DESIGNING FOR HUMAN ENCOUNTER:

urban design and the politics of visibility

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Vaso Trova

Department of Architecture, University of Thessaly

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Vaso Trova Department of Architecture, University of Thessaly, Pedion Areos Volos, 38334, Greece vatrova@uth.gr

Abstract

Squares raise an important design problem, that is, the relevance of landscaping as a parameter of urban architecture. Among the physical means that architecture employs when designing a square are pavements, stairs, sculptures, kiosks, and fountains, which although seemingly weak, organize the usage and the intelligibility of the place. These physical features facilitate the gathering or the dispersal of people; they also create certain visual fields which include or exclude objects and users and contribute to the interpretation of the overall structure. In public space this interpretation has a twofold character: one which refers to the extent that certain qualities are registered in the collective memory and raises issues of civic identity; and another which is more spatially oriented and focuses on the formal or informal ways in which people use public place. Visual fields created by architectural choices play an important role in balancing global versus local identity of public space, therefore, they are crucial elements in spatial politics.

Introduction

In 1998 Athens organized an extended urban renovation programme in view of the 2004 Olympic Games. This included the launching of an international architectural competition for redesigning Omonoia square, one of the two major squares of the city. When the square opened to the public in 2003 a major uproar was prompted by the media, the municipality and the state authorities. The design team was held responsible for what was thought of as an unsuccessful project. The authorities accused the architects of inexperience and incompetence. Finally, a new team of experts undertook the task of improving the overall design.

The winning team received criticism on two seemingly distinct levels. The first was explicitly stated in the media at the time. It referred to the impact of certain architectural decisions, such as the materials chosen and the absence of greenery. Visibility came forward as another issue. The project was criticized for partly obstructing the views to the

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Acropolis. The second level of criticism was rather implicit and was concerned with the social aspect of the project. After the square was opened to the public, the authorities and the press expressed fears that the area had been taken over by 'undesirable' users; in other words, it was not used as originally intended. State officials were quoted to say: "...the square is full of drug addicts and migrants because it has not been properly designed". Such a statement was never publicized. However the architects disclaimed responsibility by saying: "...no architectural project can change or hide social reality. The proposal aimed to accommodate the dynamics of the human puzzle to be found in the centre of Athens" (Katsika et al, 2003). Evidently, it was claims to architectural determinism that were brought forward, even though in a disguised way.

Space configuration as a determinant of patterns of social activity is widely accepted in social studies. Various methodologies have been developed to assess the degree of mutual influence (Hillier and Hanson, 1986, etc). For authorities to develop a method of evaluation based on measurable entities and logical criteria seems to be of great importance. What would have happened if a different team had gotten the prize and a different project had been implemented? Major urban interventions such as this of redesigning Omonoia square do have the power to transform the image of the city and, therefore, the nature of the shared civic identity. This is the reason why such projects seem to have an inherent political character. Making a choice means more than merely selecting a well functioning proposal, it means defining a political agenda for public space.

A contest of Identity: The history of a place

Omonoia and Syntagma squares were designed by Kleanthis and Schaubert in 1833 when Athens became the capital of the newly founded Greek State. From then onwards Syntagma square became the centre of formal politics surrounded by the Palace, the royal gardens, and the foreign embassies. On the other hand, Omonoia square acquired a blue-collar character.

In 1888 a subterranean terminal for the trains running from the port of Piraeus to the suburb of Kifissia via the centre of Athens was constructed almost underneath the square. Thus Omonoia found itself at the focus of a transportation system thus becoming a reference point. From the war refugees of the early 20th century to the immigrants of the 50s and 60s arriving in the industrialized city from the rural countryside, Omonoia always stood as the point of arrival. Cheap hotels and small coffee shops were set up around the square, becoming the places where people of the same origin met and interacted. Marginal groups, prostitutes, illegal traders and homeless people found a way to surviving in this "yard of miracles".

In 1957, the square was completely transformed according to a new (circus) plan imposed by the ministry of Transport and Public Works. A new four-lane circular road was constructed cutting off the centre from all pedestrian movement. A monumental fountain was set in the middle. The underground train station was renovated and the ground movement was directed underground. A wide sidewalk was constructed along the adjacent buildings to accommodate the newsstands, the ground-level shops, and the train station entrances. No provision was made whatsoever for urban furniture enabling people to stay longer. Frequenters to the area were forced to the sides. An underground shopping passageway was meant to replace part of the dislocated street life.

This decisive architectural gesture changed radically the image and the function of Omonoia square by bringing to the fore a different

spatial model. The enormous size and the technological novelty of the fountain became the symbol of the state's upgrading enterprise, while the four lane road celebrated the car as the symbol of post-war middle class. The concept of the new square was based on "seeing" rather than "acting". The new design was addressed to passers-by rather than those inhabiting the surrounding area. Compared with the earlier model it may be called 'global' as it was addressed to a larger community which did not necessarily have a true physical experience of the place. In the early 60s Omonoia's roundabout became a landmark countrywide by way of the lens of modern Greek movies.

In spite of its physical inaccessibility, Omonoia occasionally hosted various public gatherings and celebrations. It became the traditional assembly place of political gatherings and demonstrations of the Greek communist parties. It also attracted the celebrating crowds of sport fans after victorious soccer games. In all these occasions traffic was diverted as people kept flowing into the square. In 1988 the notion of the square as a place holding a symbolic value rather than a mere prosaic one was reaffirmed. An oversized glass sculpture - a large modern installation - was set in the middle of the square replacing the fountain, which had been non-functioning for many years.

Omonoia has always been a crossroads absorbing in its vicinity the aftermaths of social upheavals. In the 1990s the political changes and the economic decline of the East European countries generated strong migration flows to Greece. In 1997 an estimated number of 500 000 migrants were thought to be living in Athens. For all these people Omonoia served as a reference point similar to that of the internal migrants of the early 60s. Due to the concentric public transport system, Omonoia has been easily accessible from all the parts of the broader metropolitan area. Cheap hotels accommodate migrants on a monthly basis, while coffee shops are meeting places for migrants from Africa, Asia and Russia. Travel offices in the area offer postal services, arranging for goods and letters to be sent back home. On Sundays the whole area becomes a mass meeting place where migrants on their day off come to meet co-patriots, to exchange news, to speak their native language and to feel at home.

From 1994 to 2003 the central part of the square turned into a large worksite because of the new metro line construction works and the square's renovation.

In 1998, when the architectural competition for the redesigning of Omonoia was held, a key requirement was that the competitors comply with the recommendations of transport experts and provide for pedestrian movement through the middle of the square. Thus pedestrians regained access to the centre of the square and the flow of people on the ground level significantly improved. Planning decisions in the 50s confined human activity to the periphery whereas planning decisions of the 90s seem to have promoted the opposite idea. "Seeing" and/or "hiding" seem to have been major components in the comprehension of the overall structure of the public site.

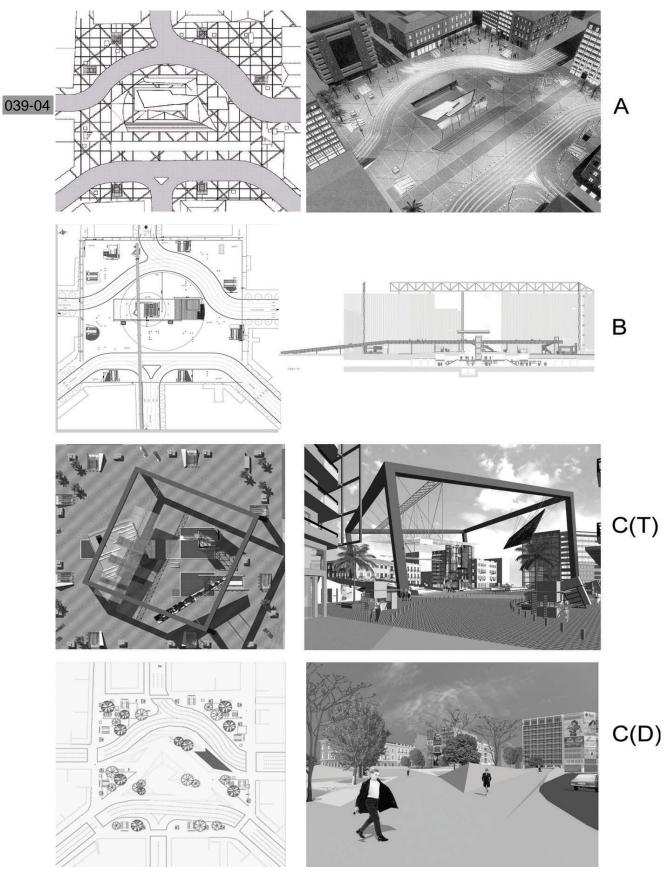
The Case Study: The Four Projects

For a better understanding of the degree of architectural determinism involved in the competing proposals, an evaluation system had to be set up. To this end the winning entries have been analysed. The competition brief called for a twofold approach to the design question. All the participating teams were instructed to consider the square both as an open public space with an everyday life and as a metropolitan landmark. In other words, the participants were asked to define the optimum share of the local and the global element in the construction

Figure 1:
Plans and perspectives of the four prized projects

of the new architectural identity of the place. Principles of traffic circulation were given and have been followed by all winning teams.

Four projects, out of a total of 23 entries, have been awarded prizes. Each proposal has been analyzed with regard to the innate global - local model.



The winners of the first prize were a team of four young architects: E. Katsika, A. Vozani, G. Desylas and Th. Tsiatas. From now on their project will be referred to as Project A. The team contended for the preservation of the existing multicultural character of the place. They insisted that the place should not be turned either into a monumental square or into an area for recreation and sitting. Communication instead was the focal point of their proposal, which was to impart a special character to the square.

The basic architectural features of the project were two sloping surfaces forming the two edges of the designed area. These slants defined an interior space for the square. The first reached up to 3 meters and was made of black granite. The second one was a linear feature of up to 1.5 meter high with sitting benches. The original proposal included a 10 m high semi transparent screen, for video projections rising behind and alongside the sitting bench. Between these two surfaces a water pond was designed.

The second project has been awarded to the team of S. Xenopoulos, A. Panos, and E. Chatzinikolaou. Henceforth this will be referred to as Project B. According to the project brief the team's intention was to retain and support the multifarious character of the area, foster both the marginal class structure and the transitional element of the square, and finally to reinstate everybody's right to the use of public space. On the global level, the project aimed at shaping a public space of both metropolitan scale and timeless significance.

These objectives have been architecturally interpreted as follows:

- A steel superstructure, 35 m above ground, was fitted on the roofs of the surrounding buildings aligning them together and creating a geometric skyline. This feature was meant to turn the square into a huge urban room and thus to reinforce its global import.
- A preexisting metro ventilation shaft was dressed with glass panes and turned into an urban sculpture.
- A steel and wood footbridge was set 5 metres above the ground level running over the adjacent roads. It connected all the three parts of the square. An overhead awning was used in order to provide shade and rain protection to an area underneath (atrium) letting natural light and ventilation into the underground metro station.
- Finally a number of small clusters of benches, were proposed scattered all over the square. The existing newsstands around the square were redesigned at the same place.

The third prize has been shared by two teams. The two projects will be called Project C(T) and Project C(D) henceforward. Project C(T), by A. Tombazis and associates, aimed at creating a square of metropolitan character. Hence they proposed the construction of a twisted metal megastructure (75m* 75m* 35m) to occupy the center of the square. Huge video screens, art objects and shading awnings were to be suspended from the steel beams. A large inclined surface with long sitting benches has been placed off the middle of the square. The existing newsstands have been retained, redesigned and relocated so as to form a ring around the megastructure.

Project C(D) was designed by the architects' team of P. Dragonas and V. Christopoulou. Their proposal aimed at the formation of a continuous open space which would encourage contradiction and unpredictability. To achieve this they designed an artificial urban landscape which was formed by a series of bended surfaces and clusters of trees. The slopes of the surfaces varied from low to steep. During higher occupancy, the steeper parts get inhabited, in much the same way that a liquid occupies a vessel. The square would have

been more rigidly delineated along its borders whereas the bended surfaces would have formed visual blocks.

Urban accessories such as newsstands, information kiosks, fast food counters, and so forth, have been located on the perimeter of the square. The central area featured no amenities whatsoever.

Methodology

The underlying issue in the public debates concerning the redesigning of Omonoia square seemed to be centred on visibility. Therefore, visibility will be used as the core element for the analysis of the projects and the construction of an evaluation system.

M. Benedikt (1979) has introduced isovists to describe the properties of the visual fields. Representing and measuring visual fields has been an important theme of research (Peponis et al, 1998). Turner (2001) has introduced visibility graph analysis and presented various measures among which are visual connectivity and visual integration. Thus all possible occupiable locations within a specific space (e.g., a city, a square, a domestic space) would be categorized by their visual relationships to other occupiable spaces through a continuous map. A number of studies have focused on the relation between visual fields and people's presence, either moving (Trova et al, 1999) or stationary (Doxa, 2001). Isovist analysis has also been used in the field of spatial cognition and architectural psychology (Franz and Wiener, 2005)

The analysis has used Depthmap (Turner, 2001) and was applied to two distinct levels.

The first will be called H-VGA (High Visibility Graph Analysis). It aims to grasp the spatial properties of any given design proposal which are perceived while driving around the square. It includes objects lying at least 4 meters above ground level. Objects at this height are observable from a distance, are easily distinguished while driving, and appear detached from the activities which take place on the ground. Therefore, we can assume that features of this scale contribute to the construction of a transpatial identity of the place. The streets surrounding the square have been included in the analysis since movement by car is one of the major means of perception.

The second level of analysis will be called M-VGA (Medium Visibility Graph Analysis). It aims to grasp the properties perceived by those who actually use the square. It takes account of objects and landscape formations that rise to a height of up to 4 meters. This category of features obstructs the views at the level of activities. We may assume that this kind of analysis reveals the activity potential of the proposals as the relative position of architectural features either obstructs the views or enables the user to comprehend the function of the landscaping. Therefore, this kind of analysis refers to the local properties of the system rather than the global ones.

Step Depth analysis will also be used to evaluate the visibility when entering the square both in the case of pedestrians and of vehicles. Pedestrians are able to get hold of the double character of the place (global and local) while car passengers have time to register only structures of a certain size and height. Entrance points seem to be of special importance as they provide the first sight.

The Perception of the Square at a Global Level

As it was said before, Omonoia had gained a global identity by 1957 which it has retained up to 1994. That identity was constructed spatially upon a landmark, the centrally located fountain up to 1988 and the glass sculpture afterwards.

The maps prepared for the H-VGA analysis of the competition entries show that Projects A and C(D) have only few elements at the level of global visibility. Project A presented a 40 m long and 10 m high semi transparent screen for video projections. Trees are the only elements above the 4m level in Project C(D). On the other end of the line, Project C(T) features the largest surface occupied by high elements (e.g., the steel superstructure, the upper part of the sloped sitting surface). Finally Project B stands in the middle as it proposed elements to be found at various levels (i.e., the large steel frame defining a new skyline, the semi transparent awning, the footbridge, and the glass sculpture).

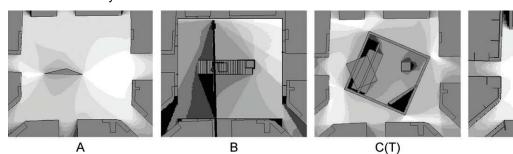
Table 1:Mean values for H-VGA

Project	Connectivity (Degree)	Visual Integration (HH)	Visual Integration (P-value)	Visual Integration (Tekl)
A	11439,000	37,35	4,057	0,594
В	4140,626	9,968	0,949	0,495
C(T)	2994,834	13,585	1,376	0,516
C(D)	6571,834	18,16	1,664	0,526

The measures produced by Depthmap reflect these differentiations. Project C(T) has the lowest mean connectivity value which means that there are certain obstructions in the visual field. Project B follows, while project A with open vistas at this level presents the highest mean connectivity values.

Figure 2:
H-VGA: visual connectivity

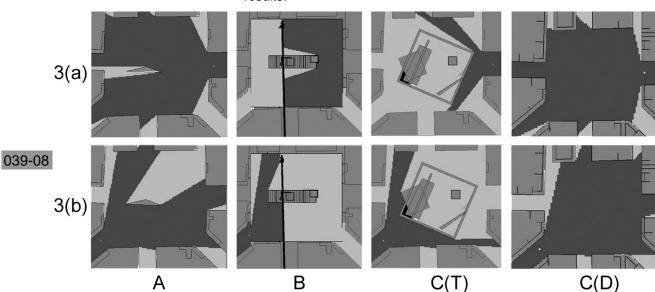
C(D)



Higher mean connectivity values indicate the absence of architectural elements, which, due to their size or height, eventually could play a role as landmarks. Lower mean connectivity values on the other hand indicate the presence of such elements. Project A has the highest visual integration. Project B has the lowest as the footbridge almost divides the visual fields in two distinct areas.

The visibility analysis so far has dealt with and revealed properties of the overall structure of the four entries. Step Depth analysis deals precisely with "what stops the eye". This means that the architectural elements which obstruct the visual fields are crucial for the mental construction of the landmark. This becomes more important for the people who move around in vehicles as their number is extremely higher than the pedestrians'; thus they are not able to evaluate architectural qualities more immediately perceptible by the inhabitants of the place. Therefore, Step Depth analysis could give a projection of the crucial first views when entering the square. Considering the history of the place this might be of key importance.

Entering the square from the east (Panepistimiou str), Project A manifests the largest visual field as there is nothing but the screen to obstruct it. In the case of Project C(D) the visual field stops at the trees. In Project B the visual field stops at the footbridge, the awning and the glass sculpture. The skyline superstructure plays a rather minor role in this case as it is attached to the building facades. Finally Project C(T) presents the smallest visual field as the steel megastructure with all the suspended paraphernalia reduces visibility.



Step Depth analysis from the southwest (Pireos str) yields similar results.

Figure 3:

H-VGA: visual fields from key points, 3(a): Pireos str entrance, 3(b):

Panepistimiou str entrance

The Perception of the Square at a Local Level

Medium level analysis accounts mainly for the activities held in the square although some of architectural elements, under certain circumstances, may have an impact to the overall perception of the place.

Activities in a public space belong to two categories. The first is related to stasis and rest and induce people to stay there for a short or long period of time. Sitting, resting, eating, drinking, playing, watching are typical static activities. Benches, food stands, newsstands, screens, playgrounds are some of the architectural elements used to serve these acts. The second category of activities refers to movement. Paths, footbridges, passages are some of the elements that by and large accommodate such activities. Architectural plans normally provide information about the activities formally intended.

The maps prepared for M-VGA analysis shows the range of distribution of these architectural elements (therefore, the respective activities) in the four projects.

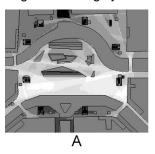
All four projects have placed newsstands at the periphery of the square. Project C(D) has used no elements whatsoever for static activities at the central area. As for the movement of people, the proposed artificial landscaping created a quite segregated pedestrian path. Project B manifests a high distribution of sitting benches all over the central area. Pedestrian movement has been scattered on the ground level and strongly defined across the square (footbridge). Projects A and C(T) proposed a compact sitting arrangement while movement flew all around it. In Project C(T) the sitting area was located almost centrally and was high enough to be visible from far away. Project A also presents a centrally located sitting area, yet of smaller dimensions.

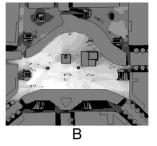
The measures produced by Depthmap reflect these differentiations. Project B has the highest mean connectivity values as well as the highest mean integration values. The majority of sitting benches have been located within the high mean connectivity area which covers most of the central part of the square. Project C(D) has the lowest mean connectivity value whereas sitting formations have been located at the areas with the lowest mean connectivity value in the system.

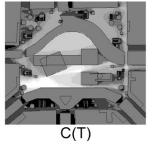
Sitting formations in Projects A and C(T) have been located at the edges of the highly visually connected areas overlooking them.

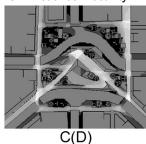
Figure 4:

M-VGA: visual connectivity









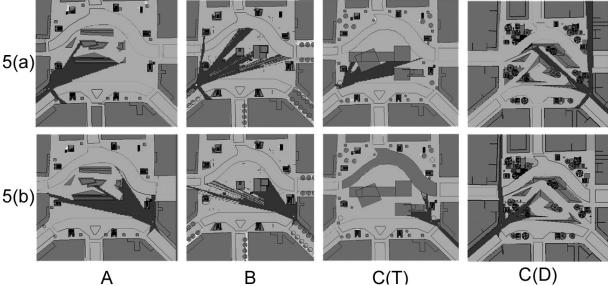
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Project	Connectivity (Degree)	Visual Integration (HH)	Visual Integration (P-value)	Visual Integration (Tekl)
A	1239,259	4,955	0,428	0,461
В	1476,587	6,383	0,622	0,474
C(T)	654,947	4,39	0,432	0,457
C(D)	631,329	5,063	0,496	0,449

Step depth analysis has been used to assess what a pedestrian perceives when entering the square. Sitting elements in Projects A, B, and C(T), and consequently sitting people, are clearly visible from all entrances. Sitting formations in Projects A and C(T) occupied the centre of the visual fields.

Table 2:

Mean values for M-VGA



From Design to Implementation: The Unspoken Issue of the User's Identity

Most architects design open space having in mind a Corbusian human model. Inhabitants are considered to be neutral entities. Their way of using public space is taken for granted as a unique and universally accepted model. Seeing and being seen are identified as simple, normal and given phenomena. However Omonoia square during its recent phase of renovation proved that this is not always the case. When the renovation of the square was completed, the place started to be used by two distinct categories of users, passers by and sitting people. Sitting people were locals, mostly migrants who up to then frequented the vicinity of the square. On Sundays, in late afternoon or at night, lots of single people, mostly men, was noticed sitting there watching the passer by.

Figure 5:

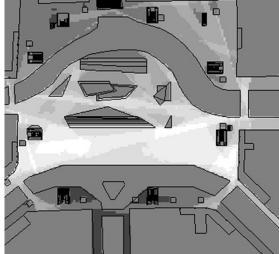
M-VGA: visual fields from key points, 5(a): Pireos str entrance point, 5(b): Stadiou str entrance point 039-10

Figure 6:
From design to implementation: Visual connectivities

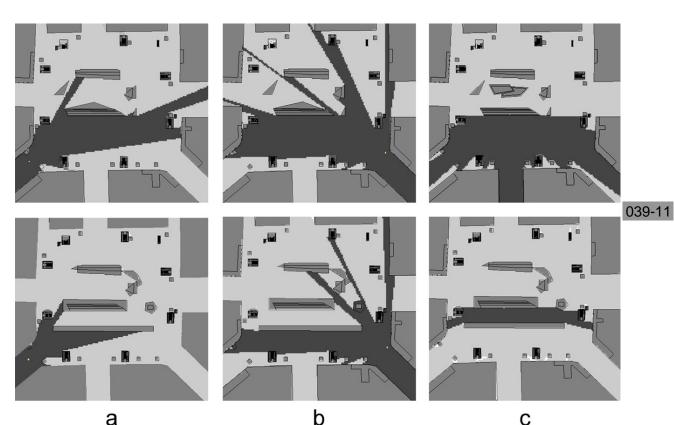
As it was said earlier, the architectural proposal was blamed for producing a phenomena of unwanted presences in public space. The causes were sought in the absence of greenery, low quality of materials and the architects' inexperience. Seeing and being seen, watching and being watched never occurred as an important issue in the debate between the municipal authorities and the architects of the implemented project. On the contrary the team of experts who undertook the task of reparating what was thought of as architectural mistakes, focused on the absence of green areas. The architects of the winning team had already consented to eliminating two of the originally proposed three clusters of sitting benches, to adding a soaring steel art object and to removing the projection screen. Finally two strips of trees and bushes were added along sides, the back and the front of the sitting benches. This decision seems to have been very distinctive because the trees obstruct the views the actual users of the place.

Depthmap analysis describes this phenomenon quite clearly. A comparison of the visual fields before and after the experts' interventions shows that the area of the entrances' isovists has been reduced to half while, at the same time, it has gained a more linear

shape. The sitting benches have been screened off especially from those moving in vehicles; the same holds true for pedestrians entering the square. Considering however that trees do not form a compact boundary, visibility is not completely eliminated.



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Seeing is a mutual activity. The comparison of isovists, from the sitting area outwards, shows that originally these visual fields were approximately of the same breadth as the ones from the square entrances. Spectators, both moving and stationary, were becoming spectacles at the same time. Mutuality of gaze structured the presence of otherness. The experts' intervention brought about a radical change to this structure. Any local identity has been hidden from the passers by. Urban life has been concealed from the migrants frequenting the place.

Summing up, expert's intervention after the completion of the square had a double scope. On the one hand, it tended to reduce the emphasis on the local identity of the landscaping either by removing architectural elements meant for static activities (benches) or by creating visual boundaries that would obstruct the visibility of static activities (sitting people). On the other hand, it tended to reinforce the global character of the place by introducing art objects clearly visible from the entrances of the square and from afar. Considering the fragmented nature of these interventions and their minor role in the process of changing the overall character of the square, we may assume that the symbolic aspect of the improvement effort was much more important than the functional one.

Discussion

Local and Global Identities

The role of open public space in cities is dynamic. Current debates stress its importance as a symbolic and actual political arena, wherein social and cultural identities can be articulated. (Jackson 1998). Through its history, Omonoia Square has been a place where marginal groups' identities were spatially expressed around a dominant cultural model.

Urban design always has a twofold character. On the one hand it is concerned with the spatial character of the place, that is, the From

Figure 7:

From design to implementation: Comparison of visual fields from key points, a:Pireos str entrance, b: Stadiou str entrance, c: From sitting benches outwards

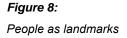
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design to implementation: Comparison of visual fields from key points, a:Pireos str entrance, b: Stadiou str entrance, c: From sitting benches outwardsprogrammatic and formal properties intended to actual users. Sitting, playing, walking, and resting, are some of the programmatic activities that aspire to the city dweller. Paths, playgrounds, benches, and trees, are some architectural elements which accomplish this target. On the other hand public space par excellence carries an identity which contributes to the construction of a civic culture. A major square, such as Omonoia, is a landmark. Its global identity is perceived, accepted or rejected in a wider urban and civic context.

The competition brief was quite open to this matter. Contesting architects had to make their own decision on what the optimum balance and the relation between local and global properties of their design proposals would be. Historically speaking, stationary activities in Omonoia have been associated with local culture, whereas others, such as moving around or perceiving from a distance, have been associated with the global identity of the place. In that sense, all four entries dealt with local identity in a variety of ways. Projects A and C(T) thematized this identity (sitting benches) and presented it as a core element of the overall design. Project B distributed evenly this identity (sitting benches) all over the square. Project C(D) confined this identity at the periphery of the given site (sitting benches, food stands).

Assuming that in Omonoia, collective memory has been fixed on the fact that the square's global identity is perceived in moving, especially by car, then Project C(T) presented the strongest global identity. Project B was also concerned with architecturally defining the square as a landmark by using a variety of elements of lesser height and volume compared to the previous project. Project C(D) proposed trees as the only element of considerable size to be registered as part of a global identity.

Finally the winning Project A had but a minor such element (i.e., the projection screen) which has been omitted during the implementation process. The only distinct architectural feature to attract passers'- by attention were the raised sitting benches. Local properties had to respond to the quest for a global character. Unintentionally (the architects never argued for that) local people, that is, migrants, have been promoted to a landmark in the broader civic culture.





Design as Spatial Politics

Urban design can reinforce or discourage certain social, situations (Hillier et al, 1984). The word "design" comprises not only the competition entries but also all the spatial decisions which have formed the context of the architectural proposals. For example, the transport experts' decision for abolishing the circular traffic and for

facilitating the flow of people on the ground level reinforced the local identity of the place.

Urban design defines variations of human presence in public space. Considering that people are not a unique and neutral entity and that they actually represent a mixture of social and cultural groups within a dominant culture, the management of human presence carries a considerable social and cultural weight. Therefore architectural decisions on that level are part of a political agenda.

Up to this date the "new" Omonoia has been a well used public space. People sit there at all times, especially in late afternoons and at nights. On Sunday morning they stay there in spite of the strong sunshine. They sit completely exposed in the role of the idle spectator or in waiting for a meeting.

These phenomena should be translated in the specific cultural and social context. Moreover, they should be seen against other theories contending that people in public space normally avoid total exposure and prefer instead some privacy (Campos et al, 2005).

Such differences in research data are possibly due to the dynamics of public open space and to its flexible nature depending upon its appropriation by different cultural or social groups. Public space seems to be important for migrants' livelihood and sustainability (Noussia et al, 2005). Being visible raises possibilities of work and communication.

Visual Fields: Methodological Questions

The dynamics of visibility is a theme broadly discussed in research. Visual fields are created from the relative position of architectural elements. They significantly contribute to the overall comprehension of a space be it either open or closed (Peponis, 1997). Although their importance is obvious, visual fields are not often considered of programmatic value in urban design practice.

The analysis of Omonoia square indicated that certain properties of visual fields might have played an important role in the overall perception of the square.

Multiple levels of VGA analysis seem to have enriched our understanding of the place with regard to its local and global properties. This could have been further elaborated. For example, an additional VGA analysis that would have taken into account only elements lying higher than 0,50 m would have given us an insight to the actual informal functioning of the square in cases of an informal activity (e.g., political gatherings, post-soccer-game celebrations).

The properties of the boundaries of the isovists, the viewing angle along a given axis of movement, and such qualities as frontality / peripherality, can become objects for further research which may expand our understanding of the impact of visibility in public space.

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