population, and consequently Havana is as Spanish as any American city. The other three squares – Plaza Vieja, Plaza Catedral and Plaza San Francisco *[figs 18-20]* – were built in rapid succession in an urban plan based on the separation of city functions.

Following the communist revolution of the 1950s, development in Cuba focused on the countryside under a government policy to "ruralise the towns and to urbanise the countryside".[18] The upshot of this policy is that Havana retains much of its architectural heritage, avoiding the trend for demolition and redevelopment throughout the sixties and seventies. Havana Vieja was UNESCO heritage-listed in 1982, helping the Cuban economy pivot from sugar production to tourism. The listing has positioned Vieja as the main tourist drawcard in Havana, making it the near-monopolistic focus of

construction efforts in the city. An ongoing rehabilitation project has reinstated the squares to a point that roughly approximates their early condition.

The squares themselves vary typologically: the open-ended Plaza de San Francisco contrasts to the closed Plaza Vieja; while the fenced-off landscaping of Plaza de Armas is the opposite of the paved parvis (church forecourt) of Plaza de la Catedral. The different usage patterns of each square therefore indicate what effect the different environments have on pedestrian behaviour. As the squares were visited in low-season the tourist numbers were significantly off their peak, allowing local use of the space to be better observed.

Plaza Vieja is the largest square yet had the fewest patrons. Despite being used as the postcard image for Havana tourism and the rehabilitation effort, it must lack local amenity given the low visitation levels. Cuba has dual currencies, one high-value nominally for tourists and one lower-value currency. This means that few locals can afford to sit down at the cafés within the squares. Plaza Vieja has only café tables and the occasional ledge, which perhaps explains the relatively low visitation. The smaller Plaza de Armas to the north has extensive seating opportunities that are not associated with the (few) commercial fronts, and it consistently had the highest level of pedestrian activity of all the four squares. The Plaza San Francisco also has several seating possibilities and was fairly well visited, unlike Plaza de la Catedral with one café and a few doorway steps.

Pedestrian activity levels corresponding to seating availability had an effect on street-front activity as well. While Plaza Vieja has some wide frontages, surprisingly occupied

[fig 17]
Plaza Vieja

[fig 18]
Plaza San Francisco

[fig 19]
Plaza de Armas

[fig 20]
Plaza de la Catedral

by international brand stores, the area around Armas has many more numerous small shopfronts, food carts and an antiques market. Plaza de la Catedral's low seating numbers results in the streetfront activity fading from the high levels around Armas. Despite the seating opportunities in San Francisco there are few shops with frontages onto the square itself.

The rehabilitation of the squares is being undertaken under the umbrella of the Office of the City Historian (OCH), which controls all construction work in Havana. The City Historian is a position that dates from Spanish times, now redefined as a combination of Lord-Mayor and central planning office. As well as receiving a significant percentage of the national budget, the OCH receives the profits from several subsidiary 'companies' it owns, structured so that tourist dollars spent in Havana are rolled back into the OCH. It directly employs all the contractors undertaking development work, and owns most hotels, museums, shops, and official taxis in Havana.

The OCH master plan is based on "corridors of interest" radiating outwards from the redeveloped city squares.[19] Along with the squares themselves, a selection of the linking streets have been upgraded and extensive paving installed. This formalises the street 'corridors', directing pedestrian routes between each of the spaces. The map of the active shop fronts shows activity drops at the furthest point between two squares, before building up again to the next. The main street leading between all four squares is noticeably the most active.

The OCH splits its expenditure between income-generation, building rehabilitation and social programmes. Their argument is

concentrating money in one small area of the city might entrench a sense of tourist apartheid, a risk mitigated by expanding social programmes in-step with building development. This maintains local use of the tourist areas.

"The point is to use tourism as a mechanism for development[.] … That said, we reject the idea of turning our historical centre into a theme park and novelty show; instead we work to improve schools, living conditions, participation and jobs." -Havana City Historian [20]

Schools, music academies, libraries, sports centres and nursing homes have been built alongside tourist shops, restaurants and hotels. Residents evicted by development are rehoused in new low-cost housing in the same area. Job creation is a conscious objective in both the construction industry and the companies controlled by the OCH.

This is an arrangement built around a centralised government and is not immediately transferable to a capitalist society with freedom of enterprise. But specifically tying development with social housing, social activities and job-creation is nonetheless an ideal situation if done properly. The squares and routes between them have been consistently improved in a continuous, self-funded rehabilitation project that has now spanned over 30 years. The retention and redistribution of the ongoing profits of the city centre allows the development to expand radially as long as the income stream holds up. The plans are long term but the projects individual – Plaza Vieja has taken 30 years to finish, as each building was rehabilitated one at a time. The square was fully rehabilitated despite never having the budget to complete it in a single stage of construction.
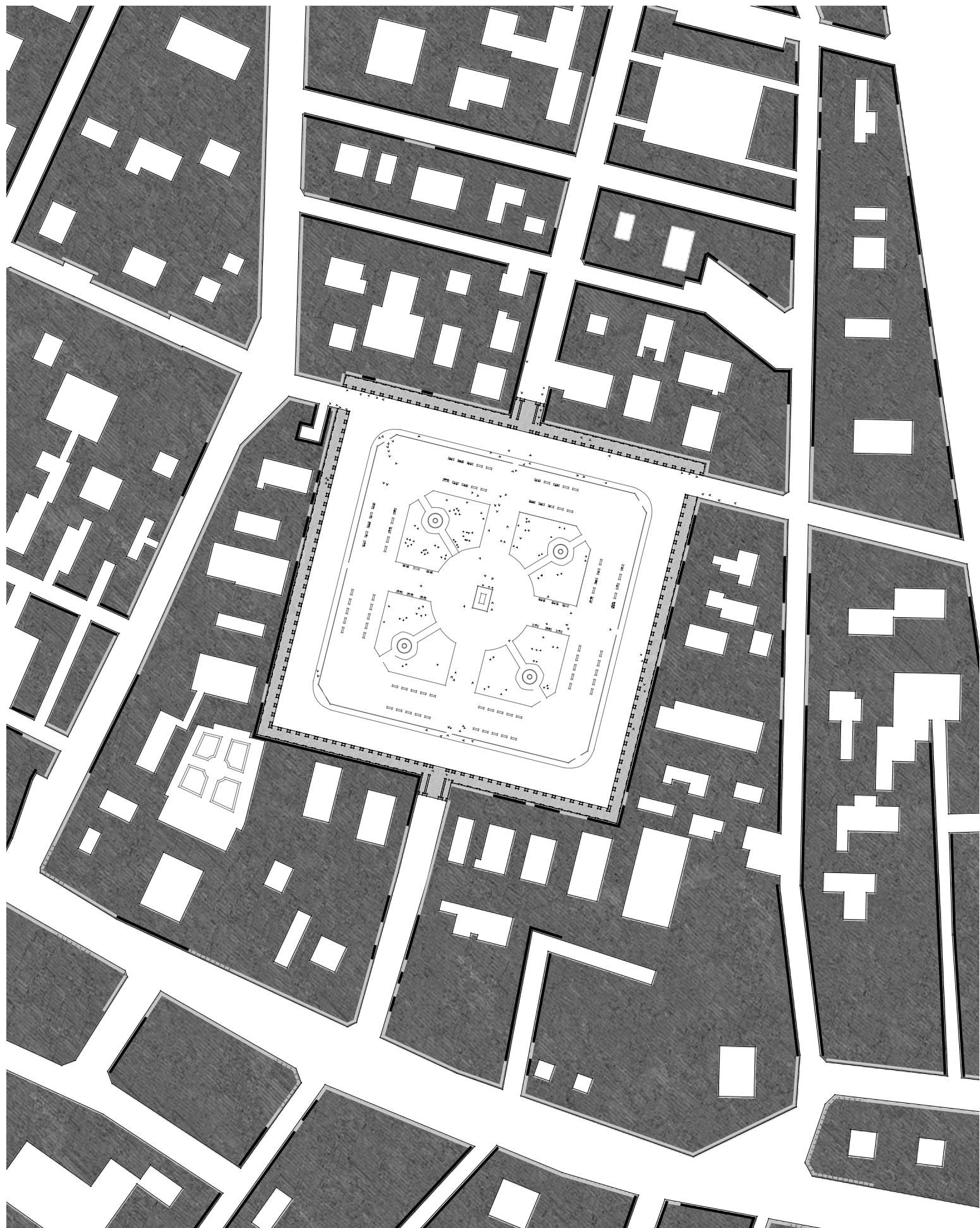
Place des Vosges
Paris, France (1605 - 1612)

Place des Vosges was built in 1605 under the direction of King Henry VI, whose regime was defined by extensive urban development that brought Italian Renaissance planning to France. The site was demolished and the full periphery built in a single development, with identical rowhouse façades enclosing every side. Originally the central area had a sand base without turf and was unfenced. It was used for tournaments for a few years after its construction, perhaps as an apology for the loss of the hotel tournament grounds it replaced. The square proved to be precursor for a popular and plentiful typology, with residential squares proliferating through 17th century Paris and a similar type through England.

Vosges is a perfect 140 metre square ringed by continuous 3-storey rowhouses. The majority of the open area of the square is occupied by a fenced off landscaped enclosure, with planting that matches the symmetry of the built periphery. There are four road entrances, two concealed by pavilions that rise an extra storey above the otherwise identical rowhouse façades and two open to the sky. A perimeter road runs around the full periphery of the square, with a narrow one-way driving lane and a lane of parking on either side.

The street running east-west, Rue du Pas de la Mule, continues along the northern edge of the square with its entrance and exit visible and open to the air. These two street entries are the only breaks in the perimeter buildings. The street running north-south, Rue du Béarn, does the opposite, broken in two by the central enclosure, with its entrances to the square concealed by pavilions There are vibrant, busy areas to the south and to the west of Vosges, but little of interest to the north or east.

This provides the opportunity to analyse how the two types of street impact the neighbourhood – whether the continuous open-air street provides more activation, or if the broken street with hidden street entries benefits from its integration with the square's built form.

It is clear that the open-air Pas de la Mule is by far the most active street of the square. That it breaks up the periphery means that the street can be seen to continue beyond the limits of the square, allowing the activity to be drawn in both directions. This is despite there being little 'pull factor' from the east, where the neighbourhood seems to end at the over-scaled, pedestrian unfriendly Boulevard Beaumarchais. The square pushes the activity level to the east; it is not merely a link in a chain of active spaces.

Rue du Béarn, on the other hand, is only active along half its length. Its southern half enters the square in the least lively section of the periphery, yet it is still activated up to that point as it draws from the major street Rue Saint-Antoine *[fig 21]*. Vosges can be seen from Saint-Antoine through the arcade, drawing people towards the square. Shopfronts extend along the streets between the two points of interest – Vosges and Saint-Antoine – but do not continue into the square. This is because the physical and visual continuity of the street is broken by the fenced enclosure immediately upon entering Vosges. The dense vegetation conceals the continuation of the street to the north.

The north side of Béarn does not benefit from the active east-west street. This is the result of the arcade covering of its entrance, which removes the potential connection between the two streets. This

[fig 21]
Rue du Béarn
leading towards
Vosges from
the south

[fig 22]
view from within
Vosges in Autumn

[fig 23]
*view from within*
Vosges in full bloom

disconnection, coupled with the fact that Béarn does not link to any further point of interest to the north, means that the activation within Vosges does not radiate outwards in that direction.

A further disconnect is caused by the perimeter road around the fenced enclosure, which has a negative impact on the pedestrian flow through the space. The southwest and, particularly, the southeast corners are under activated, as the street pattern offers no circulation paths that run through them. Vosges would benefit from whole or part-pedestrianisation and alteration of the fencing. This would allow pedestrian cross-flow, help activate the corners, and provide the opportunity for informal outward-facing uses of the arcades.

That said, once a visitor is past the road and inside the fencing, the cars become barely noticeable yet the built periphery never fades from view *[figs 22-23]*. The power of the remarkable symmetry and geometric perfection of the built and landscaped elements is such that the road is flattened into a minor inconsistency of the ground floor periphery. This shows that necessary service roads can be accommodated in the typology without impacting the sense of enclosure. Precedents that pre-date the automobile can easily be discounted as irrelevant to the car-oriented city, but this need not be the case. The typological principles are flexible enough to accommodate significant changes in use.
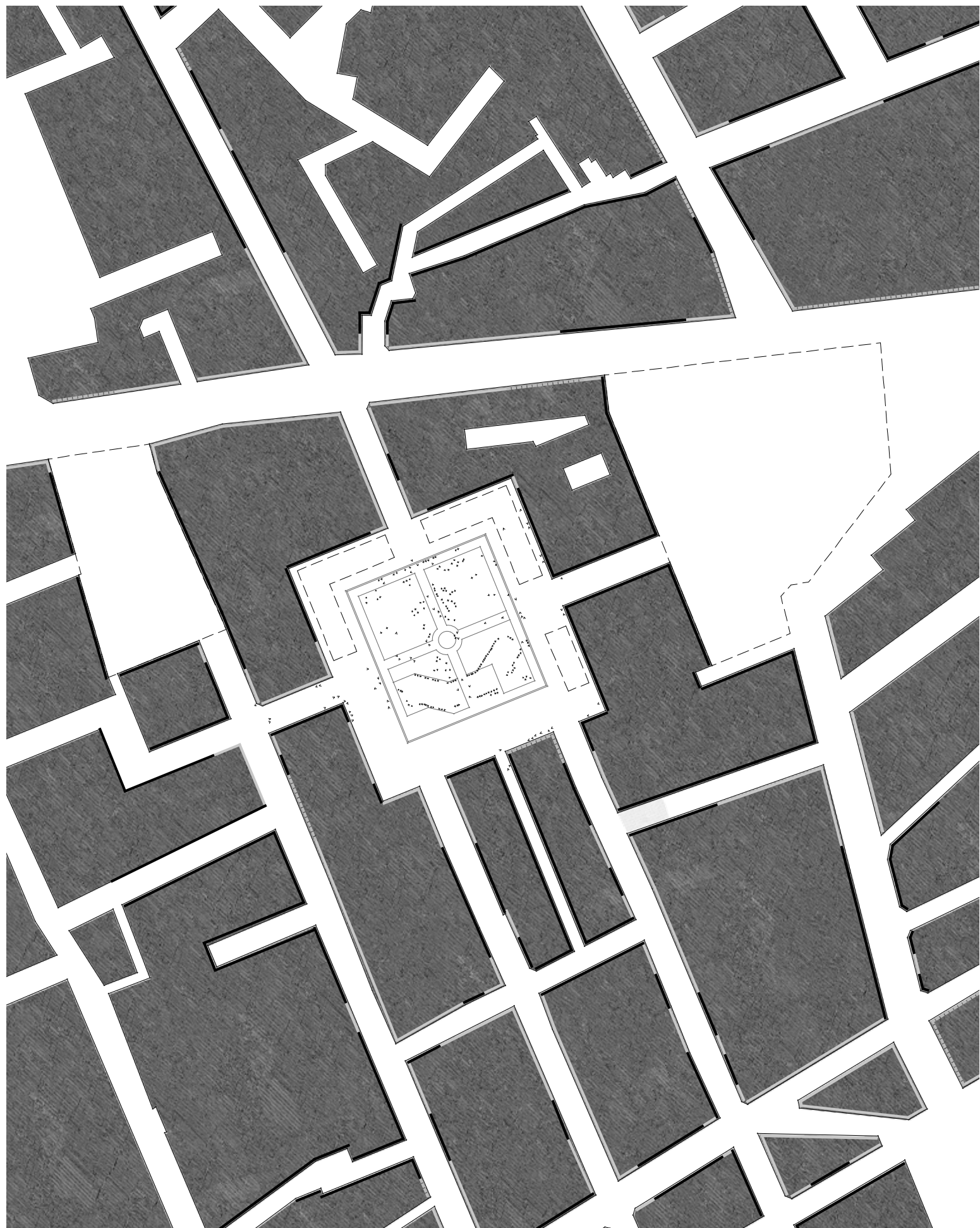
Soho Square
London, United Kingdom (1681 - 1951)

Soho Square is a typical English residential square that has subsequently been opened for public access. It retains all the typological attributes of the closed type, with unlocked gates.

English residential squares were implemented chiefly by developers and property speculators rather than Government or Royalty. Developers found that the loss in saleable floor space was offset by the raised value in the housing associated with the squares. This remains the case, yet unlegislated open space within private residential developments is no longer the norm. As the city of London grew many of the residences were inevitably overtaken by commercial businesses, and many residential squares no longer have any associated tenants. While some, like Soho, have evolved into valuable public spaces, many others remain closed to the public due to their complex ownership structures.

Soho was installed as part of a private residential development undertaken by Frith and Pym in the late 17th century, who charged leaseholders rent for the upkeep of the square. The buildings changed hands many times, causing upkeep fees to go missing and the consequent dereliction of the square. Multiple rehabilitative efforts and total rebuilds were undertaken when the space became particularly rundown, and there were several unsuccessful attempts to turn the square over to public ownership, at times initiated by the leaseholders and at other times opposed. The Square was eventually leased to the City in 1951 and the space remains publicly accessible today.[21]

Typologically Soho has much in common with Vosges, yet it has few active streetfronts to capitalise on the high visitation. The enclosure is the main contributing factor, with a single undersized gate on each of the four sides *[fig 24]*. They are matched to the street entries with the exception of the southern end, where the streets offset and it becomes difficult to spot. Garbage for truck pickup is also stacked in front of this gate. Within the enclosure, the built periphery is not sufficiently powerful to overcome the visual effect of the landscaping. All paths lead to a pavilion in the centre of the enclosure, with mature trees lining the edges. This orients visitors towards the pavilion, which as a folly offers no amenity *[fig 26]*. The nature of the fencing and the inwardness of the area inside it create a discord with the periphery. Unlike Place des Vosges, the periphery is quickly forgotten once inside the enclosure, and consequently few shopfronts open onto the square.

There are six streets leading onto the square, one of which is pedestrianised and another closed by a large construction site *[fig 25]*. Of the five open streets only Carlisle and Soho Streets are active, which both lead directly to pinned-open gates. A significant number of the movement paths recorded through the square were between these two entrances. Even if people walk far into the enclosure to find a place to sit they tend to return to one of the two active streets as they leave.

The majority of formal seats line the edge of a large paved area. Here, people facing each other are too distant to comfortably communicate while still being too close for privacy *[fig 27]*. Furthermore, the area left over is not large enough to be used for another function. Most of this seating is directed into the square, exacerbating the inwardness of the space rather than

[fig 24]
narrow entry gate

[fig 25]
inactive
periphery

[fig 26]
insular–orientation
of square around
central folly

[fig 27]
seating positioned
at uncomfortable
social distances

providing the periphery an incentive to become active. Informal, irregular seating could have accommodated more people in the same area without imposing a single orientation on its visitors.

Soho Square has the opportunity to be a link in a chain of active areas, rather than the dead zone it currently imposes. It is within a dense area of London that has a vibrant mix of recreational, commercial and residential premises. However, by severing the continuity of the streets through the fenced enclosure, without providing an activated periphery to overcome it, the square assures the surrounding streets are the least active in the immediate region.

This offers the general lesson that a square must lead from within to contribute to the greater area. If the periphery is not activated then the streets have little to link to. If the open space is enclosed and inward-looking, then it functions as a park, providing a respite from the city without contributing to the network.
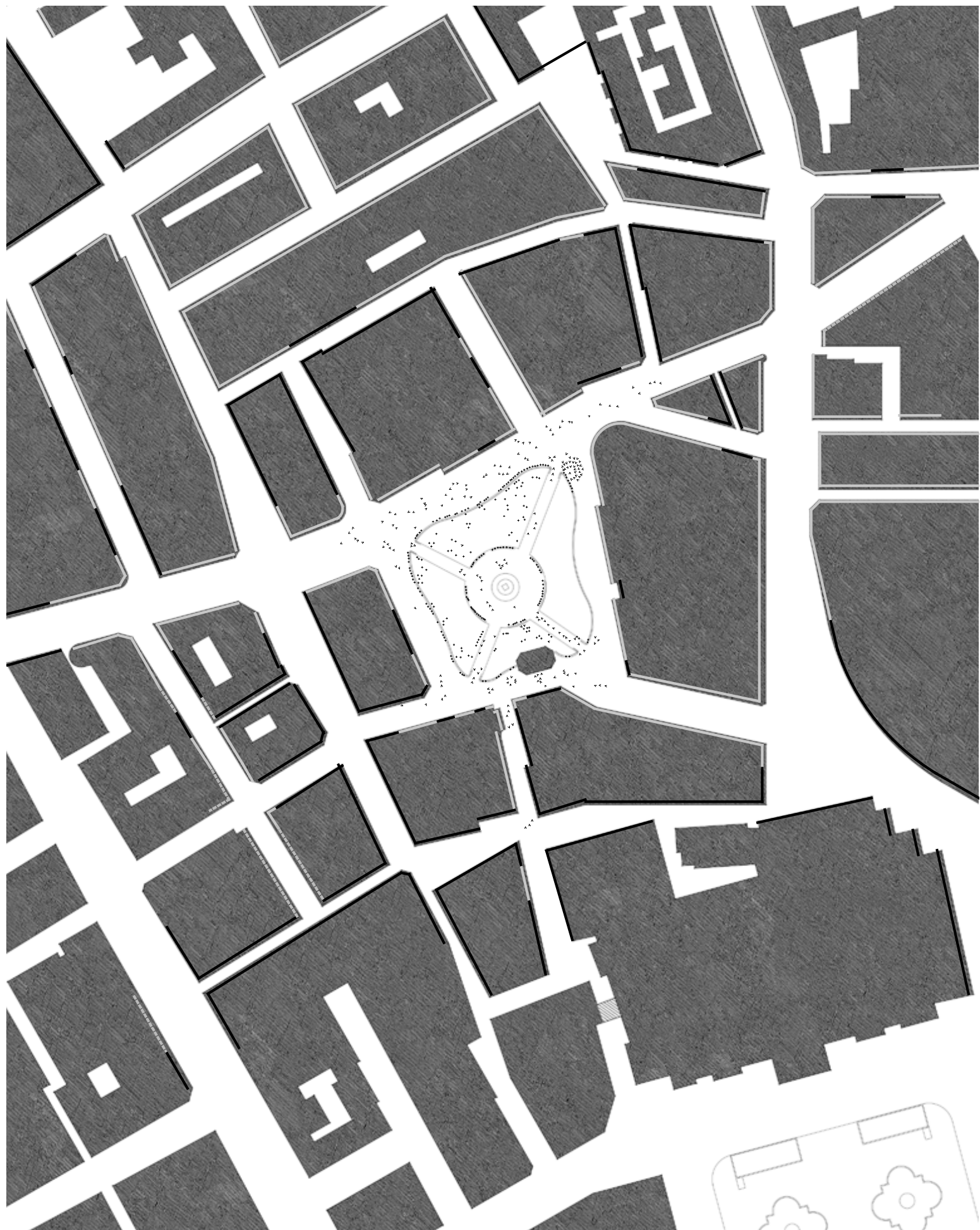
Leicester Square
London, United Kingdom (1632 - 2012)

Leicester Square modifies the typological attributes of the other English residential examples to create an inclusive, effective public space. It has a long history of public ownership despite being a residential square. Its first owners built over what had been crown land, and after public protest were required to retain some level of public access. From the seventeenth century it was surrounded by grand houses populated by royalty, but had fallen into disrepair by the early nineteenth century as its fashionability faded and buildings vacated. By 1874 its "condition was simply a disgrace to the metropolis. Overgrown with rank and fetid vegetation, it was a public nuisance, both in aesthetic and in a sanitary point of view; … it was an eye–sore to every one forced to pass by it."[22] The benefactor Albert Grant was convinced to purchase the square and donate it to the city. The square was rehabilitated and remained mostly unchanged until a recent redevelopment for the 2012 London Olympics.

This redevelopment retained the broad concepts of the residential square type but modified them to encourage a more public space. It has the same landscaped section enclosed by gates and fences as Soho and nearly every other precedent in London, but it accommodates this enclosure in a way that adds to visitor amenity rather than detracts from it.

It turns out this is very simple to do: when the gardens are accessible the gates provide five-metre openings *[fig 28]*, rather than the pinched one-metre gates at Soho Square *[fig 24]*. The gates also correspond to where the streets meet the square, with eight of the nine feeder streets leading directly to a gate. The fence enclosure is built into curved concrete sections that provide seating along the entire length of the fence, dubbed 'the ribbon' by its architects.[23] The division thus becomes an amenity that positions visitors facing outwards and encourages streetfront activity *[fig 29]*.

The wide openings and correspondingly wide paths are positioned expertly enough that users tend to follow them, rather than beating their own quicker path through the turfed section. This makes the grassy areas the places to stop and relax, with constant movement on the paths in front. Equally, those people walking on the pedestrianised streets running along the periphery can stop and sit on the ribbon at any point, setting up the same dynamic of 'slow' zone and 'fast' zone depending on how close you are to the fence. Leicester Square is a major tourist attraction, yet it does not feel crowded even with high visitor numbers.

As part of the development a couple of trees were removed, both to provide sunlight and also to allow visual access through the square. This means that, despite the enclosure around the landscaping, the square retains visual links to the periphery and through to the streets beyond. Overall the square has the same level of local familiarity as any of the other public residential squares in London but without sacrificing the activity-creating qualities of a typical open arrangement.

The neighbourhood benefits from the several pedestrianised streets radiating outwards from the square *[fig 30]*. Most of these have been repaved as part of the 2012 development, which links their identity with that of the square. The logic of repaving only those streets that lead directly onto Leicester rather than the several perpendicular lanes between them is unclear, but it does not appear to have

[fig 28]
wide access gates

[fig 29]
ribbon structure
providing both
fencing and seating


[fig 30]
one of many active
pedestrianised streets

[fig 31]
an inactive
street that
leads to the
National
Gallery

had a negative impact on activity levels. It perhaps works by association – in being able to see the paving of the feeder street, the visitor is reminded of the square further down, extending its effect.

The south end is the least active, meeting the blank sandstone walls of the National Gallery with little incentive to continue walking through to Trafalgar Square *[fig 31]*. This boundary continues horizontally to Charing Cross Road, which is a very active street when alongside Leicester Square but devolves to a mere traffic route by the time it feeds onto Trafalgar. It is clear why this is so: around Leicester the scale and character is oriented towards the pedestrian, but at Trafalgar everything is over scaled, including the widening of Charing Cross Road. The separation between the two squares is exacerbated by the National Gallery, which dominates Trafalgar Square and directs its unactivated 'back end' towards Leicester. The squares do not interact as a cluster, and street life in the section between them suffers as a result.

Although the square is a successful city development, it should be noted that many of the specifics of the winning competition entry were not achieved. For instance, moveable chairs and tables were planned, portrait artists were to remain, demolished street kiosks were to be rebuilt, and an 'iconic' building with bandstand was to replace the TKTS booth.
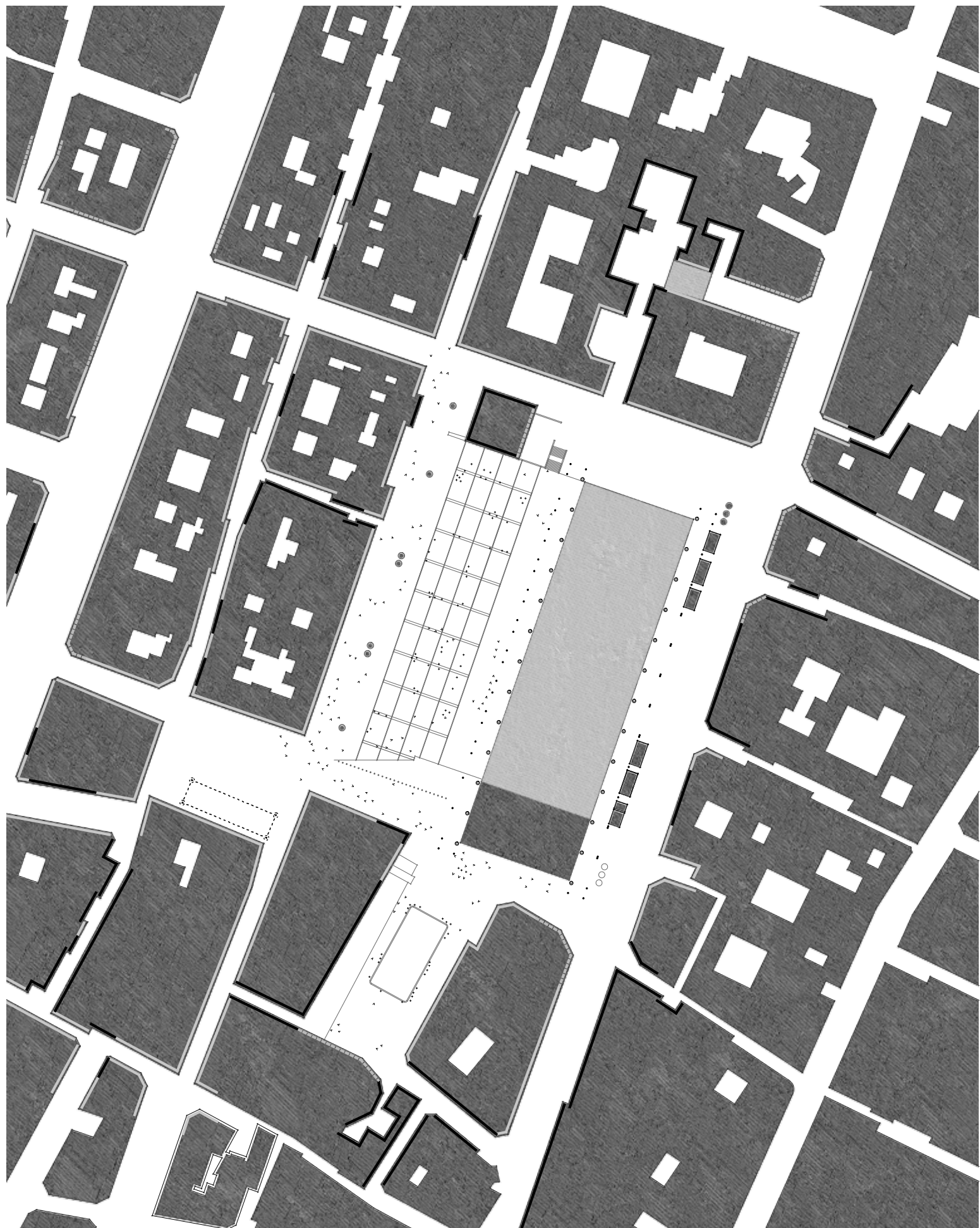
Place Georges Pompidou
Paris, France (1977)

Place Georges Pompidou is the square in front of Centre Pompidou, built by Renzo Piano and Richard Rogers after winning a 1970s design competition. The competition called for a cultural centre to accommodate the Museum of Modern Art, a reference library, an industrial design centre and a centre for music and acoustic research. Piano + Rogers chose to position half the Centre's floor space underground, allowing the building to be pushed to one side of the site and create a new public plaza in the leftover space.

The square is surrounded by four and five storey buildings on its northern and western ends, which are separated from the main open space by streets that are pedestrian-oriented although not pedestrianised. Secondary plazas are grouped on the southwestern and southeastern corners. The most distinctive attribute of the main plaza is an approximate fall of 1 in 14 from the western edge road to the partially underground entry level of the Centre. The south end of this sloped section terminates in a blank wall with no means of access. The northern edge of the plaza also meets a blank wall, but has a staircase to the street above and is somewhat articulated by the 'Atelier Brancusi' building.

The plaza is a dominated square, clearly subservient to the Centre Pompidou. When it opened this was a close and beneficial relationship, but with time the building has been relegated to a backdrop. Piano + Rogers designed the Cultural Centre as an open, permeable structure to encourage the mingling of functions and visitors. However, security concerns have closed most of the entrances and separated the different functions of the Centre. Visitors can no longer walk freely between the wings of the building or through it

from one street to the next. This has had a negative effect on the plaza, which once would have encouraged movement in several directions but now imposes a clear linear movement pattern from one corner to the single plaza-side entrance.

While no formal seating is provided in the main plaza, the fall of the ground assures that the majority of visitors sit there. Most people sit at the top of the slope, although as that fills they were observed to move anywhere in sunlight *[fig 36]*. The first choice was always on the 800mm wide strips of flat pavers that break up the ground surface into eleven segments, as the small rough pavers do not look comfortable. People stay far away from the blank walls, which are either dotted with exhaust vents or used as toilets.

Despite its success in providing seating, the effect of the rake on the square's relationship with the area is not positive. People instinctively face down the slope, which means that visitors using the plaza are oriented *solely* towards the Pompidou, as its two other walls are blank. Compare this to Del Campo, which is similarly dominated by a central building. The fan shape of the periphery and plaza, accentuated by the paving, direct every visitor towards its Palazzo in a similar fashion to the primary orientation at Pompidou. However, the fan also makes visitors aware of the other active street fronts, whereas people at Pompidou are only aware of the blank side walls. People criss-cross the Campo to travel between different streets and different streetfronts, but at Pompidou they only sit at the crest or walk to the building entrance.

The streets around Place Georges Pompidou have had their kerbs removed,

[fig 36]
pedestrian use of the
full ground surface

[figs 37 & 38]
reversing the
road hierarchy of
pedestrian vs vehicle

[fig 39]
*landmark*
neighbourhood
in the city

bringing the traffic up to the same level as the pedestrian. Some are not pedestrianised per se, but the sense of pedestrian ownership is pervasive enough that the vehicle sections of street are treated as such regardless *[figs 37–38]*. Traffic slows to a crawl to avoid a jaywalking effect radiating for several hundred metres in every direction. This sense of pedestrian ownership also translates into a high level of active shopfronts, with a variety of uses and very few blank areas or wasted glass.

The Centre Pompidou is most successful in its creation of a landmark neighbourhood *[fig 39]*. The aesthetics of the Centre are so at odds with its surroundings that they draw the eye even if a visitor only catches a glimpse of it. John Partridge charmingly describes the relationship of Centre Pompidou with its neighbours "like footballers shielding a player who is changing his pants, hug[ging] it round, so that you can only see small patches at a time – a patch of painted tank work above the roofs from the Ile de la Cite, a rack of pipes framed by a narrow street from the Marais."[25] The Centre thus establishes an identity for the area around Pompidou. This identity is intricately bound up with the plaza as it is the only place where a visitor can gain any sense of the whole building. Other orientations provide glimpses but never the full view, making the western approach into the plaza the most important.

The walls that close off most of the north and all of the south side of the plaza preclude any sense of continuity between the plaza and the east. Reyner Banham noted this at the time: "to anyone approaching from [the west] – that is, from 'cultural' Paris – the face of the Centre will be seen across the open space as a wall, terminating that part of Paris, and Le Marais will be seen as what comes next."[26] As with Campo and Leicester, the plaza ceases to interact with the city on the 'backside' of the building that dominates it.
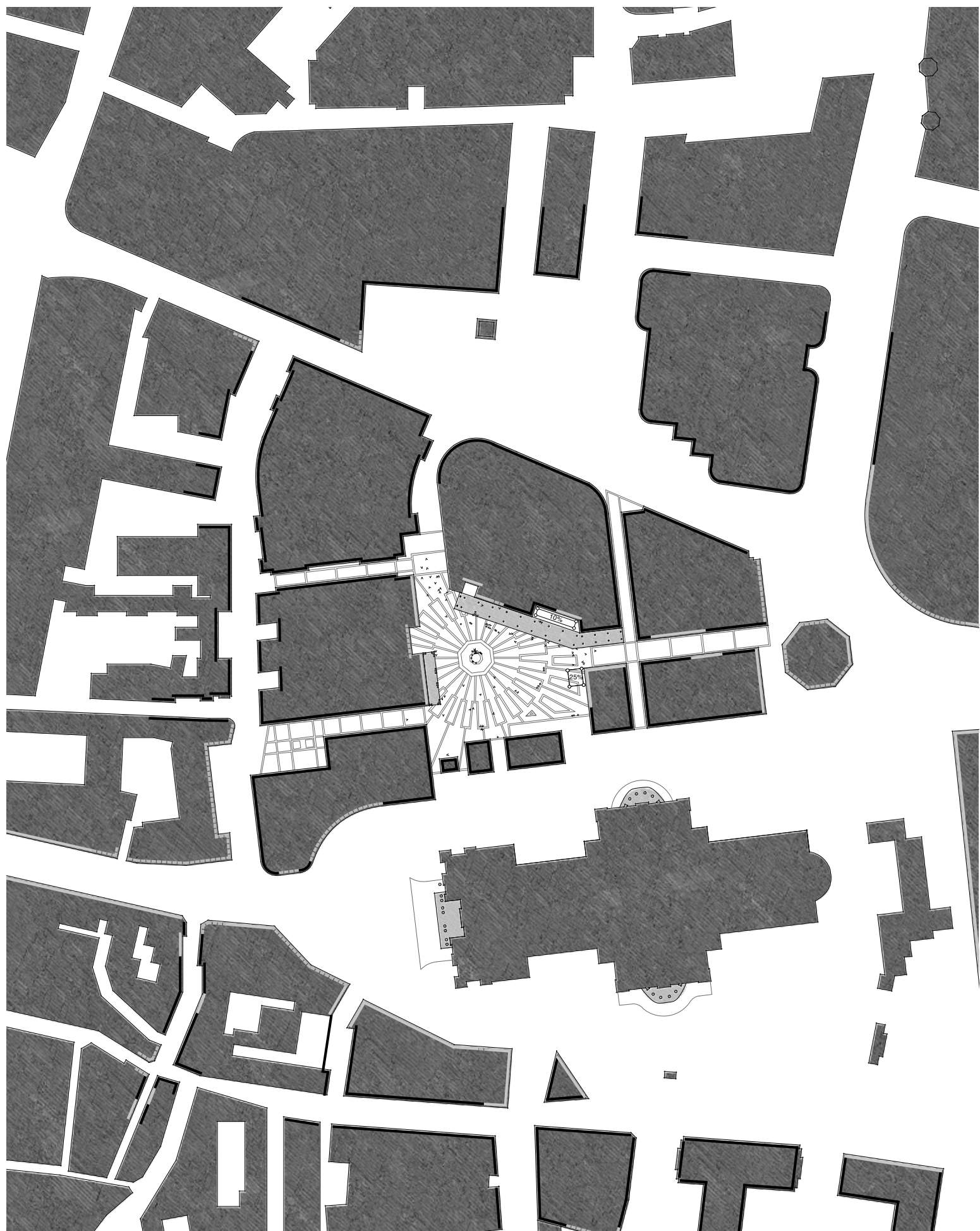
Paternoster Square
London, United-Kingdom (1996 - 2003)

Paternoster Square was first built in 1967 after the dense row housing that previously occupied the site was bombed during World War II. Its first iteration was immediately considered a failure, and by the mid-1980s most tenancies were vacant. Slated for demolition, a design competition was held to redevelop the relatively young square.

This competition process was fraught, with the winning scheme carried through to public exhibition then dumped after public pressure from the Prince of Wales. The Prince commissioned a competing design and set out on a public relations campaign against the winning scheme, successfully torpedoing the development. The site was then sold and the new owners adopted the Prince's design, which was exhibited but denied Council approval and abandoned in the face of the 1993 recession. The site was sold again and these owners chose to appoint an architect, William Whitman, rather than hold another competition, whose scheme was finished in 2003.[24]

Paternoster Square proves that the adherence to typological principles does not necessarily produce an active city space *[fig 32]*. Palladio, Sitte or Zucker would likely classify Paternoster as a qualified success, yet the city is the poorer for it. Some limited activity occurs within the periphery, but this does not radiate outwards in any direction.

Its intrinsic weakness is its deliberate closure to St Paul's Cathedral, which nevertheless dominates the square *[fig 33]*. Rather than taking advantage of the Cathedral to create one of the edges of the square, an unremarkable office block was built alongside an existing heritage structure and a relocated stone gateway designed by Wren. The existing structure is small and could have been incorporated within the square periphery without closing off the edge, instead of strengthening it with an under-scaled and unambitious office block. This creates a sense of being in the wrong place; whatever activity is occurring is probably on the other side of the square.

The other major failing is easily reversible – its deliberate discouragement of any sense of public ownership of the space. Despite having all the typological attributes of a public square, Paternoster is owned by a private company. Cheap photocopied warnings at the entrances assert this ownership and so discourage public use *[fig 34]*. In 2011 the square was filled with wall-to-wall crowd control barriers to prevent protesters from setting up tents in the square *[fig 35]*. These divided the space into metre-wide corridors, creating the unnerving environment of a sow farm. The barriers have since been removed but the warnings remain. Public use of the square is further discouraged by the absence of adequate seating. There are some fixed ledges scattered around, but at distances that prevent easy communication or intermingling.

The discouragement of public participation makes the unarmed security guards in high-visibility vests seem less welcoming than the camouflaged soldiers with assault rifles outside Centre Pompidou. It also means there are no beggars, buskers or homeless people - or indeed, many people at all.

Private ownership does not necessarily stifle activity in squares; the same company partly owns Rockefeller Plaza, which is nevertheless a truly public space. However,

[fig 32]
a typologically
conservative square

[fig 33]
dominated by a
building outside its
periphery

Paternoster Square is private land. Any general licence to the public to enter or cross this land is revoked forthwith. There is no implied or express permission to enter the premises or any part without consent.

Any such entry will constitute a trespass. Limited consent is hereby given, but can be revoked at any time, for entry on to the accessible parts of the square, solely for access to the offices, retail units and leisure premises for genuine building, retail and leisure purposes. Visitors must at all times comply with the directions given by our security personnel.

[fig 34]
discouraging
public use

[fig 35]
discouraging
public use

39

the stern warning and generally restrained atmosphere at Paternoster, coupled with the turn away from St Peter's, make the space more of a terrace forecourt than a square. The development focuses on creating a pleasant entrance for the office buildings along the periphery. What little life there is in the week is absent over the weekends, as no residences were replaced during the latest redevelopment despite its history as a traditionally residential area.

This is to its detriment. It is a pleasant, inoffensive built environment but one with few shops, cafés or other active street fronts to give it any vibrancy. In a way this failure is remarkable – adjacent to St Paul's and in the direct line of the main pedestrian route over the Thames, Paternoster still manages to feel disconnected. There is no sense that it is in the centre of London.
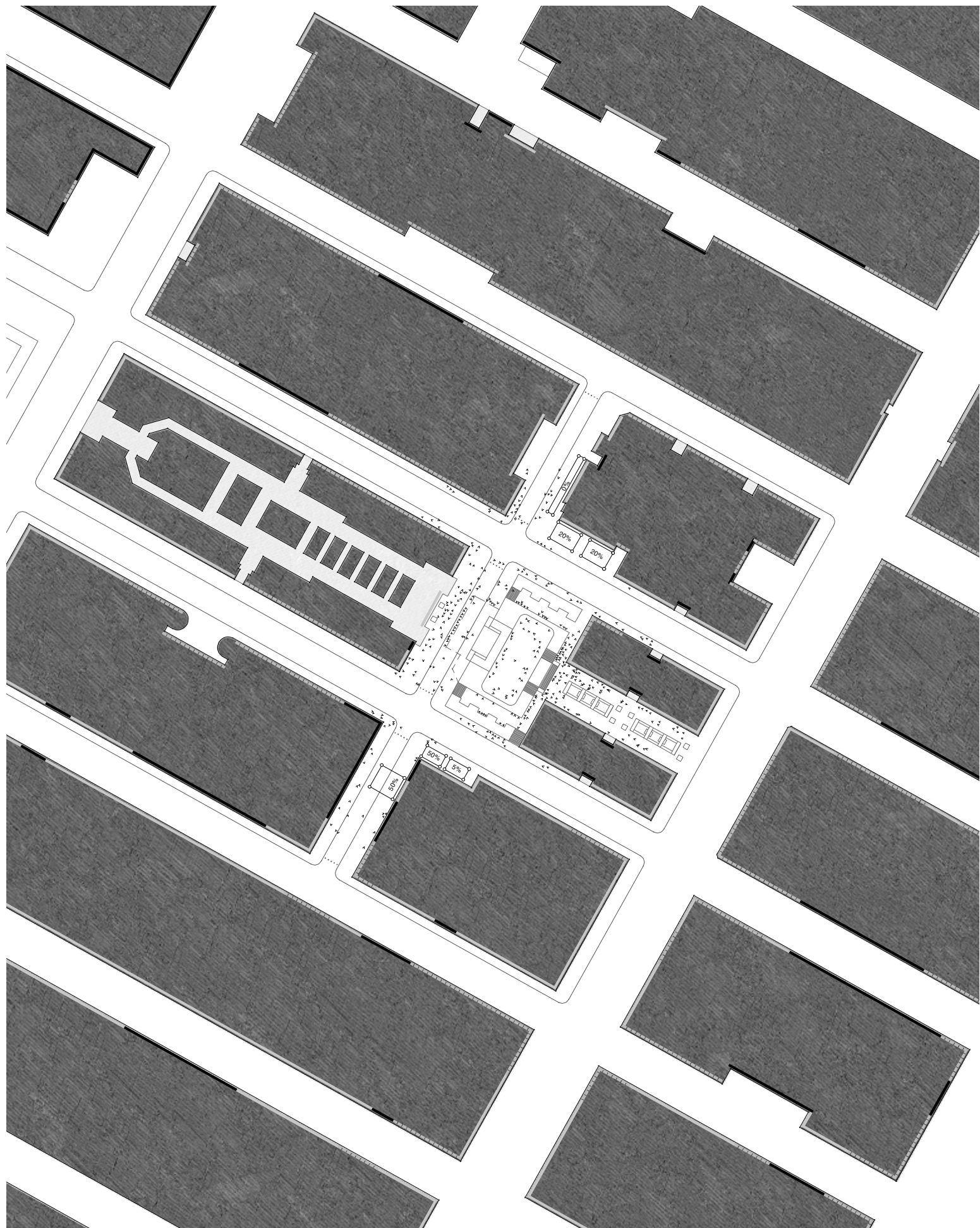
Rockefeller Plaza
New York, United States (1930 - 1939)

Rockefeller Plaza is a public space designed by a private developer that successfully marries its commercial success to its civic duties. It was a privately funded mixed-used development which incorporated a plaza to maximise the amount of saleable office space. Paradoxically, this did not involve infilling the three-block site to the maximum extent allowed under New York's zoning codes. Instead the blocks were split with a new street to allow access to the centre of the blocks, where a larger tower could then be accommodated to make up for the lost floor space. The finished development famously resembles an early blocking diagram created to examine these zoning laws *[fig 40]*. As Koolhaas writes, the finished compound achieves the "paradox of maximum congestion combined with maximum beauty", representing the "fulfilment of the promise of Manhattan."[27]

Despite being a private development, Rockefeller Plaza is not the mute backdrop to commercial activity that might be expected. Instead, the Plaza is focused on highly managed spectacles to assure constant visitation by local New Yorkers and tourists alike. It is known for its big events and seasonal skating rink *[fig 41]*, as well as for several famous tenants such as the Radio City Music Hall and the television network NBC. This has created a strong local association with the entertainment and events industry. It is also known for the flamboyant Art Deco architecture of the original buildings, gold-leafed murals and sculptures bordering on the kitsch. Koolhaas attributes the ostentatiousness of the development to its status as the only major construction project in New York during the economic free fall of the Great Depression. The longer the design process took, the more

luxuries were possible, resulting in lavish façades, interiors and artworks.

Managed events at the square are nearly constant. The first period of observation occurred during the annual 'Christmas Tree Lighting', attended by tens of thousands and watched on television by tens of millions. Famously, an ice rink is installed each winter in the sunken plaza, which Whyte notes turns the space into an outdoor auditorium where people congregate to watch the activity below. During one period of observation a 10-by-5 metre tank was installed where people stomped cranberries into juice *[fig 42]*. An internet search shows that other installations have included concerts, tennis courts during the American Open and Wimbledon, and a miniature soccer field.

While the private-owners of the square profit from these sponsored undertakings, they also provide a major benefit to the city by creating a distinct identity for the area. This is an impressive attribute given its proximity to the powerfully self-aware Times Square. The real benefits of Rockefeller Plaza are felt outside of it, as the emphasis on events and spectacle make Rockefeller a place to *go to* rather than a space to *be in*. Indeed it does not seem to try to make people linger: there are few formal or informal seating opportunities within the square; relatively few cafés open on to it; and the shop fronts are mainly in the feeder streets rather than facing onto the square itself. This translates into high turnover within the square, and correspondingly high visitor numbers to the streets around it.

Nearby buildings maximise their association with Plaza by imitating the gold signage and geometric forms of
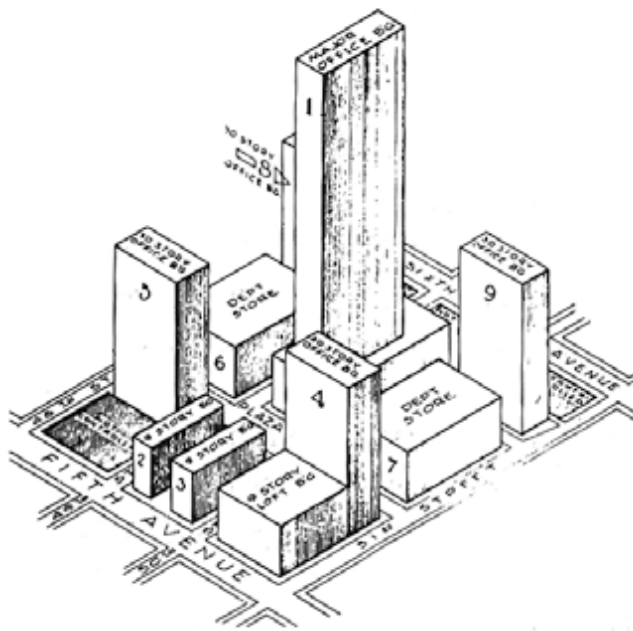
[fig 40]
early zoning diagram

[fig 41]
seasonal
ice-rink

[fig 42]
cranberry tank
built into plaza

[fig 43]
extravagant
signage
typical of
Rockefeller
entrances

[figs 44–46]
muted signage
of commercial
shopfronts near
Rockefeller

43

Rockefeller. Shopfronts in the main feeder street have standardised gold-on-black, unlit signs of the same small size *[figs 44-46]* so as not to clash with the original building entrances, which are plastered in huge gold-leafed murals *[fig 43]*. The potential benefit of a single developer is shown at Rockefeller, with a remarkable consistency in built form. The gaudiness of each building is offset by the company of the others, which establishes a rhythm that continues outside the original development. The strong visual identity is even continued through to gold-coloured decorative plates that cap the planter boxes of each street tree. By continuing this language further out, unrelated developments can imitate the environment of the square and extend its influence.

The usual effect of the dominant building focusing solely on the façade facing the square does not occur to the same degree at Rockefeller. This is likely a response to the regularity of the New York City grid, where it is more typical for buildings to face onto the long side of their rectangular blocks. The Rockefeller Centre offers entries and active façades along its long lengths as well as its short side facing the Plaza. This extends the Rockefeller identity through the streets to southeast when it might ordinarily have stopped at the edge of the plaza.

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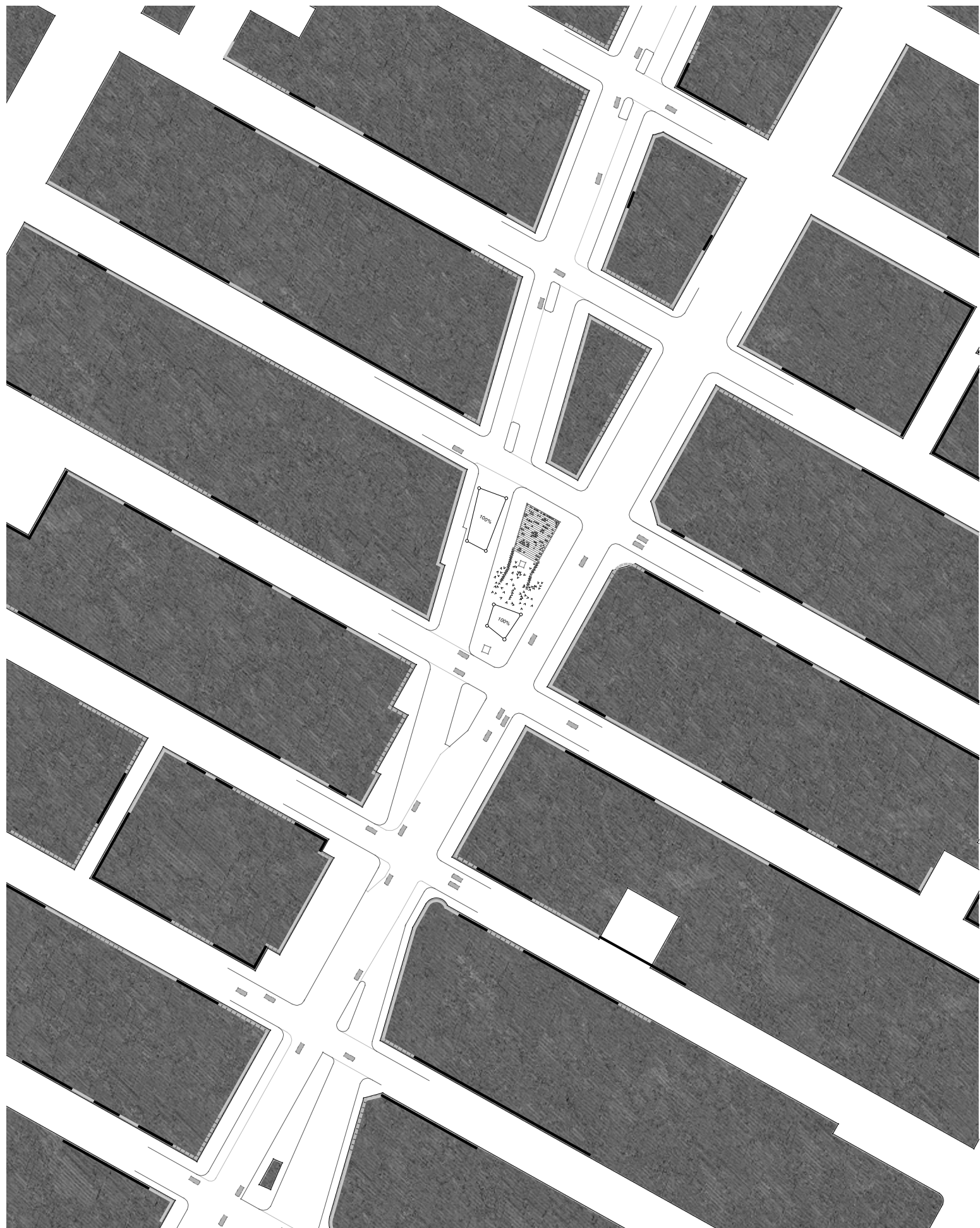
Times Square
New York, United States (2010 -)

Times Square is a famous interchange where the regular New York City street grid intersects with the north-south running Broadway. Their intersection creates a shape known as the 'bow-tie', half of which has now been pedestrianised. Duffy Square, positioned at the north of the bow-tie, was once little more than a traffic island but has been extended by the pedestrianisation into an effective public square.

An extensive effort began in 1990s to rehabilitate Times Square, which was considered a squalid, unsafe area. While the broad strokes of its identity were already there – it was traditionally the theatre district, and it has always had (less) large billboards at the intersection *[figs 47-49]* – the day-to-day character of the space is completely changed. Planners cherry-picked certain factors to strengthen and drove out those undesired. On the one hand, city ordinances were enacted that required a percentage of each building façade to be covered in electric billboards, while height zoning incentives were offered if theatres were incorporated into new developments. On the other, gambling houses and adult theatres were demolished and a 'zero-tolerance' policing policy drove out hustlers and street walkers.

The incorporation of a public space worthy of its 'square' moniker is even more recent, resulting from the pedestrianisation of large sections of Broadway in 2010. Duffy Square has been transformed into a major public space by removing traffic from all the south-running lanes. This pedestrianisation continues a kilometre down Broadway, expanding from one to four lanes depending on traffic requirements. The decision to pedestrianise was foremost an attempt to relieve the consistently gridlocked vehicular traffic at the intersection. Increased pedestrian amenity was not the central concern; its current status is an accident born of astute city planning. Both the process and the effect of the Times Square redevelopment are therefore instructive.

During the first 'test period' of the pedestrianisation, the City simply cordoned off the street and invited residents to bring down a deck chair. Even after it was decided that the change be made permanent, expediency and budgetary constraints meant that the pedestrianisation of one of the busiest intersections in the world has been a decidedly casual affair. Several lanes of the road were painted and intermittent concrete planter boxes installed to act as safety bollards. The old footpath and kerb remain, however they no longer act as the boundary line between vehicle and pedestrian. Instead the pedestrian area is divided in two: a 'fast' lane on the footpath and a 'slow' lane on part of the street. The effect of this simple change is dramatic, creating an unusual urban landscape where the division between heavy traffic and pedestrians is curiously absent *[figs 50-51]*.

It is surprising that such a major road could be made appealing merely by placing moveable chairs and tables behind an intermittent screen of greenery, yet during each period of observation most chairs were occupied over the full kilometre. In a second plaza made of pedestrianized lanes, outside Macy's Department Store, the painted bitumen is more popular than the leafy enclosed area next to it.

Although the billboard-laden image of Times Square pre-dated the expansion of the public realm, the pedestrianisation allowed this attribute to morph from
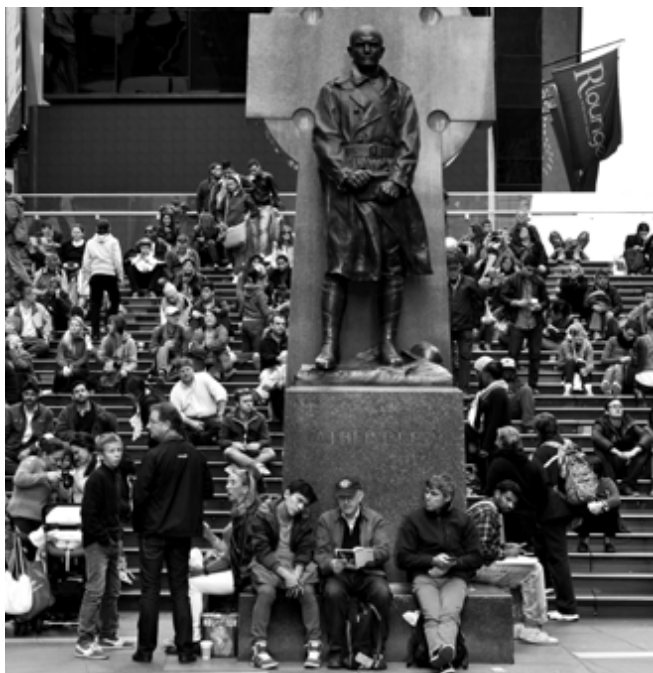
[figs 47–49]
photographs of
Times Square in
1922, 1935 & 1958

[figs 50–51]
concrete planter
boxes act as bollards
and transform the
roadway

[figs 52–53]
stepped TKTS
booth provides
viewing platform

a postcard image to an inhabitable environment. Unless parked in traffic on Broadway, there was previously little time or space to actually look at the billboards. The provision of real public space, rather than the crowded circulation space of a footpath, lets people stop, sit and interact at a pedestrian level *within* the greater environment of Times Square. Along with the expanded plaza, the redeveloped TKTS Booth creates a viewing platform and seating area from which to appreciate the lights overhead *[figs 52-53]*. The Booth is an interesting precedent. It provides level changes and seating opportunities that recall del Campo or Pompidou in a contained, gestural fashion.

The pedestrianisation extends the boundaries of the Time Square intersection outwards north and south up Broadway. The identity also extends to the side streets, where theatres use the same kind of gaudy, flashing lights to compete for attention, and advertising billboards dot most rooftops and balconies. While these are all smaller in scale than those of the main intersection, the side streets are relatively tightly spaced so their lights are still visually prominent.

Smaller billboards have also started emerging along Broadway itself, designed to attract the pedestrian gaze at eye-level rather than that of a far-off car. This indicates a broadening shift to the pedestrian scale as the main user of the environment changes. Street food carts are ubiquitous in New York, but they take on another character entirely in Times Square; temporary structures are associated with the pedestrianised street and are purposefully built to remain there for at least a season.

[fig 54] rendering of latest redevelopment

Despite their success, many of the informal improvements were temporary and the area is now in the throes of a $45 million streetworks upgrade. The moveable chairs will be retained, but the concrete planter boxes will be discarded for a more typical kerb-and-street arrangement *[fig 54]*. The material distributed about this re(re) development indicates a very traditional arrangement that does not reflect the surprising successes of the temporary measures.

Times Square's development has been undertaken through consistent improvements that have established an extraordinarily strong identity to the neighbourhood. It represents an inherently logical approach to urban development: strengthening the desired qualities of the area piece-by-piece to progressively learn from its developing condition, rather than attempting to redevelop everything at once.

Conclusions
Summary

In summary, this project found that a number of typological characteristics can affect the number of active shopfronts and pedestrian attendance in or around a square:

incremental improvement
: Most exemplar result from long periods of incremental development, building on the conditions and lessons of intermediate steps.

public ownership
: A sense of public ownership must be maintained. Without high pedestrian activity there are few active streetfronts, so this is a commercial imperative and well as a social one.

curated intrusions
: Temporary or less-permanent features need to be tightly controlled. Intrusions in the space should be allowed only when they fill gaps in pedestrian amenity.

proportion
: The activity of the squares visited do not benefit from any particular relationship between length and width, but should be split into roughly 100 metre sections to promote pedestrian cross-circulation.

enclosure
: A tight, artistic enclosure was not found to have any affect on the activity levels around its periphery, however a pronounced ground slope within the enclosure did serve to bring people through the whole space rather than only around the entrances.

accent
: Squares benefited from a dominating structure, or providing a focal point that feeder streets, businesses and pedestrian behaviour orient towards.

street entry
: A wide entry to the square relative to the street width causes people to immediately leave the street for the square, while a narrow entry encourages people to linger in the street.

visual continuity
: The clear continuation of the street past the square's periphery encourages streetfront activity to continue into the surrounding neighbourhood, despite breaking up the enclosure of the square.

street kerb
: The typical footpath-and-kerb arrangement skews the vehicle/pedestrian hierarchy towards the former, reducing streetfront activity without necessarily providing any advantage.

direct parallel
: The most active street type is close and well-connected to the square without being incorporated within it.

Conclusions
Local Application

These findings have direct relevance to Sydney's future development. The City of Sydney plan for an expansive square in front of Sydney Town Hall. While described as an expansion to Sydney Square, the proposal will in fact be a major new public square, involving the pedestrianisation of George Street and demolition of several buildings opposite the Town Hall.

The plan is supported by the community, local Council and at least in part by the NSW Government. Several attributes of the City of Sydney's Sustainable Sydney 2030 Masterplan, such as the pedestrianisation of the main street, are repeated in the NSW Government's Long Term Transport Masterplan. Furthermore, the City of Sydney owns the buildings scheduled for demolition for the Sydney Square expansion and has set aside funds for the project. The basis for the development is there. However, both the Council and NSW Government's documents are long-range masterplans with no date set for the works.

The project should instead be staged, introducing immediate but incremental developments by separating relatively minor street works from the major infrastructural changes. Traffic changes can be immediate, allowing them to be tweaked well before the planned introduction of light rail. General traffic should continue through Park and Druit streets as per the existing situation, with the Town Hall block of George Street limited to buses until they are replaced by trams. Just as in the case of Times Square, the implementation of this preliminary stage can be as simple as bollards or concrete planter boxes on the existing road surface. Significant change is possible without any large-scale construction.

The demolition of half a city block in front of Town Hall will create an active public space if properly managed. Mere demolition will not create a sculpted void, as the two remaining vehicle streets will detract from the sense of an enclosed periphery.

Instead, smaller buildings should be rebuilt along the east side of the new open space, leaving most of Pitt Street closed off. By maintaining this edge with added links through to the square, Pitt St would become a direct parallel, the most active street type. The square should prove a strong enough point of interest to draw the high activity levels at Pitt St Mall south to Town Hall. Park Street need not be closed to traffic but it needs to be raised to the same level as the square and pedestrianised George St. If a standard street kerb arrangement is retained the existing buildings will be visually divided from the new public space. By instead raising the street level the existing Citigroup building will be read as the north enclosing wall. This level surface should be continued to the small entry plaza in front of the Queen Victoria Building (QVB). The existing fountain will serve as a pivot between the two spaces, drawing the visitor's eye towards the QVB entrance. The QVB will then be linked to the new square despite being physically separate.

These changes will not, however, improve the existing Sydney Square. Neither the proposal to pedestrianise George St nor the demolition of the city block will be read as an extension of Sydney Square. Its length to width ratio and awkward position between *two* dominating buildings assures it will never be part of the central space. Its improvement should therefore be considered as a separate stage of works.

Firstly, the Cathedral entrance needs to be treated as a separate forecourt rather than as part of Sydney Square. This will reduce the width of the George St square entry, which is currently a wide, amorphous edge that confuses the limits of the square. The Cathedral's original landscaped arrangement with a low stone wall seems perfect for the purpose, as it would tighten the George Street entry into a perceivable edge.

Secondly, the series of level changes currently within Sydney Square negatively affect the overall space and should be removed where possible. Intermediate steps in the centre of the space can be replaced by a smooth ground slope, which would also solve the disconnection between the Town Hall and Cathedral. The major level changes from the plaza to the east and southern streets are more problematic but unavoidable. They currently cause the three entrances to the square to be out of sight of one another, making the square appear a detour to a cul-de-sac rather than part of a longer route. As these drops cannot easily be bridged through addition or made visible through demolition, it makes sense to instead split the square in two. Pavilions set a respectable distance between the two dominating buildings. would establish new limits to the square and create the sense of a continuing route around and behind them.

The pavilions would create a smaller plaza grouped with the planned square on George St, and an intimate forecourt to the St. Andrew's school tower at the western end of the site. This will provide further opportunities for active shop fronts, offsetting the two blank façades of its dominating buildings. Again, these changes need not be implemented in a broad sweeping gesture; temporary pavilions can test the effect of different ways of splitting up the space.

The changes will allow Sydney Square to play a supporting role as a grouped square. It is a reconfiguration that involves relatively minor changes, but which would formalise the space into a separate entity strongly linked to the new public square planned for the Town Hall.

Conclusions

[VVES[^

The conclusions drawn from these observations are separated into those related to policy-making, the particular built attributes of the square, and the nature of the surrounding street pattern. They are then applied to the local context in Sydney.

Policy

Incremental Improvement
Most squares in this study were not the result of a single stage of construction. Traditionally, open spaces were casually established and then progressively formalised, with the built periphery expanded through demolition or enclosed through extension and the dirt surface eventually paved over.

"Being part of the living organism of the city with its changing socioeconomic and technical conditions, a square is never completed. In contrast to a painting or a sculpture, there is no last stroke of the brush or any final mark of the chisel." - Paul Zucker [28]

Piazza San Marco was used as a square by the 2nd century AD but was only fully enclosed in 1810, while the enclosure and paving of Piazza del Campo took from the 13th to the 15th century. These public spaces emerged from long periods of incremental development, without waiting for a single vision to be funded and implemented.

This is not to say such a vision cannot be achieved. Place des Vosges was installed in a single sweeping gesture in the early 1600s, as was Rockefeller Plaza in the 1930s. There are also precedents like Place Georges Pompidou, where the main incursion was through demolition, recontextualising the remaining buildings as three sides of the square. Such successes are rare, however, as there is a greater likelihood of large errors than in the case of an incremental development. Paternoster Square has had two unsuccessful iterations installed, each in a single stage of construction.

The traditional process of incremental improvements should be championed instead, particularly as modern construction allows the 'increments' to be reached much more quickly. Basing each step of development on the last now takes decades, not centuries. The revitalisation of the Times Square intersection, for example, began in the 1990s and has already progressed to the establishment of sizeable public spaces through road closures. The first increment of the road closure involved only plastic bollards and an open invitation to residents. The second stage was more permanent but still hardly formal, providing safety and amenity through concrete planter boxes and metal chairs. This has given private businesses the ability to observe the changed visitor behaviour before the square is closed for its next stage of construction. A shift in focus is already evident in the extension of advertising to pedestrian level, the subdivision of large street-level shopfronts, and the provision of new single-storey pavilions in the middle of the roadbed.

Longer-term local plans benefit from this kind of incremental, cumulative implementation wherever possible. Rather than waiting on the funding, permission and community support for that rare sweeping urban gesture, an early if halting start will provide a better result.

Public Ownership

Every effort should be made to encourage a sense of public ownership over the space regardless its formal land title. Whyte argues that people instinctively seek out other groups of people, and that businesses then follow the critical mass. This relies on high patronage being a desired quality.

The two privately run squares featured in this study, both by the Mitsubishi Corporation, illustrate the two approaches to public activity in a private space. Rockefeller Plaza presents itself as much an events space as a public gathering area. A series of rotating events encourage high-density patronage for the associated buildings to capitalise on. On the other hand, Paternoster Square has embarked on a management policy that actively discourages visitation. A knee-jerk response to long-finished Occupy London protests has left a legacy that reduces pedestrian interest and lowers the civic value of the space. Rockefeller Plaza is known as an international attraction, while Paternoster barely defines itself in its own city.

It is inevitable that owners will want to exert some level of control over publicly used private open space. At the very least, direct intervention justifies a company's management fee. However, this impulse can be directed towards encouraging visitation more actively than is possible in a publicly owned area. The space should be opened up and expanded rather limiting access.

Intrusions

Street stands and vendors are positive qualities if properly managed. At best, they fill gaps in amenity and activate dead spaces or blank walls. At worst, they block views and impede movement.

The key seems to be curation: granting permission to set up a street stand should be a curatorial as well as a commercial decision. Every stall should provide a desired amenity. For instance, while a stand selling tourist paraphernalia certainly serves a function to a particular kind of visitor, where there is one there are inevitably several selling an identical range. Such street stalls in Campo provide no repeat amenity, yet there are several, mostly positioned in prime positions near each entrance that block views into the square. On the other hand, the semi-permanent food stalls at Times Square mitigate the lack of established food outlets facing the newly pedestrianised Broadway. The stalls fill a gap in pedestrian amenity, and each tenant is selected partly through a competition between nominated chefs rather than purely through a cost-based tender.

The other issue is that street stands are often only technically portable. Instead, they are locked shut at night and reopened in the same spot the next day. These stalls are then made as large as allowable, creating bulky volumes that are functionally as permanent as a building but lack the equivalent level of design consideration. Where street vendors are required to be portable they are smaller as a necessity and so become less intrusive on the space. This allows them to shift to activate a dead space or replace a closed business, as well as to capitalise on temporarily active areas.

Square

Proportion

The study did not support arguments about the importance of a particular ratio of length to width, nor any emphases on maximum heights. From the perspective of an active, vibrant public space, there were no hard dimensional rules. Indeed, the lacklustre Paternoster Square shows that keeping to typological principles is no assurance of producing a quality public space. Length/width ratios varied widely, while the simple introduction of a podium was sufficient to lower the perceived 'ceiling' around tall buildings and establish a ground-level orientation.

Most of the central open areas studied were, however, close to the limits set by Jan Gehl's 'social field of vision', a 100-metre distance in which an individual's gender, approximate age and activity is legible. At Campo, the longest edge is around 140 metres long, but the inner zone delineated by the bollards and change in paving is a maximum 100 metre. Similarly Vosges is a 145 metre square but the enclosed landscaped section is only 110 metres. This sets up a distinction between the periphery circulation space and the social activity in the centre.

Times Square involves the greatest break with proportional rules, due to its informal evolution from street to public space. At the bow-tie there is no defined southern limit, letting the ratio extend far beyond Sitte's upper limit of 1:3. However, the high-traffic cross-streets and huge numbers of people limit sight lines to less than two city blocks at ground level, again bringing it back towards Gehl's range.

Enclosure

The degree of enclosure definitely has an effect on the artistic qualities of the space, but little on the activity level. Indeed, the tightly-enclosed precedents of Vosges and Soho do not have particularly active peripheries, and their tight enclosures prevent the activity from radiating outwards. Times Square lacks a tight enclosure yet features high activity levels along its whole periphery.

Landscaping can be incorporated without ruining the sense of enclosure or structure of the void. The key is a direct spatial and visual connection through to the periphery. For instance in Vosges the perfect symmetry of the periphery is repeated in the paths and most of the planting. Similarly, at Leicester Square the wide gates match up with the street entries and the landscaping enclosure doubles as seating, creating a degree of continuity and providing amenity to both sides of the barrier. However, at Soho Square there is a perceivable disconnect at the fence that makes the landscaped section feel like a separate park.

Ground slope also has an impact on the use of the space and can help activate the area. Any point on the slope is a potential seat, encouraging people move through the whole square looking for clear ground. In flat examples the centre of the open space might never be used even when visitation levels are high. However, a fall in the ground surface needs to be coupled with a well-structured periphery and clear routes in and out. The slope at Campo is reflected in that of the streets around it, encouraging cross-circulation between vertically separated streets and interaction between all sides of its periphery. The slope at Pompidou instead terminates the

relationship of the plaza to its eastern and western orientations by falling below the level of the adjacent streets and leaving the resulting walls blank. The visual continuity between the square and its surroundings is broken, making the open space a diversion rather than part of a whole.

Accent
The activation levels of squares benefit from an accentuating structure. The lights of Times Square, the Palazzo at Del Campo, and the Basilica at San Marco provide a focal point that feeder streets, periphery businesses, and pedestrian behaviour orient towards.

A dominating feature brings the visitors attention to the periphery rather than facing it inwards. When facing one part of the periphery the eye is naturally drawn to the rest of it, encouraging visitors to scan the full selection of active street frontages. In the case of the Soho, there is no obvious orientation point so people face inwards to the landscaped section. In Vosges the unchanging arcades conceal the ground-level activity, so the active streetfronts clustered around the street entries rather than being evenly spread around all four edges.

An accent does tend to produce a deadening effect on activity levels behind it. The dominating building usually directs its efforts to a single or dual orientation, rather than seeking to activate every façade, creating a noticeable 'backside'. This seemed to be deliberate in most of the precedents examined, which used an accent to mark the edge of their neighbourhood. For instance, Centre Pompidou signifies the start of the cultural district, while the Palazzo Repubblica marks a shift to more residentially-oriented space.

During the course of this study, it became apparent that the primary activating influence was not the square itself, but rather the streets in and around it. An original hypothesis that Sitte's rules of "artistic" street arrangements would prove accurate predictors of streetfront activity did not find much support. As discussed, Sitte argued that streets should not exit the square directly opposite their entry, that they should be offset at the corners so as not to dissolve the sense of enclosure, and that the number of feeder streets should be minimised to avoid interruptions to the space. While these statements are true from a space-making perspective, they had differing impacts on activity creation.

The Street Entry
The nature of the join between the feeder street and the square causes a varying 'pull factor': the degree to which pedestrians are naturally drawn out of the street and into the square. Pedestrians gravitate towards the square whenever its entries are wide and open relative to a narrow street, pulling pedestrians through at the expense of any remaining side lanes or streets in between. This is seen at San Marco, where a laneway directly parallel to the square is under-activated and ignored by pedestrians due to its proximity with a wide entrance to the plaza. Where the street is wide and the square entry narrow or enclosed, people were much less likely to travel straight through to the square. Vosges' arcaded entries to the north and south display this characteristic.

Both arrangements can be utilised to structure the level of activity. Where planners desire street level activity they should provide narrow entries to encourage people to stay on the street while still providing the necessary access

to the square. Where the area is mainly residential and street life should be muted, wide open-air entries should be provided to divert pedestrians directly into the square.

This is best illustrated at Piazza del Campo. There is a direct path from the main entry to the Old City to the Piazza, yet people tend to ignore the first entry and instead divert down a parallel street. Despite the pull of the world-famous space, pedestrians do not walk down the first entrance, which is a narrow arcade with a steep stair. Instead, they enter the square at one of its main open-air entries, five-hundred metres further down the parallel street.

Visual Continuity
In a broad sense, this study supports Whyte's hypothesis that the transition between feeder street and square should be so subtle as to make it hard to tell where the boundary of the square is. For Whyte, this transition allows pedestrian activity to unconsciously overflow, activating areas outside the periphery while still feeling like they are inside the main space. This is supported where the technique is used to highlight certain streets, but not when it is applied to every street entering the square. A noticeable division can work from both an artistic and an activation perspective, while a smooth transition to an under-activated street sometimes has a negative effect on the periphery square.

For instance, the north-south and east-west connections at Times Square are treated differently to the benefit of the overall space. The pedestrianisation continues to the north and south, confusing the northern and southern boundaries and extending the limits of the area. The east-west connecting streets have been left as is, so they do not distract from

Broadway's identity as a separate street. Instead, they assert their connection to the neighbourhood through electrified theatre frontages.

On the other hand, the rehabilitation of Habana Vieja does not establish a street hierarchy, instead implementing standard street paving and furniture to link all renovated streets with the squares between. However, as not all of these streets have been pegged as 'activity corridors', some remain under-activated. In this case the continuity deaden the areas within the square that correspond with the underutilised streets. If there was a clear division between the square and the street, shopfronts might continue around the periphery as if the inactive streets were not there.

When the continuation of a street is concealed, it usually results in a drop in activity levels, even when it is a vibrant city route up to that point. Sitte's advice that a street be offset as it enters the square to obscure the entrance and maintain the enclosure is detrimental to the continuation of streetfront activity. At Plaza Vieja the street pattern continues straight through, but with a dogleg at each corner to maintain the enclosure. The street pattern is concealed, diminishing the visitor's desire to wander. If the street is not visible, the impulse is to walk back the way you came rather than explore a new route.

Vosges shows this best: the east-west running street that breaks an otherwise complete enclosure is far more active than the north-south running street, which is carved in two by the central space and has its entrances hidden by pavilions. A loss of visual continuity works in the same way as narrow street entries, discouraging

visitors from walking through. From the southern entrance to Vosges the highly active north side is concealed. Patrons walk in, sit, and leave the same way. Entering from the north you are pulled east or west by a continuation of the street that makes activity past the periphery visible, providing the basis for street front businesses to continue past the square.

The Street Kerb
One striking attribute of some precedents in this study is the absence of formal street kerbs even where vehicular traffic was accommodated. Campo, Leicester and Pompidou all allow vehicles to varying degrees, yet do so at the same level as the pedestrian. This causes cars to slow down and skews the hierarchy of ownership very much in the favour of the pedestrian.

A persistent trend in contemporary planning is to shift or demolish the kerb in newly pedestrianised areas, identifying a new relationship between car and pedestrian. Times Square disproves this thinking by retaining the old footpath and kerb despite the complete reconfiguration of the pedestrian environment. As discussed previously, a temporary arrangement of concrete planter boxes and painted road surface was implemented for reasons of expediency. Pedestrians sit on unfixed metal tables scattered along the road surface. There is a sense that the whole road is accessible, even if you naturally stay within the leafy protective line of the concrete planters.

However, the next stage of development at Times Square will reinstate the kerb despite the success of its current arrangement, regularising pedestrian areas at the footpath level and leaving the remaining traffic lanes a step down. Given

that the street kerb is essentially a trip-step – a single step averaging 150-200mm, which would be illegal in a building – it is curious that it is so intrinsic a feature of street design.

Historically, footpaths were discontinuous sections installed and maintained by shopkeepers as entry patios raised above the mud street. They have since evolved into areas for pedestrian movement, with the kerb division separating pedestrian and vehicle to facilitate efficient movement. However, as traffic requires much more space than pedestrian zones, which can be squeezed to almost nothing while still technically allowing movement, the implied hierarchy of wide streets and narrow footpaths is always skewed towards the vehicle. It follows that where the pedestrian is the target user then the kerb should be removed entirely, even if vehicular traffic is to remain.

This is possible because the kerb does not in fact provide much of an amenity. Drainage can be achieved without it – as pedestrianised streets and motorways attest – and it does little more than a painted line to actually stop a moving vehicle. Although the raised footpath affords a feeling of safety, concrete planter boxes or other bollards in fact provide a dramatically safer pedestrian environment.

The effect of the kerb is most evident in a street that wraps around the perimeter of the square. Where the ground plane is continuous this perimeter street has a positive impact on pedestrian behaviour, setting up a zone for circulation that is separate from the recreational area. As space for vehicle access needs to be maintained, no tables or street stands are positioned that would also impede the flow

of pedestrian movement. Cars have a low impact on these raised perimeter streets, forced to a crawl behind an unheeding mass of slow-moving pedestrians.

However, where the perimeter road has a standard raised-kerb, it can cause a division between open space and periphery that negatively affects the overall arrangement. The perimeter street around Vosges complicates access between the arcades and the enclosed central area, yet only achieves a low-traffic road of little navigational benefit to the city network. The street at Soho Square is even more detrimental due to its subdued periphery, with the perimeter road severing all remaining ties between the central area and the space around. In cases like this, the kerbed street turns a sculpted void space into a merely open space by separating the periphery from the plaza.

The Direct Parallel

Streets can be directly associated with the square without actually meeting it. The 'direct parallel' is an active street parallel to one side of the square that is not within its periphery, avoiding breaking up the enclosure while maximising the number of active street fronts

The most effective direct parallel observed was Via di Città at Pizza del Campo. It is separated from the square by the main periphery buildings ranging from fifteen to forty metres deep, with regular accessways into the square. These openings are narrow, steep and enclosed, providing visual access without encouraging people to enter. They do not interrupt the enclosure of the square when viewed within, as their size and the level change limits visual access from that direction People continue walking down Via di Città until they meet one of the open-air entries to Campo.

Calle Mercaderes in Havana is a direct parallel to the city's four squares, distinguishing itself from the rest of the street grid through this relationship. Beginning as an offset from Plaza Vieja, Mercaderes is the activity spine from which the squares come off in both directions. The street becomes very active at the intersection that links through to a square, becoming more vibrant overall than any of the individual squares themselves.

The success of the direct parallel hinges on strong connections to the square alongside, differentiating it from the other streets of the city. The repeated links to the square can either be views without access, or actual access points structured to retain pedestrian flow through the direct parallel as long as possible.

References
End Notes

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Image Credits

The figureground for Piazza San Marco incorporates an 1831 sketch by D. Moretti

Fig. 5   Photograph by Mirco Mugnai

Fig. 9   Canaletto, c1730. The Clocktower in the Piazza San Marco

Fig. 10   Canaletto, The Piazetta Looking to the Clocktower

Fig. 11   Canaletto, San Marco

Fig. 12   Canaletto, San Marco with Basilica

Fig. 20   Photograph by Francesco Francalli

Fig. 22   Photograph by Valentin Arfire

Fig. 35   Photograph by Paul Lincoln

Fig. 39   Photograph by Bart Verschaeren

Fig. 40   Diagram reproduced in Koolhaas 1997, p. 182

Figs. 47-49 New York City Library, Authors unknown

Fig. 54   Rendering by Snøhetta

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