



‘I came to look at it as part of a city, rather than part of a museum. It’s a fragment of the urban experience... It’s a space of our time.’

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Abstract

In the contemporary world both museum and city have acquired an increased significance, among other factors, through the competition of cities through culture, and the creation of open environments in response to social change, accelerated mobility and plural identities. This has led to a wide range of possibilities that link the museum and the city, from the museum building as a landmark for the city to the inclusive and participatory practices of contemporary museums. The links are expressed both in theory and in practice. Against this background, the paper proposes to focus on two key issues relating the spatial morphology of the museum to the city: first, how the museum uses urban ideas in its spatial design; and second, how it addresses urban communities through the way it organizes encounters between, on the one hand, objects and information and, on the other, visitors, in its architectural space. A key idea that guides the paper is that the physical encounter with the museum is fundamentally influenced by the relations between spaces and how they organize visitors’ exploration, viewing, and co-awareness and co-presence with others. To analyse the paper’s case studies spatially, we use theoretical and analytical tools offered by space syntax, that allow us to bring to the surface the role of architectural and spatial design in the interaction between museum and city. In the first part of the paper, we will show that, through the idea of *axiality* and *connectivity*, the space of the museum is integrated to varying degrees into the contextual street-system and its social spaces can be activated by dense links to the surrounding urban context; while through the concept of *informality*, generated by the combination of the street-network museum layout and the variety of uses and activities in the museum interior, visitors’ random patterns of exploration can be linked to the way people move in, and occupy, streets, public spaces and parks. The second part of the paper will argue that this circulation flexibility is also related to the principle of *inclusiveness* in contemporary museums which abandon rigid classificatory schemes to privilege situated meanings, shared experiences, personal perceptions and experiential dissonance. The final part of the paper brings together the findings, constructing a taxonomy of spatial ideas and urban objectives, and proposes an interpretation of the phenomenon of the museum as an urban space in the contemporary city through the concept of *urban sociability*.

Keywords: *urban spatial design; museum space; sociability; taxonomy; axiality; informality*



INTRODUCTION

'I came to look at it as part of a city, rather than part of a museum. It's a fragment of the urban experience...It is a space of our time'. This quote is Juan Muñoz's comment in 2001 as the Spanish artist was developing his commission *Double Blind* for the Turbine Hall in Tate Modern [1]. It is also the title of this paper which looks at a non-obvious relation between city and museum, that is how museums are increasingly described spatially in urban terms and considered as an active part of the urban culture. Often architects have argued that they seek to create 'the richness of urbanism' [2] and design buildings that are characterized by the messy nature of a medieval city that came together over time [3]; architectural historians have described museums as 'testing the limits of the internal urbanism' [4]; curators have defined museum space as the 'covered street' [5]; artists have claimed to display works contributing 'to new forms of community and sociability' [6].

The background of this phenomenon is the increased significance both museum and city have acquired in the contemporary world, among other factors, through the competition of cities through culture, 'a return to urbanity', the 'cultural reinvention of cities' [7], and the creation of open environments in response to social change, accelerated mobility and plural identities. This has led to a wide range of possibilities that link the museum and the city, from the museum building as a landmark for the city to the inclusive and participatory practices of contemporary museums. The links are expressed both in theory, through a continuously developing literature in architecture, urban studies and museum studies [8], as well as in practice, through for example the growing emphasis on museums of cities [9].

The question raised by the paper is how then can museums feel and work in an urban way, and why are urban spatial ideas increasingly set as their design objectives. To explore the question, we propose to focus on two key issues relating the spatial morphology of the museum to the city: first, how the museum uses 'urban' ideas in its spatial design; and second, how it addresses urban communities through the way it organizes encounters between, on the one hand, visitors and, on the other, objects and information, in its architectural space. These issues will be investigated through the analysis of best practice museum cases, both recently created (Tate Modern, London; 21st Century Museum of Contemporary Art, Kanazawa; Museum aan de Stroom, Antwerp; ARoS Aarhus Kunstmuseum; Fondazione Prada, Milan; and Benaki Museum, Athens) and at the design stage (National Museum of Art, Architecture and Design, Oslo, and PLATFORME 10, Lausanne). For the spatial analysis of the case studies, we will use theoretical and analytical tools offered by space syntax, that allow us to bring to the surface the role of architectural and spatial design in the interaction between museum and city. A guiding idea for the paper is that the physical encounter with the museum is fundamentally influenced by the relations between spaces and how they organize visitors' exploration, viewing, and co-awareness and co-presence with other people.

The paper is organized into three sections. We will first identify urban spatial ideas used in the design of the case studies. We then propose a taxonomy relating urban spatial ideas, and their expressions in the case studies, with their meaning and their objectives described in terms of three concepts: *axiality* and *connectivity*, *informality*, and *inclusiveness*. In the last part of the paper it is argued that, these concepts, taken together, summarise the form of *urban sociability* that is being sought in museums and explain why it is these that are being used as a model for the spatial design of the museum in contemporary society.

URBAN SPATIAL DESIGN IDEAS AND BEST-PRACTICE MUSEUM CASES

Historically museums ‘punctuate the urban composition’ [10], lying in central urban locations and often adjacent to other key public buildings. These characteristics of the museum in terms of its relation to the city have developed over time, with cases such as the Guggenheim New York, which could be said to internalise the idea of the street, and the Pompidou Centre, which created a new urban square next to the building and extended it into the heart of the building itself. Openness became a guiding aim since then [11], but what is striking today is the way ‘urban’ spatial design ideas relating to streets and squares, have become explicit, recurrent and even defining features of the contemporary museum building. As a museum rarely represents only one spatial design idea, the illustrative examples which will be presented will also allow us to show variations within the same idea.

Axes, linkages and permeability

We will begin with an unconventional form of a museum that extends throughout the city, creating a network within the urban grid, the Benaki Museum, Athens. Originally opened in 1931 in the city centre, it has developed, mainly in the last two decades, with new collections and buildings that spread out from the north to the south part of the city, where the latest addition was completed at the end of 2017. All the satellite museums are housed in converted buildings, which to different degrees relate conceptually to the collections they display. What is of interest from the point of view of this paper is the different ways the museum buildings are related to the contextual street-system, which can be thought of as reflecting the spatial structure of a city. To show these, we use the syntactic method of *axial representation*, that is the map where the street system of Athens is represented as a network of linear spaces, or axes. The axes, or groups of axes, which are configurationally prominent in the urban network are shown in red in the computer-based axial analysis. They are syntactically described as *integrated* and likely to have more potential for high to- and through-movement. In contrast, the less prominent axes, and likely to be harder to find, are described as *segregated* and are shown in blue. Taken as a whole, the mean *integration value* of all the streets segments that make up Athens is 0.982, higher than the average for cities in general (which is 0.89) [12], and with the maximum value for a street segment in Athens being 1.62, again a high value for cities. If we look at the location of two indicative cases in the axial representation of Athens (**Figure 1**), we find that the main (and oldest) Museum of Greek Culture lies on a highly integrated line (integration value 1.549), while the more specialised (and most recent) Toy Museum, lies in a relatively segregated urban location (integration value 0.892). On the whole, taking into account the axial integration values of all the locations of the Benaki Museum buildings, their distribution covers a wide range of values. In this sense, the Benaki Museum network mirrors the spatial structure of the city, made up of more or less integrated locations.

But in terms of linkages at the scale of a single building, and continuity with the immediate environment, it is the 21st Century Museum of Contemporary Art (by Kazuyo Sejima and Ryue Nishizawa of SANAA, 2004) that is pioneering and influential. Located on a site in the centre of the city, the museum takes the form of a low volume circular building, which, devoid of front or back, can be approached from the city from different directions and through several entrances. Its innovative architectural and spatial design was based on the architects’ concept that the museum should be open to the city like a park, in the sense of ‘allowing different kinds of people to be together in the same space at the same time’ [13]. The circular form permits the creation of a continuous interior space, and the use of glass

walls allows visual connectivity between activities in the museum and the public realm, enhancing a sense of encounter and an awareness of visitors' co-presence, inside and outside the building.



Figure 1. Axial map of Athens and the location of the main and oldest Benaki Museum of Greek Culture, and the latest Benaki Toy Museum.

In addition to creating connections leading to the museum from different parts of the urban context, routes can also pass through its interior. A curved 'street' which bridges two parts of the city, traverses the building of the AROS Aarhus Kunstmuseum (by Schmidt, Hammer Lassen Architects, 2004). It is an axial space that connects the museum entrance to the network of streets outside through ramps at both ends. This ground-floor permeability link is also reflected in the exterior of the cube-shaped building, by a glass incision that cuts through its compact form, along its whole height. A variation of the horizontal street of AROS is the rising spiral street of the Museum aan de Stroom (MAS) (by Neutelings Riedijk Architects, 2011). The museum is made up of closed galleries and transparent circulation spaces, which are linked to a continuous route from the street-level entrance to the tenth floor of the building. It is known as the 'MAS boulevard' and is accessible freely and outside the museum's opening hours. These 'boulevard' spaces, through their transparency and by altering the viewer's visual field by 90 degrees on each floor, offer visitors constantly changing views of the city, and work as a vertical 'exploration' of the city through movement. These images are then synthesized on the top level, the 10th floor of the building, which is devoted to a panoramic view of the whole city. This relates also to the second spatial design idea: 'Physical and visual accessibility'.

Physical and visual accessibility

The increase in linkages between museum and city can also work at different levels so that, in parallel to the physical accessibility of the building on the ground level, direct physical as well as visual accessibility to their top level is strongly emphasised. In a simple way, this kind of visual accessibility can be illustrated by publicly accessible open spaces, in the form of viewing

terraces, which are exclusively dedicated to the panoramic view of the city – as on the top floor of the MAS building, and the new pyramid building of the extended Tate Modern.

In a more symbolic way, the building can be designed so as to express the idea of the museum as a ‘lighthouse’ that both allows it to be seen from the city and the city to be seen panoramically. Two cases that best exemplify this are the ‘Alabaster Hall’, the illuminated exhibition space high up in the new, currently under construction, National Museum of Art, Architecture and Design, Oslo (by Kleihues+Schuwerk Gesellschaft von Architekten), and Olafur Eliasson’s permanent installation ‘Your rainbow panorama’, on the rooftop of the ARoS building. This installation, a 360o walkway in rainbow coloured glass, is both an art object and a context, which offers panoramic views of the city, perceived through movement. In addition to contributing to the iconicity of the building, by being visible from afar, it is said that it ‘acts as a beacon for people moving in the city’ [14], and transforms the museum into ‘a compass in time and space for its citizens’ [15].

Place-making

As iconic buildings in the urban landscape, museums are seeking to be not only place-signifying, but also place-making, in the sense of defining and engaging well-used public spaces around them [16]. It is widely acknowledged that Tate Modern succeeded in ‘making a very open place which can be activated by its users’ [17], by surrounding the museum with an informal landscape, comprising generous public spaces, a large planted embankment and lawn areas. The idea was to transform, the public space into a common ground, a natural space, where people like to go and, once they are there, they are encouraged to explore what’s going on inside the building.

The creation of a new urban public space is also one of the guiding ideas in the new National Museum of Art, Architecture and Design, which lies on the waterfront, on a site that was previously one of the train stations of Oslo, and is still densely used. This will create a transition between the new area of the city and the older city centre. The new building, together with the existing station buildings which will be conserved, will frame a ‘piazzetta’, combining art and restaurants with the entrance space of the museum, and work as an extension of the urban space.

In a more explicit way, the construction of urbanity was the starting point for the design of the new Cantonal Museum of Fine Arts (mcb-a) (by Fabrizio Barozzi and Alberto Veiga, planned to open in 2019), in Lausanne – the first stage of the ‘PLATFORME 10’ project, described as ‘a new city district’. The new building will take the place of the former locomotive shed, and its linear volume will be framed, on the one side, by rails and, on the other, by an open public space, linked to the existing street pattern. In turn, this space will be extended to the public esplanade created around another new museum building (by Manuel and Francisco Aires Mateus) that will house, on the upper level, the mudac (Museum of Design and Contemporary Applied Arts, to open in 2021) and, on the lower, the Musée de l’Elysée (Cantonal Museum of Photography) – the second stage of the ‘PLATFORME 10’ project. The two museums will have a shared entrance as an open space on all sides, a natural extension of the esplanade outside. This synergistic combination of buildings and spaces aims to contribute to a sense of urban density by relating in and out movement with circulation in the two museums.

Interior urban network and freedom of movement

Shifting attention from the museum's context to its interior, an emerging feature is the articulated architectural configuration of museum space as a street network, which introduces flexibility in the way space is used and encourages random patterns of exploration. The layout of the 21st Century Museum of Contemporary Art is organised as a system of independent galleries forming the museum's core, and a network of public spaces as an outer zone that serves a variety of public programmes. Four glazed internal courtyards mediate the relations of the two zones, producing continuity between them. A network of glass corridor-like linear spaces, connected at right angles, pass among the independent volumes, creating lines of sight, some traversing the whole building, others being more localised. The whole structure aims to facilitate orientation while, in parallel, actively encouraging exploration of routes.

In a different way, instead of forming a system of geometrically street-like spaces, the complex of buildings and spaces that make up the extended Tate Modern, construct an overall pattern which can be explored as a single topological network. The new building (Blavatnik Building) adapts and extends the previously inaccessible southern part of the power station, providing links with the existing building (Boiler House) on three levels (underground, first and fourth). These create interconnected rings of circulation, provide choice of routes, and allow the co-presence of people to be random.

Variety and experiential dissonance

In addition museums tend to be characterised by the co-existence of shorter (more localised) sequences of display spaces, a spatial change which is accompanied by the rejection of rigid classificatory schemes and a tendency for exhibitions offering different narratives and perspectives, and even playful experiences.

In AROs, the galleries for the permanent collection are of 'conventional' layout, taking the form of a sequence of spaces supporting a curatorial narrative, but are accompanied by a complex of underground self-contained spaces, specially designed to accommodate large-scale installations, projected images and performance work. These underground galleries are closed spaces, open to a common corridor, organized into a non-hierarchical structure. Each gallery tends to be taken over by one work, and is juxtaposed to the others independently of any connecting narrative, immersing visitors in different atmospheres and creating focused experiences. In a comparable way, Tate Modern offers different spatial constellations in its different parts: in the existing building, classical enfilades of galleries; in the new building, less extended spatial systems with many dead-end spaces which are 'likely to encourage more random patterns of exploration'; and in the underground circular spaces, known as the 'Tanks' (the former oil tanks of the power station), self-contained spaces which are dedicated to new art. A consistent parameter, however, in the different spatial constellations is the emphasis on the experiential approach of the works displayed, and the conviviality of spaces.

In the case of the transformation of a former distillery complex to the Prada Foundation (by OMA/Rem Koolhaas, 2015), the explicit architectural intention was to create an 'unusually diverse' collection of architectural typologies, in addition to the collections of artefacts, and even to give rise to experiential dissonance [18]. The seven existing buildings and the three new structures – the 'Podium', the 'Cinema' and the 'Torre' (tower) – constitute a combination of heterogeneous elements (described by the architect as 'an ensemble of fragments') [19], offering very different spatial conditions. The 'Sud Gallery', for example, forms an enfilade of eight spaces which become increasing large as the viewer



progresses through them by a route passing close to their edges; the 'Cisterna' is made up of three interlinked vertical structures (former liquor tanks) which allow a bird's eye view before approaching the exhibits on the ground level; and the 'Nord Gallery' offers an open plan space which contrasts with the intimate spatial scale of the single rooms of the 'Haunted House'. This emphasis on the spatial conditions and the conscious preoccupation with the expansion of the repertoire of spaces actively encourages the recurrent tendency in museum exhibitions to privilege the lived and embodied over the conceptual or analytic – as in the city – and allow visitors to employ their own resources for experiencing the museum and use it in a more exploratory and informal way.

The diversity of spatial environments and the search for opportunities for choice and variety of experience comes to be added to the variety of activities and uses that constitute the increasingly complex functional programme of contemporary museums. It is another way in which the museum seeks to be *inclusive* in the sense of engaging and bringing together in its space a wide audience of varying ages, abilities, interests and leaning styles.

Common ground for social interaction

The idea of internal organization in the style of urban space is further emphasized by the increasing creation of 'unnecessary' places (as for example small areas, stairs and ramps with benches and niches) so as to become social spaces and places for informal use, sitting and interacting.

Returning to the Prada Foundation, what brings together its different components (pre-existing and new) into a coherent whole is, it is argued, the shaping of voids between them [20]. According to the architect, 'it became a project about the courtyard – about the public space... rather than the objects'. By demolishing structures and adding new buildings, Koolhaas created an alternation of covered and open parts. Moving around in the site, the visitor experiences open spaces framed by the surrounding structures, all with facades, volumes and heights different to each other. The resulting complex, in combination with, on the one hand, the seemingly random presence of trees along the sides of the open spaces and the availability of moveable chairs, and, on the other, the unprogrammed patterns of movement and co-presence of visitors, create a distinctively urban sense of space.

A more theatrical dimension of visitors' co-presence is created by one of recent satellites of the Benaki Museum, the '138, Pireos Street' (by Kokkinou+ Kourkoulas, 2004). It is an enclosed building, occupying a whole urban block, and with its centre taking the form of a void, an interior courtyard. Functionally, the courtyard provides flexibility of use – it can work as a display space, a performance stage, as well as an open-air cinema. Experientially, it is designed to make the movement of visitors integral to the museum experience, and augment the social dimension of the visit. The transparent interior facades make visitors constantly aware of each other as they move about in the museum, and in particular the metal mesh that covers the north side stages the flow of visitors moving along the ramp. This inspires the logo of the museum – an abstract representation of the façade with figures moving along the interior ramp.

In the extension of Tate Modern, an abundance of social spaces are created within the building itself: the areas of circulation and the zones outside the galleries are designed bigger than needed so as to shape 'incidental leftover spaces' and intimate places for visitors to pause and linger. But perhaps more powerfully than any other space of the museum, it is the Turbine Hall that introduces a new kind of collective space. Its location (a continuation of the outside space and the main axis of the interior of the building) and its spatial connections and positioning on routes, linking visitors' movement in and out of the museum to their paths

within, make it a natural social space. More unexpectedly perhaps, it is its function as a display space that enhances, both in a literal and in a metaphorical sense, its social nature and its significance as a public space. The site-specific works and installations commissioned by the Gallery and created at the scale of the whole space, pose challenging questions. For example, the installation of Juan Muñoz, referred to at the opening of the paper, is an exploration of the theme of intercommunication between people [21]; Doris Salcedo's *Shibboleth* (2007) is a reflection on social divisions and exclusions, and Ai Weiwei's *Sunflower seeds* (2010) a commentary on the relationship between the individual and the masses. Also these works, by offering 'an activity focus for the space', provide a linkage between people, and prompt strangers to talk to others as if they knew each other [22]. They invite visitors' engagement beyond simply viewing, and contribute to new forms of co-presence and a sense of dense social occupation and activity.

TAXONOMY OF URBAN SPATIAL DESIGN IDEAS AND THEIR OBJECTIVES

On the basis of these illustrative cases we propose a taxonomy of spatial design ideas (Table 1) which are being used by museums, how they are expressed in buildings and exhibitions, and their urban meaning. Most importantly perhaps, the proposed taxonomy links the spatial design ideas to functional and social objectives, in both urban and museum space. These objectives, it is proposed, can be summarised in terms of three concepts: *axiality* and *connectivity*, *informality*, and *inclusiveness*.

More specifically, through *axiality* and *connectivity*, the museum building can become physically part of the urban landscape: it is integrated to varying degrees into the urban street-system; urban routes pass through its interior; the traditional borders of the building with the exterior space are diminished; and social spaces are activated by dense links to the interior structure and the surrounding urban context. *Informality* links museum space to the way people move in and occupy streets, public spaces and parks. The street-network layout and the variety of uses and activities generate flexibility in the way space is used, both in terms of people's movement and engagement, and create changing patterns of co-presence by individuals. Finally, situated meanings, and experiences created for that specific time and space aspire to bring to the museum interior the urban culture with its diversity and experiential dissonance, and so allow for *inclusiveness*.

INTERPRETING 'URBAN SOCIABILITY'

But why should these be shared objectives for the museum and the city? Why is the city increasingly seen as a model for the spatial design of the museum, both in terms of its relation to the urban context and its interior layout and functioning? We propose that the key lies in what is distinctive about the spatial morphology of the city, namely, that it leads to what we might think of as *urban sociability*. The city is made up of networks of linear, one dimensional spaces, or street systems, which connect all parts of the city to all others, and periodic two-dimensional public spaces, squares or parks, which create local intensifications of activity and cross movement. Streets and squares generate random patterns of movement which bring different people together, regardless of social identity. As Hillier argues [23], 'urban space brings together what society differentiates'. It is this outcome, it could be proposed, that spatial design in museums, and in particular the 'urban' design of museum space, can help to bring about.

SPATIAL DESIGN IDEAS	KEY EXPRESSIONS IN MUSEUMS	OBJECTIVES: dimensions of 'urban sociability'	CASE STUDIES	URBAN MEANING as proposed for example by (Carmona et al., 2010)
EXTERIOR SPACE				
Axes, linkages and permeability	<ul style="list-style-type: none"> - Location integrated into the urban street-system. - Many entrances. - Routes to and through the museum. 	<i>axiality connectivity</i>	<ul style="list-style-type: none"> - Benaki Museum network - 21st Century Museum - ARoS - MAS 	<p>Axes create the linear network that makes up the spatial structure of the city.</p> <p>Linkages are thought of as one of the key attributes of successful places.</p> <p>Permeability is seen as a fundamental quality of enriching environments, in the sense that they maximise the degree of choice available to users.</p>
Physical and visual accessibility	<ul style="list-style-type: none"> - Continuous space accessible from street level to top level. - A space high up in the building, in the form of a viewing terrace, or as a 'lighthouse'. 	<i>connectivity</i>	<ul style="list-style-type: none"> - MAS - Tate Modern - New National Museum Oslo - ARoS 	<p>Good environments should be accessible to all.</p> <p>Accessibility is among the fundament place-making considerations.</p> <p>Visual distinctiveness aid the creation of place images.</p>
Place-making	<ul style="list-style-type: none"> - Lively and well-used public open spaces outside the building. 	<i>informality</i>	<ul style="list-style-type: none"> - Tate Modern - New National Museum Oslo - PLATFORME 10 Lausanne 	<p>Place-making is the self-conscious and unself-conscious practice of urban design.</p>
INTERIOR SPACE				
Interior urban network and freedom of movement	<ul style="list-style-type: none"> - Street-network layout. - Fragmentation of built volumes. 	<i>informality</i>	<ul style="list-style-type: none"> - 21st Century Museum - Tate Modern 	<p>Movement is considered to be fundamental to understanding how places function.</p> <p>Successful public spaces are characterised by the presence of people.</p>
Variety and experiential dissonance	<ul style="list-style-type: none"> - Shorter (more localised) spatial sequences of galleries. - Diversity of spatial environments. - Exhibitions offering different narratives, perspectives and experiences. - Variety of activities. 	<i>inclusiveness</i>	<ul style="list-style-type: none"> - ARoS - Tate Modern - Prada Fondation - 21st Century Museum 	<p>Encouraging mixing of uses and activities is seen as a key principle of urban design and a key attribute of successful places.</p> <p>Presence of playful behaviour as a good indication of place quality.</p>
Common ground for social interaction	<ul style="list-style-type: none"> - Social spaces and 'unnecessary' places for informal use. - Interior courtyards. 	<i>informality</i>	<ul style="list-style-type: none"> - Tate Modern - Prada Fondation - Benaki -138 Pireos Street 	<p>Neutral or common ground for social interaction, intermingling, and communication, is a key function of the public realm.</p>

Table 1. Spatial design ideas in museums and cities and their objectives.

As we have sought to show, through the implementation of urban spatial ideas and the functional patterns of *axiality* and *connectivity*, *informality*, and *inclusiveness* they generate, museums can bring people together in their space, in a shared engagement with resources and activities and in an informal network of co-presence, both aspects of the experience of diversity and liveliness that characterize urban life [24]. Precisely this – to become a place of *urban sociability* with which its heterogeneous visitors can identify and feel they can be part of – could perhaps constitute a key reason why the city has been seen often and in many ways as the spatial model for the museum.

It could then be suggested in conclusion that, by looking at the relatively underexplored aspect of the role of spatial design at the level of the museum building, the paper contributes to the context of the contemporary discussion about the emergence of the museum as both a *real* space – which in a dematerialising world offers an encounter between visitors and tangible objects – and as the new ‘metropolitan collective space’, the ‘new town square’ [25].

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