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Developing sustainable urban growth in Egypt towards the location of renewable energy resources

Wael Ahmed Aboneama
Department of Architecture, Faculty of Fine Arts, Helwan University in Cairo, Egypt
Faculty of Engineering, King Khalid University, Abha, KSA

ABSTRACT: Sustainable urban growth nowadays is not an option for big cities all over the world. It is mandatory to protect the environment and our planet for the future of generations to come. We should work through a strategy that will eventually satisfy future cities' needs for energy. This strategy depends on generating energy from different resources, in ways that go beyond energy generation and utilisation. In addition, the strategy should also aim for environmental conservation and improving local manufacturing of energy equipment. We should study the potential locations in Egypt for generating renewable energy from wind, solar energy, waves, and biomass to ensure sustainable urban growth. Such strategies typically involve three major technological changes: to save energy consumption on the demand side, efficiency in the energy production, and replacement of fossil fuels by various renewable resources. This paper discusses the perspective of the renewable energy potential in Egypt and its impact on sustainable urban development for the 2050 Egyptian vision.

Keywords: sustainable; urban development; renewable energy; energy resources

1 INTRODUCTION

The Egyptian future plan must include an ambitious commitment to renewable energy as a means to diversify its energy supply options. This will reduce the environmental impact of fossil fuel based power generation. It is expected to enlarge the renewable energy target to 20 percent, according to the aims of the supreme energy council, by increasingly using wind, hydro and solar energy as substitutes for non-renewable energy. The council also has to approve key policy steps, which are:

- Increasing the size of renewable energy resources to satisfy the demands of the people.
- Encouraging the use of sustainable transportation, instead of normal fuel busses.
- Encouraging people to generate clean energy by reducing customs and taxes on such projects and buildings.
- Supporting investment in manufacturing equipment for clean energy production to reduce cost.

On the other hand, new sustainable urban development should be supported by renewable energy resources and sustainable transportation. The standard of living of the people in a country, and in most countries, is determined by the energy consumption per capita. It reflects the need for energy for industrial purposes. Unfortunately, as illustrated in Figure 1, energy production helps to create new economic potentials and lead the whole country to be able to compete in the global market. Even agricultural activities need more energy for mass production since the production industry supports these agricultural activities.

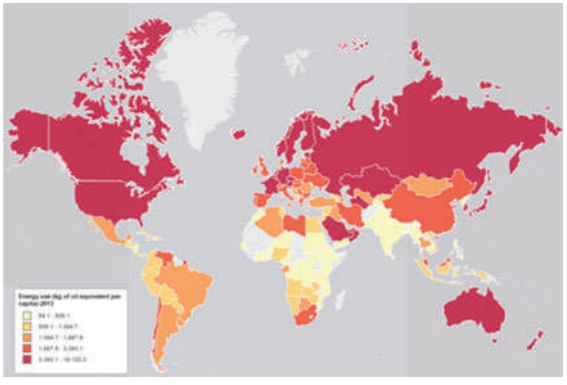


Figure 1. World energy consumption per capita (2013) (upload.wikimedia—World_Map Energy_Use_2013.png, 2013).

2 LITERATURE REVIEW

2.1 *Lack of energy power types in Egypt*

No one can deny that Egypt is pressured by a lack of energy sources, including fuel for cars, electricity for domestic and industrial use, and gas for domestic use.

By the year 2022, it is expected that other natural resources will become available. This plan is based on the following forecasts:

- The energy production by fossil-based fuels will remain at the same level
- The usage of wind energy will increase by 20 per cent to contribute to electricity generation (Figure 2) (El.Sobki, Future of renewable energy in Egypt, 2015)
- Nuclear energy would contribute up to 6 per cent of energy use.
- The energy supply mix after five years is expected to be as follows: (Figure 2 illustrates energy consumption now)
  - 40 percent from non-renewable sources (20 per cent fossil fuel and 20 percent natural gas (NG))
  - 8 per cent from energy efficiency implementations
  - 9 per cent from renewable energy (2 per cent from hydro and 7 per cent from wind)
  - 6 per cent from nuclear energy
  - 37 per cent additional energy is needed

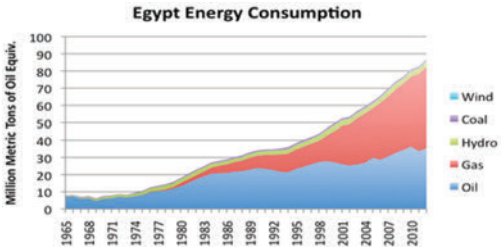
2.2 *Lack of use of renewable energy resources and energy consumption in Egypt*

Egypt is considered to be a country that is rich in natural resources. According to the US Energy Information Administration (EIA), it is the largest non-OPEC oil producer in Africa. Moreover, it is the second largest dry natural gas producer. However, energy production in Egypt has been steadily declining since 2009. This is due to the fact that the natural gas supply and oil production are unable to keep up with the demand for energy. The shortages have led to decreasing exports (Figure 2) because main Egyptian industry based on high energy demand such as cement, ceramic, and fertilizers production. Egypt's primary energy supply was 78,214 ktoe in 2012.

2.3 *Egypt's problems as historical country*

Several problems are causing cities in Egypt to struggle, these problems include, but are not limited to, the following:

- Cairo is an expanding city that is already huge in size which naturally leads to countless environmental issues. Air pollution in Cairo is among the serious environmental problems



Total Final Energy Consumption			
		ktoe	%
Industry sector		13.357	23.90
Transport sector		16.980	30.39
Other sectors		18.479	33.07
of which	Residential	11.910	21.31
	Commercial & public Services	2.913	5.21
	Agriculture/Forstry	2.841	5.08
	Non-Specified	814	1.46
Non-Energy use		7.062	12.64
Total		55.879	100

Figure 2. (a) on the left, illustrates energy consumption in Egypt (source: climateobserver, 2016), (b) on the right, total energy consumption in Egypt, 2012.

Figure 3. (a) on left, pollution in Egypt (http://media.philly.com/, 2014) – (b) middle, slums in Cairo (researcher by google earth) – (c) on right, Cairo expansion. (source: Cairofrombelow, 2011).

and is caused by the higher-than-normal levels of lead, carbon dioxide, sulphur dioxide, and suspended particulate matter concentrations from vehicle emissions, urban industrial operations, and the burning of rubbish. The streets of Cairo have over four and a half million kilometres. (Figures 3 and 11). (United Nations, 2014)

- The total prime agricultural land lost due to urbanisation between 1952 and 2002 amounts to 1,260 square kilometres, (Figure 3). (United Nations, 2014)
- The population increase per year is approximately 1.35 million.
- There is a shortage of affordable housing for the poor despite the presence of 5 million vacant units.
- About five hundred thousand new housing units are needed annually between now and 2020.
- Optical pollution.
- The underground metro is the only tool for sustainable transportation.
- Economic problems create an obstacle to achieving sustainable growth and environmental goals.
- There is a high residential density of more than double the allowable international rates.
- Traffic problems are increasing year by year.
- Natural resources are being destroyed.
- Mediocre living conditions in some areas.
- Limited green spaces (0.3 m^2/person within the ring road and 1.5 m^2/person in the region as a whole).
- The challenge is not the size, but the population distribution over the whole region.

3 METHODOLOGY STEPS: APPLY NEW SUSTAINABLE URBAN DEVELOPMENT

3.1 *Available renewable energy resources in Egypt*

There are many potential sources of renewable energy (solar power, wind, rain, tides, and waves). Renewable energy often supplies energy in four important areas: electricity

generation, air and water heating or cooling, transportation, and rural (off-grid) energy services (Figures 4 and 5).

3.1.1 *Solar energy*

Egypt, given its location, is one of the regions in the world that has high levels of solar power (Figure 4). It was the first country in Africa to build a solar power plant. All studies have claimed that, with the present consumption rate, all fossil fuel resources will be depleted within the 21st century. Solar energy is the only resource that competes with wind power as a cheaper source of renewable energy.

As illustrated in the map in Figure 5, many areas in Egypt could be powered using solar energy. Sinai is one of the most suitable regions in Egypt that could be powered using this technique. All the cities situated on the Red Sea coast can be powered using solar energy. Toshka also has this potential. (El.Sobki, New & renewable energy agency, renewable energy in Egypt, Feb. 2015)

3.1.2 *Wind power*

Egypt's location gives it some of the best wind resources in the world, especially along the Gulf of Suez. Wind speeds and power densities of 7–10.5 m/s and 350–900 W/m^2 have been estimated at a height of 50 m above ground level (Figure 5). The Gulf of Suez has a small number of inhabitants, this region can therefore easily host several thousand MW of installed wind capacity which means that it can supply several cities. However, Egypt still needs huge investments to create wind power plants in different regions, according to wind speed studies. (El.Sobki, Wind Energy in Egypt, 2016)

3.1.3 *Hydroelectric power in Egypt*

Wind power produces five per cent of clean renewable energy compared to hydroelectric energy, this is clearly depicted when looking at Egypt's High Dam. However, Egypt has more

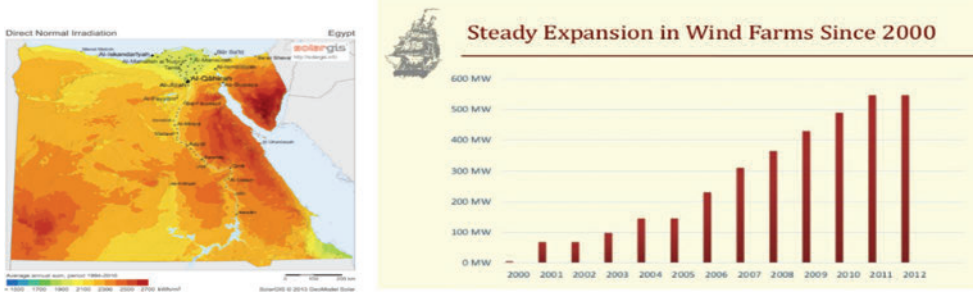


Figure 4. (a) on left, illustrates potential solar power plant locations in Egypt (source: helioscsp, 2016) – (b) on right, illustrates the increasing number of wind farms over 12 years. (source: company, 2011/2012).

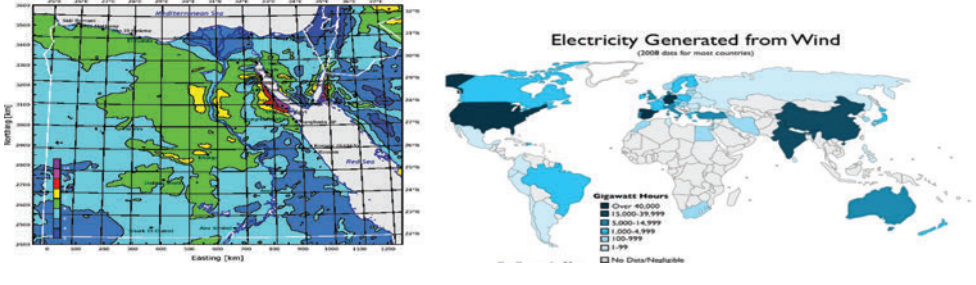


Figure 5. (a) on left, illustrates wind strength in Egypt (source: ars.els-cdn, 2009) – (b) on right, illustrates the distribution of countries generate power from wind. (source: geocurrents, 2012).

than 3,000 kilometres of sea shore (Survey of energy resources, 2007). There is more than one method of generating hydroelectric power (Figure 6). (Al-Youm, 2015) The energy of the sea tides come from the gravitational pull of the moon and the sun upon the Earth. In fact, sea energy comes from a number of sources. In addition to tidal energy, there's the energy of the sea's waves, which are driven by both the tides and the winds. (Survey of energy resources, 2007)

3.1.4 *Biomass energy in Egypt*

Biomass is made up of biological materials that could be derived from living or dead bodies of living organisms. The criterion of biomass as a resource for making energy is often based on plants or plant-based materials. They are not used for food, and are specifically called lignocellulose biomass (Figure 6). Biomass can either be used directly through combustion to produce heat, or indirectly after converting it to various forms of biofuel. It can be converted to other usable forms of fuel such as methane gas or transportation fuels such as ethanol and biodiesel. (Sriram & Shahidehpour, 2005)

3.2 *Cairo vision 2050 (Cairofrombelow, 2011)*

3.2.1 *Main goal*

Sustainable development proposed in 'Cairo vision 2050' (Figure 7) is a good example of sustainable urban growth. It includes social, cultural and economic fields integrated with the urban field.

3.2.2 *Road and transportation networks connection*

- Egypt should have access to a road network linking the Cairo suburbs to regional roads.
- Egypt should have an excellent and sustainable transportation plan and network that rises up to the level of European countries.

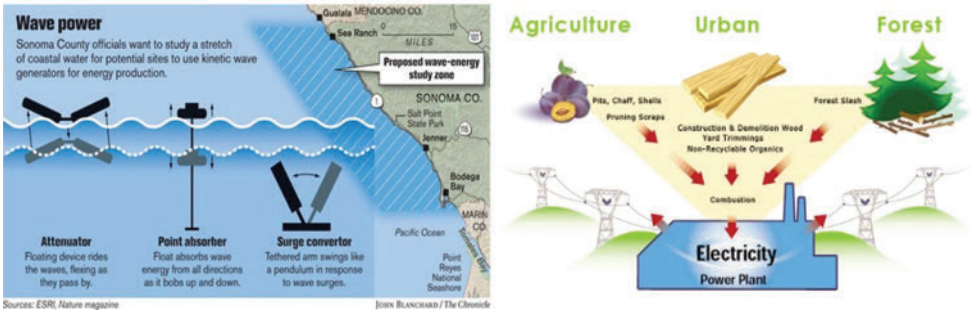


Figure 6. (a) on left, hydro alternative resources (source: ESRI, 2014) – (b) on right, biomass resources (source: Calbiomass, 2013).

Figure 7. (a) on left, zero emission car (source: Insideevs, 2016) – (b) middle, Cairo vision 2050 (source: Cairofrombelow, 2011).

– Egypt should have a pedestrian and bicycle network linked with public transportation.

3.3 *Sustainable transportation*

3.3.1 *Zero emission vehicles*

Green vehicles are powered by alternative fuels. They include hybrid electric vehicles, plug-in hybrid electric vehicles (Figure 7), battery-powered electric vehicles, compressed-air vehicles, hydrogen and fuel-cell vehicles, neat ethanol vehicles, flexible-fuel vehicles, and natural gas vehicles. The Egyptian government can encourage people to buy these kinds of cars by removing any taxes or customs imposed on them. (Mui, 2010)

3.3.2 *Zero emission buses 'Electric Bus'*

These are very similar to zero emission cars. A zero emission bus is designed to be a fully-clean solution in transportation. It is highly used in Europe to create a competitive and sustainable transport system. (Rami, 2015)

3.3.3 *Installing trolleybuses as sustainable transportation*

Trolleybuses have previously existed in Egypt and were installed in districts that were highly populated. Unfortunately, like tram lines, trolleybus lanes are no longer an option ever since the implementation of a plan that ended most of Egypt's sustainable transportation (Figure 8). (Ehab, 2015)

3.3.4 *Developing bike lanes for district connection*

A bikeway is a lane, or path which is specifically designed for bicycles (Figure 8). Bike lanes should be visible and marked using paint, these markings are quite common in many cities. In some European countries cycle tracks, bollards or boulevards are quite common. (Ehab, 2015)

3.3.5 *Installing new tram lines as sustainable transportation and stop demolishing old tram lines*

Old city solutions should be taken into consideration to solve traffic problems and move towards sustainable urban growth. The 2004 development of Rabat city in Morocco and Athens in Greece are examples. New cities that face problems because of heavy traffic and crowdedness have found that the solution to their problem is sustainable transportation, meanwhile Egyptian government demolished most of tramlines in Cairo (Figure 9).

Figure 8. (a) on left, zero emission bus "source:", (b) second left, trolley bus (source: Hildalsolis, 2017), (c) second right, bicycle rack (source: Pinimg, 2014), (d) on right, pedestrian pavement (source: sportifycities, 2016).

Figure 9. (a) on left & next, Mustafa el-Nahas St. in Cairo after demolishing tram lines (source: Elwatannews, 2014) – (Tadamun, 2015) – (b) next, monorail (source: inhabitat, 2014) – (c) river taxi (source: Offtolondon, 2011).

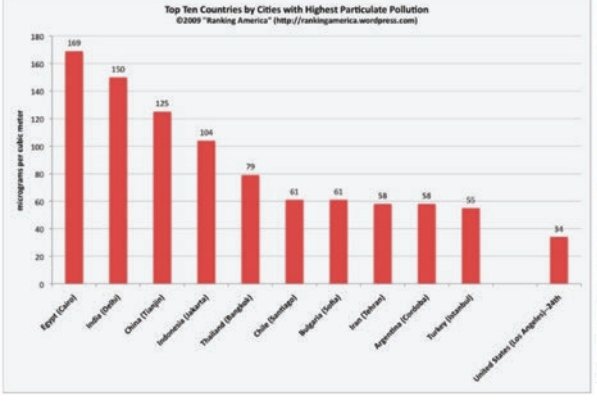
3.3.6 *Installing monorail for heavy traffic places*
A monorail is a railway in which the track consists of a single rail, typically elevated. The term is also used to describe the beam of the system, or the vehicles traveling on such a beam or track. Its vehicles often appear similar to light rail vehicles. Monorails can be driven by linear induction motors like conventional railways and other advanced rapid transit systems (Figure 9).

3.3.7 *Developing Nile river bus (taxi) and stations and installing zero carbon engines*
A water taxi or water bus, also known as a sightseeing boat, is a watercraft used to provide public or private transport, usually, but not always, in an urban environment. The service may be scheduled with multiple stops, operating in a similar manner to a bus (Figure 9).

4 RESULTS AND FINDINGS

We can conclude from this study that we are facing five challenges that we should work on, including the absence of long term planning since we cannot solve the existing situation without long term planning. We do not have a vision for the next twenty or fifty years based on analysis of all facts (Figure 10). The lack of coordination between authorities is also a challenge given that it is very clear that some authorities in Egypt are working separately. An example of this in Egypt is all too known; after the road asphalt is finished and ready to use, another governmental department concerned with infrastructure would dig up the road to install the necessary pipelines. Another challenge is the lack of experience amongst decision makers. Without applying the philosophy of reward and punishment, decisions will be taken without consultation. The final challenge is the insufficient available grid capacity and coverage; the electricity production and structure plan should be restudied and planned.

More than 80 per cent of the population of Egypt live in slums. Inhabitants are forced to live in inhumane settlements, owing to a severe shortage of affordable housing in the cities. These inhabitants suffer from lack of electricity and sewerage services, and are subjected to mistreatment by the state. Thousands of underprivileged Egyptians who survive in slum areas are left on their own to deal with extreme heat in the summer or treacherous rainfall in the winter, such as a recent storm that drenched shanty towns. The ever-growing number of slum dwellers highlights the huge disparity in the distribution of wealth, residential units, and unequal access to housing options (Figure 10). Since the 1970s, policies have always been biased towards big capital and profit accumulation rather than the needs of society's lower tranches. Governments literally ignored informal housing. It is very clear that all urban growth in Egypt is focused on only one item which is agriculture around the Nile River



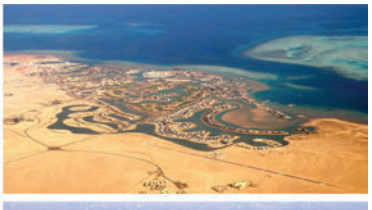



Figure 10. (a) on left, highest polluting countries (source: Wordpress, 2010) – (b) top right, El-Gouna village – (c) bottom right, Slums in Egypt.

Figure 11. (a) top left, solar plant, (b) middle left, wind plant, (c) bottom left, world installed capacity – (d) on right, Urban growth locations "source: By researcher".

which was the central focus of historical urban growth all over Egypt. (Reuters, 2015) The possibility of generating renewable energy should be the main objective for the new urban growth plan. The vision of creating an industrial country and starting new approaches and development directions should also be part of this growth. (Thorpe, 2015) Authorities should also be aware of the main pillars of sustainability which are the environment, people and the economy. In other words we have to restudy the location of new cities based on the location of renewable energy and water resources. New cities will be the basis of a strong economy based on agriculture and industry. From all previous studies we can conclude that the north coast, Al-Wahat, Toshka, the Red Sea coast and Sinai are empty areas with excellent potential for renewable energy and water (Figure 11).

5 DISCUSSION AND ANALYSIS

Sustainable urban development requires long term planning and vision that could be divided into short, five-year stages to be able to confront our serious challenges. Sustainable urban growth and development is the only way to ensure a bright future for the coming generations. (Pascale, 2015) Renewable energy production is increasing all over the world and Egypt should not stop at the Zaafrana wind power plant. Egypt should take more steps in the same direction and in the direction of creating more solar panels, similar to what has been done in Morocco (Independent, 2015).

6 CONCLUSION AND RECOMMENDATIONS

Long-term plans such as the Cairo 2050 vision should be studied by governmental authorities in co-operation with academic and research staff. Egyptian institutions should generally work together in the form of a team. Implementing sustainable urban growth based on the potential of renewable energy production will create a new era for the Egyptian economy and will elevate living standards (Figure 11). Sinai, the north coast, Al-Wahat, Toshka, and the Red Sea coast are the main areas for new urban growth. Sustainable transportation is the best way to connect and develop new urban areas such as Heliopolis and Nasr city. We should use all means of sustainable transportation which are; tram, trolleybus, monorail, underground metro, zero emission buses, environmentally friendly cars, river taxi, and bikes. The demolition

of tram lines was a disaster given its effects on Cairo's transportation and against Cairo vision 2050. (Bank, 2015) Publishing information about long term planning will help researchers to provide new directions and develop ideas (Aboneama, 2012). Authorities should also apply the sustainable rating system and push all designers and developers to build upon its recommendations; this will push Egyptian projects to become environmentally friendly (Aboneama, Enhancing LEED as a sustainable rating system by applying its regional priority for all environmental regions, 2015). Finally, the authorities should eliminate taxes and customs on environmentally friendly buses and cars and provide refill stations for them.

REFERENCES

Aboneama, W. (2012). Protect the planet through sustainability rating systems with local environmental criteria—LEED in the Middle East. *ASIA Pacific International Conference on Environment-Behaviour Studies.* Cairo: Future Communities: Socio-Cultural & Environmental Challenges.

Aboneama, W. (2015). Enhancing LEED as a sustainable rating system by applying its regional priority for all environmental regions. *International conference and exhibition on Satellite* (pp. Wael. (2015, August).). Houston: OMICS group.

Al-Youm, A.-M. (2015). *Egypt Plans New Hydroelectric Power Stations in Cooperation with China.* Cairo: Al-Masry Al-Youm.

ars.els-cdn. (2009). *Wind strength in Egypt*. Retrieved from https://ars.els-cdn.com/: https://ars.els-cdn.com/content/image/1-s2.0-S2090123210000068-gr1.jpg.

Bank, T. W. (2015). *Who Gains and Who Loses from Plunging Oil Prices in the Middle East and North Africa Region.* Washington: The World Bank Group.

Cairofrombelow. (2011, https://cairofrombelow.files.wordpress.com/2011/08/cairo-2050-vision-v-2009-gopp-12-mb.pdf). *Cairo vision 2050.* Cairo: https://cairofrombelow.org/. Retrieved from https://cairofrombelow.files.wordpress.com.

Calbiomass. (2013). *biomass fuel sources*. Retrieved from Biomass fuel: http://www.calbiomass.org/wp-content/uploads/2013/02/biomass-fuel-sources.jpg.

climateobserver. (2016). *egypt-energy-consumption*. Retrieved from Egyptian energy consumption: http://climateobserver.org/.

company, E. E. (2011/2012). *Annual report.* Cairo: Egyptian Electricity Holding company.

Ehab, F. (2015). *Egypt Aims to Halt Gas Imports in 2020 – Minister.* London: Thomson Reuters.

El.Sobki, M. (2015). *Future of renewable energy in Egypt.* Cario: Minsry of ecetricity & renewable energy.

El.Sobki, M. (2016). *Wind Energy in Egypt.* Cairo: Minsry of ecetricity & renewable energy.

El.Sobki, M. (Feb. 2015). *New & renewable energy agency, renewable energy in Egypt.* Cairo: Minstry of Housing.

Elwatannews. (2014). *Elnahas street*. Retrieved from img.adminlive: http://img.adminlive.elwatannews.com/old_news_images/large/266563_Large_20140909015505_11.jpg.

ESRI. (2014). Environmental Systems Research Institute. *Nature magazine*.

geocurrents. (2012). *Distribution of countries generate power from wind*. Retrieved from http://geocurrents.info/: http://geocurrents.info/wp-content/uploads/2012/07/electricity-from-wind-map.jpg.

helioscsp. (2016). *Potential of solar power*. Retrieved from helioscsp.com: http://helioscsp.com/wp-content/uploads/2016/11/Egypt-dni.png.

Hildalsolis. (2017). *Zero emission bus*. Retrieved from zeroemmissh: http://hildalsolis.org/wp-content/uploads/2017/07/zeroemmissh.jpg.

http://media.philly.com/. (2014). *Cairo air pollution*. Retrieved from media philly: http://media.philly.com/images/airpollutionciaro.jpg.

Independent, E. (2015, Mar 4). Egypt Plans New Hydroelectric Power Stations in Cooperation with China. *Egypt Independent*.

inhabitat. (2014). *Paulo-Monorail*. Retrieved from inhabitat.com: https://inhabitat.com/wp-content/blogs.dir/1/files/2014/01/Sao-Paulo-Monorail-2-lead.jpg.

Insideevs. (2016). *Zero emission cars*. Retrieved from insideevs.com: https://insideevs.com/wp-content/uploads/2014/12/A7h140026.jpg.

Mui, S. (2010, May). *The Zero Emission Vehicle Program.* NRDC, Clean Vehicles and Fuels.

Newgeography. (2014). Retrieved from http://www.newgeography.com/files/cox-cairo-f2.jpg.

Offtolondon. (2011). *London river taxi*. Retrieved from www.offtolondon.com: http://www.offtolondon.com/images/thames-clipper.jpg.

Pascale, E.-K. (2015). *Egypt Aims to Produce 20% of Power from Renewables by 2020*. Aman.
Pinimg. (2014). *Bike bicycle*. Retrieved from Bicycle: https://i.pinimg.com/736x/8e/99/9b/8e999b8723c22931c5c6bb2c47b8bade-mtb-bike-bicycle.jpg.
Rami, G. (2015, Jan 6). Falling Oil Prices Both Blessing, Curse for Egypt. *Al-Monitor*.
Reuters, T. (2015). *Egypt to Build 4,300 MW Solar, Wind Plants in 3 Years*. London: Reuters.
sportifycities. (2016). *Sport cities*. Retrieved from Pedistrian: https://sportifycities.files.wordpress.com/2016/07/bicyclelanepavement_report_2.jpg?w=730&h=541.
Sriram, N., & Shahidehpour, M. (2005). *Renewable Biomass energy.* New York: IEEE.
Survey of energy resources. (2007). London: World Energy Council. Retrieved from http://www.Wikipedia.com.
Tadamun. (2015). *Elnahas street*. Retrieved from www.tadamun.co: http://www.tadamun.co/wp-content/uploads/2015/04/Capture.jpg.
Thorpe, D. (2015). *How Solar Energy Can Solve Egypt's Electricity Crisis.* Sustainable Cities Collective, Social Media Today LLC.
United Nations, E. c. (2014). *Promoting energy efficiency investment for climate change mitigation and sustainable development.* Geneva, Switzerland: UNECE for a stronger and greener economy.
upload.wikimedia—World_Map Energy_Use_2013.png. (2013). Retrieved from wikipedia Web site: https://upload.wikimedia.org.
Wordpress. (2010). *Highest polluting countries*. Retrieved from Rankingamerica: http://rankingamerica.wordpress.com.

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Enhancing the housing industry in Egypt through the application of new design and construction techniques aimed towards sustainability and actual market demand

Wael Ahmed Aboneama
Department of Architecture, Faculty of Fine Arts, Helwan University, Cairo, Egypt

ABSTRACT: The housing industry and housing production in Egypt are facing a catastrophic situation. Nobody can deny the housing problems in Egypt. More than 80% of Egyptians are living in slums. Around 20% of all Egyptians are living in non-healthy homes ((ECES), 2010). Billions of US dollars are spent every year in building new, high-style compounds in Egypt which leads to a recession of selling these units. The whole world is now focusing on sustainability and has started renovation and replacement programmes for housing. On the other hand, in Egypt we are still looking to meet the housing demand. Housing problems in Egypt are not related to low investment in this sector, but to the wrong direction for this housing investment. In other words, the production is focused on only one housing sector, which is only around 10% and the supply is more than the demand, however it costs more and more than all other types of housing. In addition to the wrong policies, all house construction is focused on one type of construction which is reinforced concrete (post and lintel), casting on-site (Stephen Everhart, June 2006). This research will present different types of sustainable construction for all housing types as one of the key solutions, and also to meet market demand and to solve this problem in the right way.

Keywords: Housing industry; Sustainability; Design and construction techniques; Market demand

1 INTRODUCTION

The housing industry in Egypt has been damaged since the middle of the last century. It was affected by several factors. Political decisions such as the reduction of rental value several times and the elimination of time framed rental contracts were the major factors that destroyed the housing industry in Egypt in a few years after those laws due to first and second world war. In addition, economic failure after the nationalisation of the private sector was the second knockout for the housing industry in Egypt. Wars in Sinai and internal immigration increased the demand for private houses. The public sector was unable to meet all market requirements following the dramatic changes of social classes in this very specific period of Egyptian history ((ECES), 2010). The result was a disaster and the slums in Egypt were born (Figure 1). A second era for housing in Egypt, with some positive features, started after the 1973 war, including positive changes for enhancing the economic situation and creating new cities to solve housing problems (Figure 2). The housing market is now saturated for certain levels of housing and low income housing demand is increasing dramatically. The only way to find a real solution is to apply environmental designs with new construction techniques under a real vision for all housing levels.

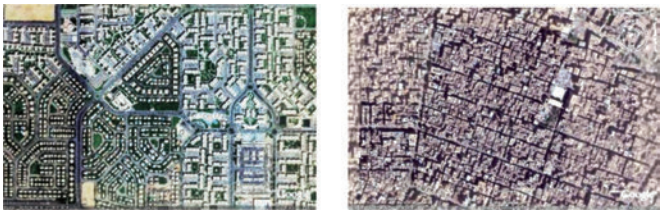

Figure 1. (a) on left, illustrates El-Rehab city – (b) on right, illustrates slums area where 80% of Egyptians live. (Source: Google earth by researcher).

Figure 2. (a) on left, illustrates slums in Egypt (https://inhabitat.com/, n.d.) – (b) in middle & (c) on right, illustrate luxury compounds design style in Egypt. (http://top10cairo.com, 2016) – (Al-Ahram, 2015).

2 LITERATURE REVIEW

Solving the housing problems in Egypt starts by identifying the problems that we are confronting and the relationship between housing and economic situation and changes in Egypt.

2.1 *History of housing in Egypt (Aboneama, 2002)*

2.1.1 *Housing in Egypt before 1952*

No one can deny that before 1952 Egypt did not have a housing problem (Figure 3). The architecture and urban design of Cairo before 1952 could compete with all European capitals. All illustrated photos (Figure 3) present sustainable transportation and the middle class society housing in Egypt in the first decades of twentieth century. Unfortunately, we could not even protect those buildings from damage. (Aboneama, 2002).

2.1.2 *Housing in Egypt from 1952 until the war of 1973*

After 1952 many changes happened to the society, economy and laws in Egypt. The housing industry in this period was affected by some catastrophic decisions, starting with the regulation of the relationship between owners and tenants, followed by a series of actions which were focused on the nationalisation of most of the private sector icons in Egypt. Finally, a series of wars dramatically affected the economic situation in Egypt. The result was eliminating private sector investment in housing. It was the responsibility of the government to produce houses for people under pressure of the weak economy and internal immigration due to wars. The housing construction of this period is illustrated in Figure 4. (Aboneama, 2002).

2.1.3 *Housing in Egypt after the war of 1973 until the economic growth of 1992*

The 6th of October war was the final war between Egypt and its enemy which helped to start the recovery of the Egyptian economy. We can divided this period into two decades (1970s and 1980s). The opening of the Suez Canal, petroleum exploration and currency transfer from Egyptians working abroad all helped to start a new era in modern Egyptian history. The housing problem has been started and governmental solutions could not present actual solutions to stop it. Interest groups has their input to build for their members. For example, syndicates, co-operative housing, and the military started building on a huge plot a number of residences such as El-Obour, Masaken Sheraton, and Agha Khan (Figure 5) (Aboneama, 2002). On the

Figure 3. (a) on left and middle illustrate the heart of Cairo in Egypt. (https://i.pinimg.com/, 2006) (https://i.pinimg.com/, Old Cairo, 2006) – (b) on right illustrates Heliopolis design in the beginning of 20th century (http://www.egy.com/, 2008).

Figure 4. (a) on left & right, illustrates housing prototypes after 1952. (b) in middle, illustrates integration between slums and housing prototypes. (Aboneama, 2002) (Photos captured by researcher).

Figure 5. All illustrate big housing projects that have been constructed by interest groups in the 1970s and 1980s in Egypt. (Panoramio, 2012), (media.linkonlineworld, 2014), (Panoramio, 2012), (Aqarmap, 2016).

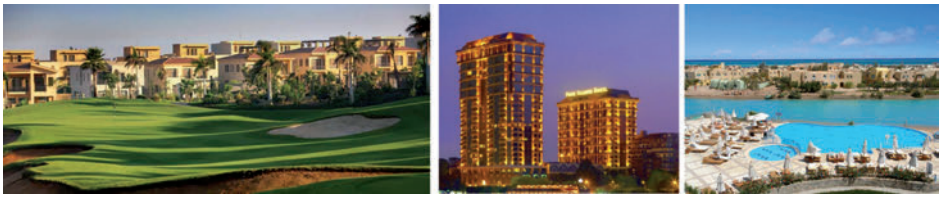

Figure 6. (a) on left, illustrates types of high-class compound – (b) middle, First residence housing units & hotel – (c) on right, tourist houses. (top10Cairo, 2016), (B-static, 2010), (images.sunshine, 2013).

other hand, developing new cities all over Egypt (satellite cities such as 6 October, Sadat … etc.) took a serious actions after retrieving Sinai. (Rania Nasr Eldin, December 2012).

2.1.4 *Housing in Egypt since 1992*

This period started from the beginning of the last decade in the 20th century until now. The beginning of the 1990s had positive economic signs which affected housing industry (Aboneama, 2002). The housing industry became an attractive field for investors and developers which seemed positive. Unfortunately, there was no national plan for housing production with numbers based on actual demand divided according to social classes. All developers invested in high-class houses and import invasive planting environment into Egyptian ecology such as golf courses (Figure 6). It ended with a recession in high-class housing and

expensive empty cities. The northern and eastern coasts were covered with tourist villages (Rania Nasr Eldin, December 2012).

2.2 *Housing problems in Egypt*

This paper will focus on the housing types and problems in Egypt. The low-income class solves its own problem through constructing on farm lands their own homes in one of the worst slums in the world. (EIPR, July 2014).

2.2.1 *Informal housing in Egypt*

According to USAID report of housing study for urban Egypt, "The changes to the informal housing production processes, and the shift to a profitable mode of illegal construction, affected the production housing typologies. They have evolved from self-built, low-rise structures to semi-professionally built, fifteen-story towers. Initially, housing structures followed a simple construction of concrete frames and brick infill, with street patterns registering agrarian subdivisions, generating (urban canyons)" (Figure 7). (USAID, December 2008).

2.2.2 *Living in tombs*

According to Hamza, Hani (*The Northern Cemetery of Cairo*) "In the south-eastern part of Cairo, a city that is home to nearly 18 million people, lies El-Arafa cemetery. It is estimated that around 1 million Egyptians live in the 6.4-kilometre-long cemetery, which has led to it being dubbed the City of the Dead (Figure 8). In the cemetery, families, power lines, multi-story buildings, and a post office mingle with the graves, tombs, and mausoleums. There are often three generations of Egyptians living in the necropolis, many of whom have been there since the 1950s. The settlement is far from legal, but the Egyptian government has long since given up on evicting residents. Doing so would require the unattractive proposition of moving the inhabitants to state-built apartments or forcing the creation of more slums". (Hamza, 2001).

2.2.3 *Living in tinplate nests and on the streets without any shelter*

The lowest income class live in the worst housing type. The aim is to create any form of shelter and partition using garbage sheets of metal, wood or plastic (Figure 9). This unit cannot protect people from bad weather conditions such as rain or sand storms. Usually, the location for such housing is out in the countryside without any kind of services. Social and physical diseases are endemic, which too many to listed and not applicable to this paper. (Edgar Goell, 2008).

Figure 7. (a) on left, middle and right, illustrate slums and informal housing in Egypt even with high rise buildings. (i.pinimg, 2009), (cairofrombelow, 2011), (MEI, 2011).

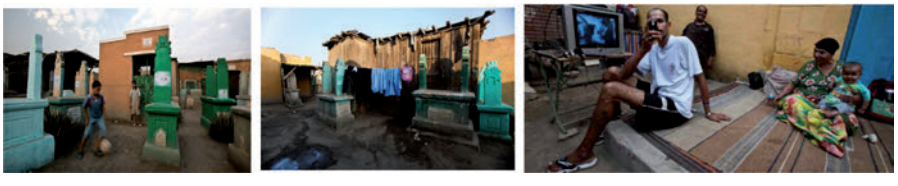

Figure 8. (a) on left and (b) middle, children are playing and a woman is hanging cloths between tombs stones – (c) on right, a living room above a tomb (static5.businessinsider, 2010).

2.2.4 *Some housing compounds against Egyptian ecology*

Environmental conservation is based on many items. One of the most important is potable water conservation, especially after the construction of the Grand Ethiopian Renaissance Dam. On the other hand, the increase in the building of luxury houses was combined with the construction of golf courses (Figure 10). So, Egypt suffers from a lack of potable water resources and a lack of services in all slums, and yet they use enormous amounts of water to irrigate golf courses, which is the favourite game of millionaires (El-Shafei, 2001). There is no excuse, even if the water used is treated grey water, because it could be used in many other areas that would be helpful for the economy and the people.

2.2.5 *Losing agricultural land for the construction of informal housing*

Egyptian agricultural land surrounds the Nile river, in an area of approximately 25 thousand square kilometres (6 million acres). It is about 2.5% of the total area of Egypt. When, for decades, the economic and governmental situation could not meet their need for homes, Egyptians started to build for themselves.

In doing this, they override laws, planning regulations, engineering standards, and everything. They are building on agricultural land without government supervision. The result is the loss of more than 20 thousand acres every year from the best farmland. It is one of the worst blows to the Egyptian economy, society, and future (Shokry, 2009). Corruption and big profits for land brokers are increasing this operation accumulatively. The result is shown in Figure 11 which looks like Figure 10 but the two are totally opposite. In Figure 10 rich people use natural resources (water) for a game, whereas in Figure 11 poor people also use natural resources (farmland) to build slums and informal houses without following any regulation or engineering standards (Malterre, 2016).

2.3 *Egypt's problems as historical country*

- Rapid urban expansion resulted in encroachments on agricultural land. Total prime agricultural land lost to urbanization during the period 1952–2002 amounts to 300,000 acres and pollution all over Egypt (Figure 12).
- Shortage of affordable housing supply for the poor despite the presence of 5 million vacant units.
- About 440,000–600,000 new housing units are needed annually between now and 2020.

Figure 9. (a) on left and right, illustrate the tinplate nests housing type. (nmisr, 2015), (El-badil, 2014).

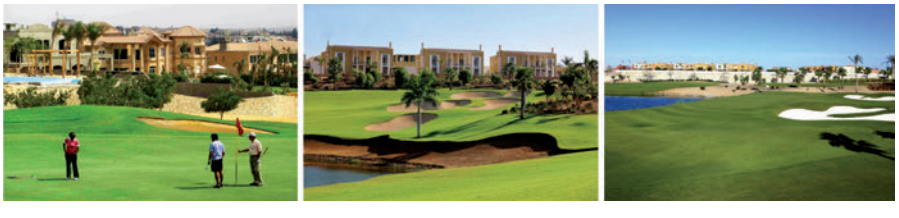

Figure 10. (a) on left and right, illustrate golf courses in new satellite cities. (Ladyegypt, 2014), (realestateegypt, 2013), (businessandnews, 2015).

Figure 11. Illustrates slums and an informal attack on farm land. (metropolitiques, 2013).

Figure 12. (a) on left, pollution in Egypt – (b) middle, slums in Cairo – (c) on right, pollution in Cairo. (rackcdn, 2007), Google earth by researcher, (scidev, 2009).

- Optical pollution.
- High residential density in main existing agglomeration.
- Limited green spaces (0.3 m^2/person within the ring road and 1.5 m^2/person in the region as total).
- The challenge is not the size, but the population distribution over the whole region area. (Aboneama, 2002).

3 METHODOLOGY STEPS TO ENHANCE HOUSING INDUSTRY IN EGYPT TOWARDS SUSTAINABILITY AND ACTUAL MARKET NEEDS

3.1 *Prefabricated housing types*

3.1.1 *Polystyrene construction: Eco-friendly light weight structure*

Polystyrene or EPS is a better and cheaper building material for the provision of housing in Egypt (Wael, November 2012). According to Shawn O'Donnell "Modern, eco-friendly building materials are currently emerging to satisfy the requirements of sustainable developments and mitigate environmental challenges" (O'Donnell, 2009). While it was discovered that there is little or no availability of the material in most Egyptian building markets due to lack of awareness, it x-rayed the need for a paradigm shift from the conventional system of building characterised by waste, cradle to grave (demolition) and global warming to a waste-free, recyclable, eco-friendly and cheaper alternative way of building (Figure 13).

3.1.2 *Precast housing construction*

According to Zuhairi bin Abdel Hamid "Precast concrete is a green material because it contributes to green building practices in significant ways. The thermal mass of concrete allows shifting of heating and cooling loads in a structure to help reduce mechanical-system requirements (Stephen Everhart, June 2006). It reduces construction and manufacturing waste and debris on site, reducing construction IAQ (Indoor Air Quality) concerns. The load-carrying capacities, optimised cross sections, and long spans possible with precast concrete help eliminate redundant members, and concrete readily accommodate recycled content. It contains recycled content. Insulation in precast concrete saves up to 25% on heating and cooling costs (Figure 14). (Hamid, 2014).

Figure 13. Left, illustrates the shoot Crete and right, illustrates slab construction (designenterprises, 2010), (technopol.co.za, 2017).

Figure 14. On left & right, illustrate housing compounds constructed with precast concrete. (Zuhairi bin Abdel Hamid).

Figure 15. (a) on left, environmental design concept for hot weather – (b) middle, construction methods – (c) on right, environmental housing forms. (i.pinimg, Adobe construction, 2011), (pbs.twimg, 2007).

3.2 *Sustainable designs*

3.2.1 *Passive designs (Hassan Fathy housing prototype)*

Hassan Fathy's housing design is one example. His style focused on the environmental issues of hot weather and he believed that the answer must lie in the recreation of forms true to the region as well as to local methods of construction (Figure 15). According to Abdelmoniem El-Shaorbagy "He valued architecture that is rooted in the location and the culture of a region, as opposed to an imported internationalism, rooted in a common technology rather than a common humanism" (El-Shorbagy, 2010). The architecture should be shaped by a conceptual framework which develops an understanding of contemporary responses to modern environmental, urban and social conditions of existence. (Mohamed Soliman, 2005).

3.2.2 *Adobe architecture for rural agricultural villages*

Adobe bricks are most often made into units that are small enough to quickly air dry individually without cracking and can be subsequently assembled (Figure 16). According to this type definition in Wikipedia "Modern methods of construction allow the pouring of whole adobe walls that are reinforced with steel. In dry climates, adobe structures are extremely durable, and account for some of the oldest existing buildings in the world. Adobe buildings offer significant advantages due to their greater thermal mass but they are known to be particularly susceptible to earthquake damage if they are not somehow reinforced". The only disadvantage of this type is dredging fertile soil, as it is only recommended to take needed clay from underneath the footprint of the building not for mass production. (Rania Nasr Eldin, December 2012).

Figure 16. Left and right, illustrate adobe blocks & architecture. (claysandstraw, 2005), (d2wpnc0 srowh1f.cloudfront.net, 2014).

Figure 17. Left, Ebny Betak Google Earth view—right, photo from the project. (youm7, 2014).

3.3 *Build your home to protect green fields* 'مشروع ابني بيتك'

The informal sector proved that people have the ability to build their own homes, however it has had a negative impact on the national economy because they are building on agricultural land without following any regulations or sense of architecture and urban design (Aboneama, 2002). The idea of the 'Ebny Betak' project was focused on giving the informal sector the land for free, with free architectural designs and urban design but with restricted building regulations. The people built the given designs exactly (Figure 17). The poor people succeeded again, but the problem remains that the authorities have let people build without providing any facilities or services.

4 RESULTS AND FINDINGS

- More than 80% of the population live in Egypt's slums.
- Inhabitants are forced to live in inhumane settlements, owing to a severe shortage of affordable housing in the cities.
- The informal sector proved that it has the ability to build their own homes, however it has had a negative impact on the national economy because they build on agricultural land without following any regulations or sense of architecture and urban design.
- We are using only one method of construction which is cast in situ using reinforced concrete.
- Housing policies and economic failure after 1952 were the reasons for the housing problem.

5 DISCUSSION AND ANALYSIS

- Informal housing in slums proved the power of the informal sector to build their own homes but the absence of building, planning & engineering regulations produced harmful units for people, economy, society and the whole country.
- The private sector has many targets, the first priority is to gain profit. This sector depends on loans from national banks to build high-class housing through which some of them destroy natural resources.
- Slums could destroy all farmland in Egypt.

– The Ebny Betak 'مشروع ابني بيتك' project proved, once again, the power of low-income people to build their own homes.
– Sustainable construction techniques and urban growth are the only way to create our grandsons' future. (Mohamed Soliman, 2005).

6 CONCLUSION AND RECOMMENDATIONS

– Polystyrene construction, pre-cast concrete and other sustainable techniques should be the most prevalent methods of construction not the least.
– Architects and designers should learn and borrow from their own history, not from opposite environments and cultures.
– Complete and extend the Ebny Betak 'مشروع ابني بيتك' project and supply it with services. Authorities should solve its problems instead of announcing falsehoods to kill its success.
– Applying the sustainable rating system and pushing all designers and developers to build upon its recommendations will push Egyptian projects towards supporting a better environment.
– Sustainable techniques and concepts, quick construction methods, passive design and the use of recycled materials are the only ways to build new homes and recover the damaged areas.
– Create laws to prevent the waste of natural resources such as water, energy, and farmland.
– Eliminate taxes and customs on the private sector when it invests in low-income housing.

REFERENCES

(ECES). (2010). *Dead capital and the poor in Egypt (appendices)*. Cairo, Egypt: The Egyptian center for economic study.

Aboneama, W. (2002). *The imapct of economic changes on housing in Egypt between 1973–1998.* Cairo: Helwan University.

Al-Ahram. (2015). *Madinaty*. Retrieved from Al-Ahram English: http://english.ahram.org.eg/Media/News/2015/3/17/2015-635622014954485688-448.jpg.

Aqarmap. (2016). *Neighborhood*. Retrieved from Cairo: https://img-1.aqarmap.net/wompoo/aqarmap/neighborhood_slider/1604/57023853c63d0.jpg.

B-static. (2010). *Hotels in Cairo*. Retrieved from https://q.bstatic.com/: https://q.bstatic.com/images/hotel/max1024x768/212/21246355.jpg.

businessandnews. (2015). *Golf compounds*. Retrieved from http://businessandnews.com/: http://businessandnews.com/uploads/thumbs/f1c/f1c113481be1220a20ad322d9ece9004.jpg.

cairofrombelow. (2011). *Cairo-photographed*. Retrieved from Al-Masri Al-youm: https://cairofrombelow.files.wordpress.com/2011/08/cairo-photographed-by-john-harris-al-masri-al-youm.png.

claysandstraw. (2005). *Adobe construction*. Retrieved from Clay construction: http://www.claysandstraw.com/projects/mtncttge/timeline/2005/uptoOct10/fromGeri/cuttingadobes.jpg.

d2wpnc0srowh1f.cloudfront.net. (2014). *adobe-bricks-baking*. Retrieved from Adobe construction: https://d2wpnc0srowh1f.cloudfront.net/Mainblog/wp-content/uploads/2015/08/adobe-bricks-baking-in-the-sun.jpg.

designenterprises. (2010). *Polystyrene*. Retrieved from sustainable construction techniques: http://www.designenterprises.co/home/shotcrete-walls-for-homes.html.

Edgar Goell, N. E.-L. (2008). Sustainable Cities in Egypt, Learning from Experience: Potentials. In C. f. Studies. Cairo: The Egyptian Cabinet—Information and Decision Support Center.

EIPR. (July 2014). *Drafting a Fair Housing Policy for Egypt: EIPR Housing Policies Paper II.* Egypt: Egyptian intiative for personal rights.

El-badil. (2014). *Egypt Slums*. Retrieved from Slums: https://elbadil.com//.

El-Shafei, Z. (2001). *Comparison of core housing designes proposed in Egypt.* Cairo—Egypt: Cairo University.

El-Shorbagy, A.-m. (2010). Hassan Fathy: The unacknowledged conscience of twentieth century architecture. *International Journal of Basic & Applied Sciences IJBAS-IJENS Vol: 10 No: 02*, 29–35.

Hamid, Z. b. (2014). *Green materials—What are the standards and specifications for green materials certifications?* Malaysia: "Precast concrete".

Hamza, H. (2001). The Northern Cemetery of Cairo Cairo. *The American University in Cairo Press*, ISBN 977-424-618-7. Retrieved from https://en.wikipedia.org: https://en.wikipedia.org/wiki/City_of_the_Dead_(Cairo).

http://top10cairo.com. (2016). *Allegria*. Retrieved from Housing compound in Egypt: http://top10cairo.com/wp-content/uploads/2016/02/allegria.jpg.
http://www.egy.com/. (2008). *Heliopolis*. Retrieved from http://www.egy.com: http://www.egy.com/P/heliopolis/razzouk-6.JPG.
https://i.pinimg.com/. (2006). *Old Cairo*. Retrieved from https://i.pinimg.com/: https://i.pinimg.com/originals/fc/53/ff/fc53ff00074f580877a2bd6682a8cfdf.jpg.
https://i.pinimg.com/. (2006). *Old Cairo*. Retrieved from https://i.pinimg.com/: https://i.pinimg.com/736x/3e/07/4d/3e074df452b3a0bf212ab62b36bfa915-s.jpg.
https://inhabitat.com/. (n.d.). *Sulms in Egypt*. Retrieved from Inhabitat: https://inhabitat.com/files/garbagecity-ed04.jpg.
i.pinimg. (2009). *Cairo*. Retrieved from Slums: https://i.pinimg.com/originals/d9/85/04/d98504aff6c3b485528b00c777be8bf0.jpg.
i.pinimg. (2011). *Adobe construction*. Retrieved from Hassan Fathy: https://i.pinimg.com/736x/69/d7/ab/69d7ab85405c761f8c4c3eac36ae1560.jpg.
images.sunshine. (2013). *Tourism in Egypt*. Retrieved from https://images.sunshine.co.uk: https://images.sunshine.co.uk/ss/htl/0/2/3/2311-12-l.jpg.
Ladyegypt. (2014). *Golf compounds*. Retrieved from High class housing in Egypt: https://www.ladyegypt.com/files/large/dbb516eb573fe3d/720/478/fit.
Malterre, C. (2016). *Housing Cairo—From small-scale informal housing construction to semi-professional speculative urban schemes.* Zürich: Architecture Dep., Chair of Marc Angélil, Neunbrunnenstrasse.
media.linkonlineworld. (2014). *Cairo*. Retrieved from Images: http://media.linkonlineworld.com/img/large/2017/7/22/2017_7_22_22_42_58_87.jpg.
MEI. (2011). *Alexandria*. Retrieved from Middle East Institute: https://www.mei.edu/sites/default/files/publications/Alexandria%20housing.jpg.
metropolitiques. (2013). *Slums in Egypt*. Retrieved from Destroying planting farms in Egypt: http://www.metropolitiques.eu/IMG/jpg/illu-sims-2.jpg.
Mohamed Soliman, I. H. (2005). *New urban communities in Egypt (Policies & useful lessons)*. Cairo.
nmisr. (2015). *Slums images*. Retrieved from Egypt-slums: https://www.nmisr.com/wp-content/uploads/2017/04/2015-09-10T155244Z_2102912587_GF10000200351_RTRMADP_3_EGYPT-SLUM.jpg
O'Donnell, S. (2009). *Informal Housing in Cairo: Are Ashwa'iyyat Really the Problem?* Portugal.
Panoramio. (2012). *Cairo*. Retrieved from Photos: http://static.panoramio.com/photos/large/17003604.jpg.
pbs.twimg. (2007). *Hassan Fathy*. Retrieved from Hassan Fathy: https://pbs.twimg.com/media/CLIj5ntUsAAi35g.jpg.
rackcdn. (2007). *Pollution in Cairo*. Retrieved from Polluted cities: https://9c998969b63acdb676d1-37595348221e1b716e1a6cfee3ed7891.ssl.cf1.rackcdn.com/almpics/2015/10/RTR2TSBT.jpg/RTR2TSBT-870.jpg.
Rania Nasr Eldin, H. A. (December 2012). *Residential mobility in Egypt…a must or a myth.* Egypt: OPIC.
realestateegypt. (2013). *Allegria*. Retrieved from http://www.realestateegypt.com/: http://www.realestate-egypt.com/images/new_property/Allegria/ProjectHome/1.jpg.
scidev. (2009). *pollution*. Retrieved from Cairo: http://www.scidev.net/objects_store/thumbnail/18F364A8AD44D9E85A94BC409CC89C08.jpg.
Shokry, H. (2009). *Is a Sustainable Urbanism Possible In 21 Century Egypt? A Future Direction for Walkable Settlements.* Cairo.
static5.businessinsider. (2010). *Housing in tombs*. Retrieved from Housing in Egypt: http://static5.businessinsider.com/image/5466245d69bedde269bdaeee-1200-800/1-1811.jpg.
Stephen Everhart, B. H. (June 2006). Overview of the Housing Sector. *OPIC*.
technopol.co.za. (2017). *Building Construction*. Retrieved from Sustainable construction: https://www.technopol.co.za/wp-content/uploads/2017/02/BuildingConstruction2.png.
top10Cairo. (2016). *Cairo compounds*. Retrieved from http://top10cairo.com: http://top10cairo.com/wp-content/uploads/2016/02/allegria.jpg.
USAID. (December 2008). *Housing study for urban Egypt.* Egypt: USAID.
Wael, A. (August 2015). Enhancing LEED as a sustainable rating system by applying its Regional priority for all environmental regions. *International conference and exhibition on Satellite at Houston.* Houston: OMICS group.
Wael, A. (November 2012). Protect the Planet through Sustainability Rating Systems with Local Environmental Criteria—LEED in the Middle East. *Procedia—Social and Behavioral Sciences,* 752–766.
youm7. (2014). *Ebny betak project*. Retrieved from low income houses: http://img.youm7.com/large/1720132718828.jpg.

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Reclaiming the city: Guerrilla Gardening in Nairobi

Syeda R. Hussain
United States International University in Africa, Nairobi, Kenya

ABSTRACT: The identity of the city is constructed through its people's interaction with the physical design and aesthetic of their surroundings. A crucial part of both the aesthetic and design is the environment; where its strategic use affects the politics, culture and everyday life of the people in the city. This paper shall highlight the use of the environment as both an aesthetic and method to resist the politics of poverty in the city. It shall focus on guerrilla gardening in Nairobi, Kenya; as an environmental aesthetic and movement that shapes the identity of the city. The paper shall therefore explore the nexus between poverty and political ecology with emphasis on the garden city movement and its influence on Nairobi's 1948 Master Plan as well as Nairobi Vision 2030.

Keywords: environment; guerrilla gardening; environmental aesthetic; Nairobi Vision 2030

1 INTRODUCTION

The idea of space is not new to academic literature, as both urban space and the public space have both been widely theorized and contested (Massey, 2005; Butler, 2009; Gehl, 2011). These scholars focus on the theory of spaces. Common to these scholars is the realization that space, place and the environment are in constant transformation as a result of certain foundational processes.

Lefebvre (1991) in his book *The Production of Space* presents a triad of spatial definitions that demonstrate the complexity of the creation and maintenance of space. Central to space according to Lefebvre is the different modes of its production from natural or absolute space to complex spaces such as social space. For Lefebvre space is primarily a social product based on value systems and meanings which affect practices and perceptions of that space. Therefore, he introduces the perspective that space is produced, allowing research to analyze the conflicts, politics and character of the process of spatial production.

Harvey (2009) highlights in his book *Cosmopolitanism and The Geographies of Freedom* the idea that space is about multiplicity. He asserts that space is of particular interest because there is something ungovernable about it, in that it is constantly escaping from very tight regulation in spite of increased surveillance on the streets. In his book, he asserts that one cannot talk about space in isolation from concepts of place and environment because three concepts interrelate to each other. That is, if there is a process of place and space making it means you are shaping an environment. This shaping of the environment he further asserts has political implications for how people in the world think. He cites the example of place making in the United States after World War II where the policy moved towards the creation of suburbs. The suburb he argues perpetuates capitalist ideology and contributes to political attitudes in the United States.

Further, Harvey (2009) asserts the importance of spatial relations through his observation that political movements often use spatial strategies as part of their politics. These strategies often involve occupying spaces and places in certain ways, which act as a means to counter the dominant forces.

Since the popularity of critical studies and radical theories, there is a large amount of literature on the relationship between state and space (its creation and function in society).

These bodies of work highlight in specific the idea of public space as both a material and virtual space (Sithigh, 2012). Additionally, in the study of International Relations, space is a central concept as it is through studying different spaces and relationships within or between spaces, that we form our perceptions of world order and politics.

Lefebvre (1991) describes 'State space' (which I will argue in this paper is what we refer to as public space); as a space that is created, constrained and controlled by the State through exchange and production. What happens then in the public must be approved and regulated by the State. The effect is that the public is then free only to the extent that State institutions allow it to be free-the public hence becomes more restricted, less public and a less democratic space.

Thus, while scholars use Lefebvre as a point of departure for their research by acknowledging the existence of public/State space. They often continue to attach another description to public space and one which has become popularized through the increased use of liberal discourses-that public space is free, a place to study the citizen and a space central to any democratic State (Marcuse, 2013). Looking deeper into these assertions, one however finds the contrary.

According to Sithigh (2012), it is becoming ever more evident that there is growing tendency for the public to become more restricted, less public and hence less democratic. Susan A. Phillips (Pitzer College author of Wallbangin) in *Bomb It*; notes that through these restrictions the State in effect is excluding people. This realization prompts wider questions concerning, what kind of space we are resisting; what kind of space do we want and what kind of people do we want to be in that space?

From the above, it is clear that the production of space (in specific public space) is not divorced from politics. However there additionally exists a symbiotic relationship between environment and the politics behind the production and control of public space. The garden city movement in particular highlights this relationship and emphasizes the need to consider an environmental dimension to city planning.

This paper highlights the use of environmental movements as a method to resist public space and policies that use it to maintain poverty. It begins by providing an introduction to political ecology and an outline of the relationship between politics, the environment and space. It then briefly discusses the nexus between poverty and political ecology. Last, it shall look at the case study of guerrilla gardening as an environmental phenomenon and movement that contests a public space that is environmentally unfriendly and maintains poverty.

1.1 *Political ecology and space*

Today with increasing environmental degradation and issues like climate change, there is a growing need for politics that moves towards grounding in the understanding of natural resources, the environment and sustainability. According to O'Neil (2009), at the core of political science is the concept of power. Political science is therefore constantly engaged in answering the following questions: who has power? How did they get it? How do they use it and what are the ramifications of the existing and potential future distributions of power on influence? Environmental problems under the concept of power are therefore a symptom of the distribution of power—where it is always an 'other' group that has to deal with it (environmental problem) while other groups enjoy the benefits of the activity (leading to the environmental problem). In some sense, therefore, environmental problems are an exercise of power—where environmental degradation is a result of an oppressive relationship.

Zanetti (2007:3) discusses the history of political ecology as "the study of the ways nature could be both party to, and an outcome, of political process" analyzed exclusively as a "Third World phenomenon". She identifies two main reasons for this. She states that the first is due to the centrality of colonial legacy on power relations in these places. She notes that political ecology is strongly influenced by Marxist conceptions of economic relations. In this perspective, therefore political ecology on space makes reference to economic and class divisions either as the cause or result of production of spaces. Harvey (2009) makes reference to capitalism as a foundational principle that perpetuates the creation of suburbs and urban spaces which maintains a class divide.

The second reason highlighted by Zanetti (2007:3) was the "understanding of nature [...] based on a fetishisation of expansive wilderness areas apparently not tainted by human interference" which were "generally signified by economic exploitation" (Cronon, 1995 cited in Zanetti, 2007:3). Zanetti asserts that these spaces were seen as to be located in places of low economic development.

In the Third World, therefore, what one sees is the proliferation of cities with urban spaces for the middle class and suburbs for the elite and slums for the proletariat. All of these spaces are in proximity with each other and take on different environmental aesthetics. With the slum being characterized as a waste land with rampant pollution; the urban area as a crowded cement jungle and the suburbs a green utopia. To quote Fanon and to emphasis the centrality of colonial legacy on the production of spaces in cities, Fanon (2005: 3–5) in his book The Wretched of the Earth describes the colonial world as divided into two. That of the colonizer and the colonized; he describes the colonist's sectors as "a sector built to last, all stone and steel. It's a sector of lights and paved roads, [...] where the streets are clean and smooth". While the colonized sector, the shanty towns is "a world with no space, people are piled one on top of the other, the shacks squeezed tightly together."

Zanetti (2007) further notes that Political Ecology has broadened from focusing on rural areas to including urban spaces. Citing David Harvey's book Justice Nature and Ecology of Difference, Zanetti stresses the acknowledgement of Political Ecology that nothing is unnatural about cities and urban spaces. This broadening of Political Ecology she states; allows researchers to focus on seemingly "unnatural, or human-made, ecosystems like parks or gardens though the same epistemological lenses we might use for natural areas such as forests, prairies and so on" (Zanetti, 2007:4).

Reverting back to a Marxist perspective of ecology, the relationship between space, the environment and politics means that; the production of spaces either as public spaces or green spaces is a reflection of the system (for example a capitalist system). This relationship gives rise to specific spaces with specific characteristics and specific meanings. Zanetti (2007) explains that in capitalist societies nature is used to maintain social and economic class distinctions. In that, marginalized urban areas tend to be devoid of natural landscapes, and those which do exist are often poorly maintained and perceived as unsafe (Hymen, 2003 and Brownlow, 2006 cited in Zanetti, 2007:4).

1.2 *Poverty as 'planned misery'*

The United Nations (1995) defines poverty as; "lack of income and productive resources to ensure sustainable livelihoods" including "hunger [...] unsafe environments and social discrimination and exclusion." The United Nations further states that "it occurs in all countries [...] as mass poverty in many developing countries [and] pockets of poverty amid wealth in developed countries" (United Nations, 1995). Therefore, at the United Nations Millennium Summit (New York, Sept. 2000) the world adopted a global initiative to end poverty by the year 2015-the Millennium Development Goals.

The global fight against poverty is an initiative based on the international community's commitment to fight inequality and promote human rights everywhere. Since the adoption of the Millennium Development Goals action plan, United Nations reports' have emphasized its achievements. Yet, severe poverty still exists alongside rising affluence.

The 'development world' comprised of Non-Governmental Organizations, Civil Society and Governmental Organizations is plagued with the practice of determining 'root causes'. Using neo-liberal discourses, it sets out to stamp out hunger, eradicate poverty and bring democracy to all corners of the world. Marks (2011:5) notes that root causes are currently a prominent feature of the discourse of international human rights, where the rationale behind 'unearthing' them is that; by identifying them you can "mark the level at which an intervention would be effective" and hence "bring about significant and lasting change". From a legal perspective, she asserts that the practice of determining root causes is key in establishing "state responsibility-for failure to comply with obligations" (Marks, 2011:62). Marks however argues that; while the discourse of 'root causes' is valuable by attempting to answer why

violations occur and what it will take to bring about change. It stops its analysis too soon by treating effects of violations of issues as if they were causes. The result is, rhetoric that concentrates on 'bad' procedures or rules therefore suggesting that, by replacing them with 'good' ones, the problem will be solved.

Further, according to Marks (2011:3), the over-reliance on institutions and 'root causes' by the 'development world' does away with the role of 'grassroots movements' in the discourse. It does this by maintaining a system where change must be "channeled through the state". The minimized role of grassroots movements has a significant effect on the way human rights functions and the way they are understood in international law. Throughout the history of human rights, it has been the ordinary person that defies all odd to assert his rights. It is the ordinary person that is affected by human rights violations and therefore it is the ordinary person that human rights apply to. Therefore, by downplaying the role of these movements we create a gap in our overall understanding and hence our solutions end up being unsustainable and impractical.

Marks (2011) describes as alternative approach- 'planned misery'. The premise behind this approach is that for every person that suffers from a violation, there is another that benefit from it. This approach is valuable for understanding the nexus between poverty and the environment as it builds upon Heynen (2003) and Brownlow (2006) (cited in Zanetti, 2007:4) observation that marginalized urban areas are void of natural landscapes. As well as Marxist understanding of Political Ecology that asserts 'class divide' is maintained and perpetuated by the production of spaces that use the environment to create and maintain poverty.

Planned misery as an approach proposes several advances to 'root causes'. Firstly, it alters questions from "what are governments not doing" to "why governments and others are doing what they are doing" (Marks, 2011:29). Secondly, it draws attention to the link between deprivation and privilege by associating violations to direct actions. It further recognizes the importance of critically analyzing violations as ideas; hence scrutinizing the conditions as stated by Marks (2011:39) "within which those ideas were able to develop and gain influence". Finally, it encourages a deeper analysis of the conditions under which 'remedies' are proposed; therefore, allowing us to formulate realistic solutions.

What needs to happen is; awareness of the fact that as noted by Pogge (citied in Marks, 2009:12) "the poor are systematically impoverished by the present institutional arrangements and have been so impoverished for a long time during which our advantage and their disadvantage have been compounded". Therefore, poverty is not simply an occurrence with root cause but instead it is a construction of conscious policy options and projects by certain groups of people to maintain their advantage. In terms of this paper, policy options and projects are directed towards restricting and controlling environmental spaces such as parks, fields, verges and roundabouts.

2 GUERRILLA GARDENING AS RESISTANCE

This section presents Guerrilla Gardening as a movement that adopts an environmental strategy to counter the polluting influence of urbanity and class divide. Zanetti (2007:2) defines Guerrilla Gardening "as any voluntary, and potentially illicit, gardening in space which can in some way be deemed public, over which the gardeners hold no direct or explicit ownership". Adams, Hardman and Larkham (2014:2) state that the prefix "guerrilla" has a military connotation in which rebels are in conflict with an oppressive dominant power. This point raised by Adams, Hardman and Larkham in the beginning of their discussion about Guerrilla Gardening, is significant as it positions the movement as resistance rather than contestation. This positions the movement as a force greater than reformist movements. Guerrilla Gardening therefore through its tactics demand a re-imagination of spatiality in urban spaces and the right to cultivate land. Guerrilla Gardening as noted by Mikadze (2014) represents a tactical spatial practice that contributes to 'in-between' spaces. In-between spaces are spaces that lie between the public and private dimensions. They are spaces of uncertainty such as verges, roundabouts abandoned plots and slums.

The majority of literature on Guerrilla Gardening and environmental tactics to resist poverty and global inequality relies heavily on a historical narrative that begins in the West. Guerrilla Gardening as an illicit act of cultivating someone else's land often makes reference to acts started in New York (Zanetti, 2007 and Mikadze, 2014). However, there is a long history of what is today termed Guerrilla Gardening in the global south. The specific term 'Guerrilla Gardening' was however first used by Liz Cristy in 1973 (Zanetti, 2007). Yet for century's people in the global south cultivated land for the good of the community before the imposition of contemporary property rights and divisions of public and private by colonial regimes. There is therefore a direct link between Guerrilla Gardening and groups in the global South that fight for the right to reclaim their land.

Guerrilla Gardening is a response to the unequal distribution of land, and capitalist agricultural practices (such as mono-culture) aimed at profiting the rich which have led to rampant food insecurity forcing people into poverty. As agricultural land and space become increasingly limited peoples basic right to grow their own food is being taken away through the justification of development and privatization. Mono-culture in particular has led to soil exhaustion and is a key player in climate change. Additionally, the transformation of the farm into large scale private factories has made agriculture a major polluter (Allen, 2009). Richard Reynolds (2008) in his book On Guerrilla Gardening asserts that the unequal distribution of land and resources is at the root of poverty, hunger and war. An assertion that is common in political ecological perspectives.

Increasingly people are reclaiming private and public spaces for the greater good. Author and self-styled de-growth activist Charles Eisenstein (2011) in his book *Sacred Economics*; argues that private property, when viewed in its historical context, largely arises from the theft of the commons, which is land or resources that once belonged to a whole community. He calls for land to be utilized in ways that work best for people and the environment. It is not hard to see the logic of this argument—while fertile land is left barren, chronic food poverty is a serious issue around the globe. So-called food deserts, where fresh and healthy foods are hard to access, exist in many poor urban neighborhoods, with the associated health costs borne by local residents. In Nairobi, Kenya the term 'Guerrilla Gardening' is spreading, but it has been a common practice in Nairobi's urban centers and slums since British colonial rule.

The city of Nairobi started with the construction of the Mombasa-Uganda railway line in 1896. It was intended to be a railway town housing the railway headquarters and eventually the colonial administrative center. As the population of the town grew, the function of Nairobi developed to being the center of corporate power.

Underlying the development of Nairobi as an industrial and colonial administrative hub was the growing sentiments of segregating the city either in terms of race or class. Torres (2010) notes that the 1926 Plan for a Settler Capital was clear about its intention to create and maintain racial segregation. Nairobi was a city only for Whites. It was a White city, geographically designed to create and maintain racial segregation. There was no assigned residential area for Africans as they were treated as an inconvenient necessity to 'run' the city. Africans therefore settled in informal settlements with perpetual threat of being forced out.

The 1948 Master Plan for a Colonial Capital on the other hand was presented as a scientifically and technically neutral design. However, it contributed to racial segregation through its ideology of separated development felt throughout the design (Medard, 2010: 27). That is, while the 1948 Plan did not overtly advocate for racial segregation it replaced it with social segregation in that, residential areas were designed and assigned according to class. The 1948 Master Plan was used as a guide to the development of the 1973 Nairobi Metropolitan Growth Strategy and later Nairobi Vision 2030. Both plans maintain and perpetuate class segregation. That is, after independence in 1963 the colonial design of the city was maintained but the new African elite replaced the European colonial suburbians while poor continue to occupy the informal settlements (Torres, 1998). Bigot (2010: x) best describes Nairobi today as a "fragmented and highly paradoxical city since it is upon the city's empty space and peripheries that urban dynamics are structured".

Central to the aesthetics of these plans is the aesthetic principles of the garden city movement based on the idea of functionalism. Thorton (1948: 45) acknowledge that Nairobi's

1948 design was influenced by the garden city movement described as "town planning as landscape gardening". As such, the garden city movement has become used as an aesthetic method to design the urban environment. Emphasis in this regard is on the functionality of the city and the abundance of 'open green spaces'. The idea of an urban green environment presented in the background of a society that is facing threats from land grabbing, deforestation and climate change is a welcome initiative. However, who is designing the city and for whom remains a central concern.

The 1926, 1948 and 1973 plans for Nairobi have consistently marginalized the poor. Kibera, one of Kenya's largest slums and the largest slum in urban Africa is emblematic of the influence of design on poverty. Kibera's first population were Sudanese soldiers of the British East African army formally known as the King's African Riffles. In 1904 the British colonial government allocated a forest area in Nairobi as a barracks to house the Sudanese soldiers. They called it 'Kibra' meaning forest. The location of the barracks was central to the design of British colonial rule as it was located close to the city center for ease of deployment in case of unrest or resistance. However, as the soldiers began to get old and retire and settle in Kibera, the government began to view this unplanned residential area as a hindrance because the land was too valuable and too near to European settlements (Parson, 1997). Since colonial rule, successive governments have continued to attempt to relocate, reclaim and demolish Kibera with the descendants of the Sudanese soldier's being excluded from citizenship. Kibera is therefore made up of a large population on stateless people who have no access to citizenship rights and therefore amenities such as education and healthcare.

As a response to a history of oppression, neglect and forced poverty the residents of Kibera have responded with several methods of resistance from art to civil disobedience. Guerrilla gardening therefore is an additional tactic and expression of resistance. With little open space to farm on and no legal right to residence; the people of Kibera are growing vegetables in soil filled sacks. These gardens are a response to increased food insecurity, growing encroachment on open spaces and pollution in the city. The gardens are situated on former dumpsites and counter hunger and poverty as well as sustainably addressing environmental problems (Zuckerman, 2011).

It then follows that; community gardens cultivated illicitly, acts as an avenue for survival and resistance against controlled land use and food production. However, Guerrilla Gardens as a means to resist are not restricted to the slums. Throughout Nairobi one is able to see illegal roadside nurseries and gardens that challenge constructed norms of boundaries (between public and private), legality and the environment. All of which not only reclaim the city from those that design it; but additionally, redefine what should be meant as a 'garden city'.

3 CONCLUSION

The garden city movement is emblematic of a movement in urban planning to aesthetically 'green' the city and provide open spaces for the public. However, it additionally demonstrates the extent to which class and politics has the capacity to infiltrate the right to the city and in particular the right to open green spaces. To the extent that the idea of public becomes more restricted in meaning and use.

Nairobi's history of urban design demonstrates that urban aesthetics is designed by a few for a few. This in turn leads to the creation of peripheries and peripheralization of people. Therefore, perpetuating and maintaining poverty in the city. Guerrilla Gardening thus proves to be a form of resistance that highlights and addresses the historic links between city planning, environmental degradation and poverty as 'planned misery'. Hence reclaiming the right to the city and the right to the aesthetic of green spaces.

REFERENCES

Adams, D., Hardman, M. & Larkham, P. 2015. Exploring Guerrilla Gardening: Gauging Public Views on The Grassroots Activity, Local Environment. *The International Journal of Justice and Sustainability* 20(10): 1231–1246.

Allen, R. 2009. *The British Industrial Revolution in Global Perspective*. New York: Cambridge University Press.

Bigot, C.H. 2010. Preface. In Torres, D.R. (ed.) *Nairobi Today: The Paradoxes of a Fragmented City*. Dar es Salam: Mkuki na Nyota Publishers.

Eisenstein, C. 2011. *Sacred Economics: Money, Gift, and Society in the Age of Transition.* California: Evolver Editions.

Fanon, F. 2005. *The Wretched of the Earth*. New York: Grove Press.

Gehl, J. 2011. *Life Between Buildings: Using Public Space.* Washington: Island Press.

Harvey, D. 2012. *Rebel Cities. From the Right to the City to the Urban Revolution.* Verso.

Lefebvre, H. 1991. *The Production of Space*. Donald Nicholson-Smith trans., Oxford: Basil Blackwell.

Marcuse, P. 2013. The paradoxes of public space. *Journal of Architecture and Urbanism* 38(1): 102–106.

Marks, S. 2009. Human Rights and The Bottom Billion. *European Human Rights Law Review* 1:1–18.

Marks, S. 2011. Human Rights and Root Causes. *The Modern Law Review* 74(1): 1–33.

Medard, C. 2010. City planning in Nairobi: the stakes, the people, the sidetracking. In Torres, D.R. (ed.) *Nairobi Today: The Paradoxes of a Fragmented City*. Dar es Salam: Mkuki na Nyota Publishers.

Mikadze, V. 2015. Ephemeral Urban Landscapes of Guerrilla Gardeners: A phenomenological Approach. *Landscape Research* 40(5): 519–529.

O'neil, K. 2009. *The Environment and International Relations*. Usa, Cambridge University Press.

Parsons, T. 1997. "Kibra is our blood": The Sudanese military legacy in Nairobi's Kibera location, 1902–1968. *The International Journal of African Historical Studies* 30(1): 87–122.

Reynolds, R. 2008. *On Guerrilla Gardening: A Handbook for Gardening Without Permission.* London: Bloomsbury.

Síthigh, D.M. 2012. Virtual walls? The law of pseudo-public spaces. *International Journal of Law in Context* 8(3).

Torres, D.R. (ed.) 2010. *Nairobi Today: The Paradoxes of a Fragmented City*. Dar es Salam: Mkuki na Nyota Publishers.

Torres, D.R. 1998. Nairobi, between Muthaiga and Mathare Valley. In Grignon, F. & Prunier, G. (ed.) *Le Kenya contemporain*. Paris: Karthala-IFRA.

United Nations. 1995. The Copenhagen Declaration. *World Summit for Social Development Copenhagen*.

Zanetti, O. 2007. Guerrilla Gardening: Geographers and Gardeners, Actors and Networks: Reconsidering Urban Public Space (Master's Thesis). *Queen Mary University of London*. London, United Kingdom. http://www.guerrillagardening.org/books/ZanettiGG.pdf.

Zuckerman, J.C. Nov, 29 2011. The Constant Gardener's. *Mother Nature Network*. http://www.mnn.com/your-home/organic-farming-gardening/stories/the-constant-gardeners.


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Recording the intangible heritage of the city in the Metropolitan Area of Porto

Renata Barbosa & Fernando Paulino
ISMAI—University Institute of Maia, Portugal

ABSTRACT: How collaborative platforms can contribute simultaneously to the recording of the intangible heritage of the city and the production of an intangible heritage that collaboratively is being built and transformed. To research how the various agents of recording/production influence and shape the way we produce and record the intangible heritage, either as external or as participating agents, in that the image of this heritage as reflected by others and reflected by the self, not being necessarily one of opposition, is non coincidental. The research of this issue brings about, in what strategies are concerned, some contributions on the inclusion of Intangible Cultural Heritage in e-museums and the use of collaborative platforms as a means of production and registration in this context.

Keywords: intangible heritage; cultural heritage; e-museums

1 INTRODUCTION

In Portugal there are two Metropolitan Areas, one around the city of Lisboa, another around the city of Porto. They group the municipalities around these major cities. Metropolitan Areas embody cooperation between municipalities and seek to catalyze broader institutional networks with strategic importance for the promotion of economic, cultural, social and environmental development and for regional affirmation.

The Metropolitan Area of Porto has been developing a strategic planning process of an operational nature, with a view to preparing the participation of this sub-regional space in the different sectors of society. This metropolitan area is located in the North Coast of Portugal, and embraces a geographical area nowadays composed of 17 contiguous municipalities, with an area of approximately 1,900 Km^2 with a resident population of around 1,800,000 inhabitants. All these councils assume their particularities but converge to a complementarity for diversity, in which the metropolitan area is undoubtedly a bearer and promoter of this cohesion.

The municipalities of the Metropolitan Area of Porto did not have a tradition of working together in projects of common interest. This situation started to change in 2007 with the launch of the iPorto project (Henriques et al. 2008) that for the first time provided a common online platform that all of these municipalities could use to provide information about cultural events occurring in their territory.

Six projects were worked upon that covered different areas, namely:

- Cultural events: iPorto, dissemination of information about cultural events (10 themes) in the Metropolitan Area of Porto. A common online platform that supports the feed of the iPorto web site, the iPorto newsletter, and the nEventos database. Its nEventos database supports other projects, for instance it is used by some components of the Official Tourism Portal of the city of Porto, helping promoters of cultural and/or tourist events. It can be

used to build derived contents, such us newsletters or custom magazines and exported to other information systems.

- Heritage points of interest: survey of the museums and architectural and archaeological heritage of the Metropolitan Area of Porto. The information collected covers 79 Museums and 95 points of interest of the architectural and archaeological heritage. The site is dynamic, new items can be easily added through the backoffice. It allows cross referencing the information in this web site with that in the iPorto web site (many of the cultural events take place in the museums or heritage points of interest collected here). Besides presenting the information from each point of interest this web site allows the items to be added to a personalized itinerary made with the help of the Google Maps API. The itinerary can then be printed or sent to a given email.
- Tourism: dynamics of tourism supply and demand in the Metropolitan Area of Porto. This metropolitan project for the time being is only targeting the technical staff of the different municipalities, that is all the data is accessed through the backoffice and no data is directly made available to the general public. Still there is an API that allows the different municipalities to extract the relevant information and use it to power tourism web sites, or the tourism section of their institutional web site, or to create mobile Apps. This is the most strategic project being developed in the context of the Metropolitan Area of Porto due to its possible impact on the tourism industry and its potential to help develop an ecosystem of cooperation between the different stakeholders, as already happened in the case of the municipality of Porto.
- Nature and environment: information about the network of national parks and nature sites of the Metropolitan Area of Porto. It also included information about a selected set of natural sites and studied and described the 14 rivers that constitute the hydrographic network that crosses the area. Another output of this project was a report with a set of good practices for designing, building and maintaining green spaces targeted at the technical staff of the municipalities.
- Education: information about the educational spaces of the Metropolitan Area of Porto.
- Intangible heritage: information about a selected set of themes from the Intangible Heritage of the Metropolitan Area of Porto.

The goal of all of these projects was to achieve the following:

- That whenever possible the information be directly filled-in in the online platforms by the users from the different municipalities. If that was not possible or if a common set of editorial guidelines was wanted, then the project team took care of collecting the initial set of information that was then made available to the users of the different municipalities for maintenance and updating. It was considered critical that the responsibility for the maintenance of the information rested in the municipalities.
- That the information provided by a given municipality should be useful for that municipality but at the same time that the aggregated information from the 17 municipalities could be useful at a metropolitan scale.
- That the information could be reused in other contexts. For that purpose a set of Application Programming Interfaces (API's) were developed to allow programmatic access to the databases, and the platforms were also configured so that the information could be exported in structured formats, such as JSON (JavaScript Object Notation), CSV (Comma Separated Values), or spreadsheet format (Excel).

With the exception of the intangible heritage project that was developed in the context of—University Institute of Maia—ISMAI the remaining five projects were developed in the context of the Porto Digital Association with support from staff and students of ISMAI.

The evaluation of the degree to which it is possible for municipalities to produce cooperative work at a metropolitan scale supported by online platforms is of major importance to determine how subsequent collaborative projects should be adapted to the reality of the collaborative working environment. In the context of the, at the time, sixteen municipalities of the Metropolitan Area of Porto, between September 2010 and December 2013, six projects

were developed, covering the areas of cultural events dissemination (iPorto), information to support school visits to educational spaces (EDU), information about national and natural parks (SITIOS), tourism dynamics of supply and demand (DINTUR), information about museums and heritage sites (PIN), and documenting the intangible heritage (PIAMP). The common feature of all of these projects was that they were launched by a central authority (Junta Metropolitana do Porto) but then were executed, supplied with information and maintained at a local (municipality) level, therefore their success or failure depended on the interest that they could originate at the municipality level. One of us participated in the development of five of those projects (providing support for the users of the different municipalities, and for those projects for which there is already enough data, assessing the degree of success of each initiative), and both of us participated on the remaining one, PIAMP.

2 COLLECTING THE INTANGIBLE HERITAGE OF THE METROPOLITAN AREA OF PORTO

The PIAMP project consisted in each municipality identifying a topic of their intangible heritage that they would like to see recorded, and then to address that topic by creating a 15-minute video that, as best as possible, represented that theme, placing more emphasis on the anthropologic point of view in detriment of the component of tourism marketing.

The project of *Collecting the Intangible Heritage of the Metropolitan Area of Porto* had as its main goal collecting information and registering audiovisual information about initially sixteen (16), now seventeen (17) intangible heritage themes. Besides this general goal, the objective was to choose a theme that represented a practice or collection of practices, of cultural, religious/pagan, human-activity or of a community identity nature, that constituted a certain tradition, paying special attention not so much to its birth but to its development, current practices, and means of transmission to future generations. In January 2013 each of the sixteen municipalities was invited to choose one theme, the project started being developed in March 2013 with a deadline set for December 2013. Because the municipality of Paredes joined the Metropolitan Area of Porto in September 2013, in 2015 the project PIAMP was extended to also cover the municipality of Paredes.

2.1 *Cultural Diversity of the Metropolitan Area of Porto*

Due to the vast and diverse contexts particular to each municipality, their links to the local community, operating autonomy and regionally-based production systems, the Metropolitan Area of Porto although it pretends to be inclusive and cohesive, still is constituted by a multitude of regionally distinct territorial units grouped around three major clusters: coastal/urban, hinterland/agrarian, and hinterland/industrial; with their own set of priority interests and rules of action to achieve them. These diverse contexts are reflected upon the theme that was chosen by each municipality.

Additionally, the fieldwork, led us to conclude on some important characteristics of these types of projects:

- Some themes are recurrently explored by the municipalities, in some cases involving the same set of key informants (that are suggested again and again);
- Some themes are chosen without prior field investigation and do not represent the current state of affairs, but that of fifteen or more years ago;
- Some themes, of second level of relevance, are an effort to deviate from themes of first order of relevance already been explored by other projects, but, in some cases, fail to be representative of the community as a whole (the municipality), representing instead a very small group of people;
- Some themes reduce the possible sources of information to one, making it difficult to undertake the operational development of the project since it is based on one main informant that may have absolute control over the context and over the access to subsidiary

informants, therefore the project is too dependent on the degree of availability and cooperation provided by that informant;
- Although it was agreed from the start, that the municipalities would contribute resources to assist the development team with the fieldwork, notably, making the initial contacts with the informants and subsequent explanation of the project objectives and what was required from them, in the end that rarely happened;
- The municipal (council) elections that occurred at the end of September 2013, were a stressful event for the project operation, due to the unavailability of key personnel before—because they were preparing for the elections or trying to finish ongoing projects –, during—in some cases complete unavailability –, and after—due to changes in leadership, influencing the interaction or lack of it in a non positive way. This lasted from mid July to the end of October 2013.

The themes initially chosen were developed, transformed, adapted, or eventually discarded and replaced by other themes in some way connected with the initial themes.

As referred above, the project had as its main goal collecting information and registering audiovisual information about the intangible heritage themes that were chosen by the different municipalities. This information is the main source of construction of narratives in the format of documentaries, with the approximate duration of fifteen (15) minutes that in turn, are the main source of the teasers (short version of the documentaries) with the approximate duration of five (5) minutes, of the seventeen themes chosen. An eighteenth documentary was also constructed, from the aforementioned seventeen, by selecting one (1) minute of footage from each one, and thus creating a video that summarized the richness of the intangible heritage of all of the Metropolitan Area of Porto.

All information collected, namely the audiovisual information in raw format, was delivered to the Metropolitan Area of Porto, that in turn, delivered it to its municipalities. The objective here is to grant access to source material so that, an audiovisual database can be constructed, and augmented in the future, allowing the creation of new narratives, based on unused images/video images or the creation of derivative products based on the ones constructed in the context of this project. For this reason all the material was collected and is delivered according to the Creative Commons License that allows the creation of derivative products including for commercial use, that is, the license "*Atribuição-CompartilhaIgual 3.0 Portugal (CC BY-SA 3.0 PT)*". This facilitates access to audiovisual information that can be used on other contexts by the municipalities, mainly since, with every passing day, it is more difficult due to budget restrictions caused by the current economical situation of Portugal, to accommodate human resources for this kind of work.

The relative lack of homogeneity on the information collected was also strongly influenced by the aforementioned six reasons. Although we tentatively tried to persuade some of the informants to fully contribute, it was not always possible and, in some cases, the contribution was restricted to the participation in the documentary, not to the full usage of raw material. In the following sections is a description of each of the seventeen subprojects and respective themes.

2.1.1 *Arouca*

The theme chosen to be registered by the municipality of Arouca was the communal goat herd of Regoufe. Regoufe is a hamlet located at the hillsides of Serra da Arada at approximately 615 m of altitude. Serra da Arada is part of the Gralheira Massif, along with Serra da Freita and Serra do Arestal. It lies in the transition from Beira Litoral to Beira Alta with its higher elevation at 1071 m of altitude (Alto da Cabria). It serves, in part, to divide the basins of the rivers Paiva and Vouga. It is approximately 20 km long and 15 km wide.

Thirty families inhabit Regoufe, although the hamlet has more housing units, a consequence of the population aging due to the migration of the younger people to the coastal cities to study and work, although occasionally, we can see the inverse movement due to the current economical situation but, those young people that come back, come to reintegrate their respective nuclear families, and not to create new ones. The communal goat herd, nowadays, is owned by five families, where the animal grazing is ensured by the women

(five woman shepherds). It has been like this since the existence of the communal goat herd more than a hundred years ago, according to Regoufe's inhabitants.

2.1.2 *Espinho*

Espinho is a small city located on the north coast, which is limited to the west by the sea. The theme that the Espinho municipality chose to be registered was the art of trawl fishing (Xávega) practiced in Espinho. In fact, the area were Xávega fishing is done stretches from Espinho to Vieira de Leiria. The documentary Arte da Xávega em Espinho, explores and registers this reality as it is practiced nowadays, using as its main informants the crews of the three last '*companhas*' (fish societies) in activity at Praia de Espinho, namely the Companha '*Nelson e Sérgio*', the Companha '*Vamos Andando*', and the Companha '*Vicking*'. Since this activity, trawl fishing (Art of Xávega) is still practiced in a traditional way, we found only a few major differences, to know, the use of boat motors for propelling the boat forward, the use of tractors instead of ox teams to push the boats into the sea, to pull the boats from the sea, and to pull the nets. Some complementary activities were also modernized.

2.1.3 *Gondomar*

The theme chosen to be registered by the municipality of Gondomar was the filigree craft industry present in the Gondomar region, and practiced in the small-scale workshops, where filigree-crafters, produce articles of goldsmiths' or silversmiths' wares using the filigree techniques, passed on from each generation to the next. These small-scale workshops are mostly family based. This traditional industry is still present in this area, but the continuous need for modernization has been transforming the work processes and what is achieved by it.

In order to preserve the knowledge and expertise accumulated by humankind over the centuries, nowadays, it is of uttermost importance that the procedures for the transmission of this knowledge should be remembered and registered. That was one of the main objectives of this project.

2.1.4 *Maia*

The theme chosen to be registered by the Maia municipality was the traditional flower baskets (flower hampers) street parade of the Nogueira da Maia village. Nogueira da Maia is a village east of the Maia city where it is still noticeable its agricultural background.

In the early days of these festivities, it was tradition for the population to offer flowers to the Virgin Mary, which were carried in flowering baskets denominated '*canastras*'. These baskets were about a meter tall, were made in *Cana-da-India* (indian cane) and were covered with myrtle and fresh flowers picked in the gardens. This was a tradition that was lost over time, and that was recovered in the nineties, and is currently one of the high points of these festivities, lending to the pilgrimage a different colored and showy ambiance (Maia 2011). Currently, the street parade of the flower baskets takes place between the main church of Nogueira and the Chapel of Our Lady of the Hour on Mount Calvary, where they are exposed for a week, then been integrated in the procession in honor of Our Lady of the Hour. The documentary *Maia em Festa, Canastras Florais*, explores and registers this reality, using as its main informants the inhabitants, mostly from Nogueira da Maia, belonging to private or institutional groups that directly participated in this activity. These groups, nine, correspond to the nine parishes represented in the 2013 festivities.

2.1.5 *Matosinhos*

The Matosinhos municipality chose the theme of its traditional canning industry, in this case exemplified by the factory *Pinhais*. Matosinhos is located on the northern coast of Portugal and the county is organized spatially along the Atlantic coast, never very far from the sea. Since always the fishing activity and all other derived were crucial from the county's economic point of view. The sea and its resources, with special emphasis on the fishing of sardine (Sardina pilchardus), the most important in Matosinhos, are uncertain. This relationship between accessibility to the sea and its products and canning existed at least since Roman times, who built the tanks, chiselled into the rock outcrops of Praia de Angeiras,

commonly called, salting tanks or cetarias. "*We have travelled, from fishing to the canning industry in Matosinhos, retaining a wealth of knowledge that changed slightly over time. Lets us now take over the past, reconstructing, step by step, the major phases of the development of the canning industry*" (Nunes 2003). In the documentary, the manufacture processes of traditional canning industry were recorded from the moment the fish baskets enter the factory. The women fish handlers formerly named "*empreiteiras*" begin by pouring the baskets of sardines in the marble tables, spreading it. These fish handlers are joined by others in this *escorcha* section in which in one stroke, fish head and guts are plucked out. The byproducts (*escasso*) of this phase are used in the production of fishmeal at their own factories and when they were abundant, gave a characteristic smell to Matosinhos. The inhabitants of Matosinhos, depending on the proximity to the factories and the relative location of their residence, identified the wind direction by the presence or absence of that smell.

2.1.6 *Oliveira de Azeméis*

The theme chosen to be registered by the municipality of Oliveira de Azeméis was the Park of La Salette, the origins of its religious context and its present organization and uses. The documentary *Parque de La Salette*, explores and registers what is the Park of La Salette, how it was born and its association to an alleged religious miracle, how it is used nowadays and what kind of community equipment it contains.

2.1.7 *Paredes*

The municipality of Paredes chose the manual art of working the wood by the master carpenters and carvers of ancestral tradition in this county that has still a few remnants in some family owned carpentries.

2.1.8 *Porto*

The theme chosen to be registered by the Porto municipality was the poet Eugénio de Andrade remembered by his friends. Those friends were initially chosen due to the close relationships developed amongst them, and that came into existence from differentiated contexts. It was not always possible to keep the initial group together due to the non-availability of their friend. For this reason the initial objective of trying to represent a different context with each friend was impossible to obtain.

2.1.9 *Póvoa de Varzim*

The theme chosen to be registered by the municipality of Póvoa de Varzim was the traditional fishing boat denominated *Lancha Poveira*, namely the present usage of an exact replica for learning purposes, tourism usage and community identity motives.

The wealth of a land of tourist attractiveness is based not on the repetition of the same global offer, but on the distinctive mark, as a carrier of a cultural identity, immersed in the deepest traditions of their community.

The context of Póvoa de Varzim as an essentially fishing community has been transformed, particularly in the last decades, and the one that was the most important economic activity ceased to be, giving way to others, in particular those linked to the tourism sector integrating Póvoa as an important seaside resort. And yet, according to (Saldanha 2008) a "*[…] social cohesion element inseparable of the change process, the maritime heritage is revealed in the unique cultural diversity of our fishing (and riverside) communities, that consolidate autonomous projects which embody the uniqueness and plurality of their identities […]*". One such project is the Lancha Poveira do Alto 'Faith in God', initiated by Manuel Lopes, that claims on several occasions the importance of seeing and studying the sea and the activities related to it, not from the land but from the sea itself, as participants or observers. The vessel lancha poveira do alto was chosen for the fact that the identity of the maritime community has in this "*[…] one of its most significant and bright symbols […] embodying and signalling the memory of the journey and of the naval construction techniques diaspora, of the fishing activities and of the arts of sailing of the poveiro's fishermen*" op. cit. in (Costa 2011). The *lancha poveira* was built in about seven months and was launched on September 15, 1991.

2.1.10 *Santa Maria da Feira*

The theme chosen to be registered by the municipality of Santa Maria da Feira was the tradition of the '*fogaceiras*', a traditional activity, that has its origins in a legend, that at a subsequent time developed into a more complex format, always with a religious motivation.

It can be attested that one very relevant aspect of this project is how the municipality administration took into their hands the task of guaranteeing the continuity of this tradition, promoting activities that help spread the tradition, as much as guaranteeing that the children get to know its origins and present actions. The documentary *As Fogaceiras*, explores and registers the activities developed by the community, in order to help spread and transmit to the future generations how the tradition was born, and how the municipality administration takes into their care these tasks, using as its main informant an old '*fogaceira*', the administrative representatives, and the students and teacher of a group being taught about this relevant tradition.

2.1.11 *Santo Tirso*

The theme chosen to be registered by the municipality of Santo Tirso was the textile industry, its past, present and future. Motivated by several vicissitudes it was not possible to treat all facets of this theme, therefore the work was mostly concentrated on the past, where the factory model associated with cotton ruled, together with its decadence and the exploration of new alternatives for its present and future where a new role is being created and developed within the textile context. The former Spinning and Fabrics Factory of Santo Thyrso, since it was deactivated in 1990, was acquired by the Municipality and rehabilitated, integrated into a revitalization and urban development strategy. Rehabilitation maintained the architectural traces of the original factory typical of the industrial architecture of the late nineteenth century. It was then spatially reorganized to function as a "*workspace, business, experimentation and innovation space for culture, enjoyment and pleasure*", and prepared to receive incubating companies and to create a modern unit for the promotion of textiles, this multi-functional space is organized into sub-areas with different features designed for each of them.

2.1.12 *São João da Madeira*

The theme chosen to be registered by the municipality of São João da Madeira was the history of the Hat Industry. São João da Madeira is a city located on the extreme north of Aveiro's district, belonging to the Beira Litoral region, centrally positioned on the sub-region of Entre Douro e Vouga (between the rivers). The city itself is crossed by the Ul river. The city of São João da Madeira is known in Portugal for its tradition in the industrial area, particularly in relation to the manufacture of hats and footwear, and it is recognized in the country as the Shoe Capital. Following this line, São João da Madeira developed new strategies for the tourism industry, namely those concerning the industrial tourism.

> *"Inside these walls we keep machinery, tools, raw material and hats. We also keep stories that were preserved by common memories. [...] Inside this building, that was once the Empresa Industrial de Chapelaria, one of the most important enterprises in town, the Hat Industry Museum was born, in this building where heavy machinery was first introduced, in this city that once was one of the main and more important centers of hat production in the country" (Câmara Municipal de S. João da Madeira. 2013).*

The stories of the hat industry are preserved in a set of common memories. The documentary *Indústria da Chapelaria*, explores and registers these memories, using as its main informants the former workers of Empresa Industrial de Chapelaria that nowadays houses the Hat Industry Museum.

2.1.13 *Trofa*

The theme chosen to be registered by the municipality of Trofa was the production of sacred art on the Vale do Coronado area. Vale do Coronado is an area along a valley that includes the councils of São Mamede do Coronado and São Romão do Coronado.

"The workshops of the saint-makers [...] have become an important source of work for the region (mainly agricultural), since the people there had no industries capable of giving them a dignified and remunerative work. The poor abounded everywhere; [...] Around this tough situation, someone stood out and triumphed in life: they were the saint-makers masters (*mestres santeiros*). They were called the 'landlords'. The profession of saint-maker offered guarantees. Furthermore, it was a less harsh profession because their workers were not exposed to the weather conditions and it was not required of them an effort as great as it was required of the farmers and other crafts'' (Tedim 1978). As the model is to be reproduced countless times, it is critical that it satisfies conditions of strength and durability and hence the preponderance of wood for their production, although clay or plaster models are common in the workshops. Sometimes, the models were finished and sold as a final piece, and a copy in plaster or clay was made thus becoming the new model. This was also the technique used to copy models of competing workshops. The documentary *"A produção de arte sacra no Vale do Coronado"*, explores and registers the activity of the wood sculptors of sacred art (saint-makers), using as its main informants those saint-makers masters (*mestres santeiros*) in activity in the area of the Vale de Coronado.

2.1.14 *Vale de Cambra*

The theme chosen to be registered by the municipality of Vale de Cambra was the production of corn bread and wine and the traditional agricultural practices associated to attaining these end products. The cultural knowledge and practices to traditionally obtain them were thus to be registered.

> *"In the corn plant everything is useful: breaks up the flag and plucks up the leaves for livestock, before catching the ear; [...] the ears are harvested in late summer, they dry in the floor and are stored in granaries, the husking of the corn is a festive occasion among neighbors; grain, reduced to flour, makes the corn bread [...]" (Ribeiro 1991).*

Similarly, the annual cycle of the vine, follows the rhythm of the seasons. The regions richness in water allows agriculture species requiring a lot of water, often supplemented with irrigation, such as corn. In the village of Paraduça belonging to the parish of Arıes, between the Sierras Arestal and Arada in full highland, where every piece of land is worked by man and used for agriculture, it is cultivated, beyond what is necessary for the daily feeding of the community that dwells there-in, corn and vines. With minor changes the agricultural rituals are the same as in the past, but all fear that by being increasingly abandoned, the land and its cultivation, will disappear at the same time as the generation that today still works the land. In an effort to preserve and transmit these practices and traditional knowledge, the village of Paraduça has been organizing itself, to acquaint those inside and those outside, on how it produces the corn bread, the main type of bread produced and consumed in this region of the highlands. For that, a few years ago began the restoration of the community oven, although most people have their own wood oven for baking bread, and the restoration of the five community mills, all fed by the same taken, diverted from the Ribeira Paraduça.

In what concerns the making of cornbread, three of our informants, in order to convey this knowledge to the new generations, show the public how bread was made with corn and rye flour, water and yeast, stating that, as of today, no longer the younger can do it without help.

In Macieira de Cambra it was recorded the theme of the wine, describing the harvesting and treading of the grapes. After the grapes harvest is finished the berries of the grapes are separated from their clusters in the *desengançadora* and the press mills, and then one proceeds to treading the grapes by the traditional method, i.e., with the feet. Groups of men, in a convivial and carousal environment, tread the grapes for hours. After a fermentation period, that can last in the case of red wine up to two and a half days, it is passed through the press and is placed in barrels or vats to ferment, thus concluding the cycle of the wine. The need to adapt the methods, to facilitate the activity and to have a better performance, is a recurring theme. States our main informant of Macieira de Cambra that only that way is it possible to "*save*

the heritage and see how was the old culture". Being necessary to follow the new developments, to modernize and move forward

> *"with some regret, it was recently said that [...] in elementary school and in middle school, [one comes to the] children today [...] and ask them if they know where do the grapes come from, or where does the corn come from, or where does an egg come from, and they say—it comes from the supermarket -, they are no longer connected to the earth, we are losing a lot in terms of understanding the value of the earth".*

It is this concern with the transmission of knowledge about the man, the earth and the interactions between them, that leads to the fact that Vale de Cambra, seat of a county still largely rural, has organized the feast of the removal of the ear of the corn in the city centre. It thus tries to convey to the younger generations, how it was one of the activities performed in the end of the corn agricultural cycle, in which everyone can participate, removing the ear of the corn and joining the banter and songs associated with this activity. The removal of the ear of the corn was always a communal activity, a job and simultaneously a social event and the associated games were the few times when physical proximity was not only permitted but also promoted.

2.1.15 *Valongo*

The theme chosen to be registered by the municipality of Valongo was the flowering mat of the festivities in honor of Nossa Senhora do Amparo in Alfena. The religious activities begin one week before the main festivity, with the Candle (candlelight) Procession between Capela de Nossa Senhora do Amparo and the Main Church, and end with the all night flowering mat construction by the community that is used to cover the streets where the Nossa Senhora do Amparo Procession passes by, this later procession uses the inverse path of the first. Thus, the construction of the flowering mat has a strong religious motivation. The inhabitants of Alfena participating in the planning, preparation and construction activities of the flowering mat, usually live by the streets receiving it. They are organized by street, and in some cases the same street is divided by more than one group.

The exploration and registration of the flowering mat construction was divided into five phases. The planning of the activity (one group), the collecting of raw materials (two groups), the preparation (almost all groups), the construction of the flowering mat (all groups), the epilog or destruction by the rain and the use of the mat under the feet of the passing procession. The documentary *Tapetes Florais de Alfena*, explores and registers the mat planning, preparation and construction activities, using as its main informants the inhabitants of Alfena council, mostly the ones living by the streets where the procession passes by and where the flowering mat is constructed. They belong to the construction groups (private or institutional) and have directly participated in this activity. These groups, in a total of ten, correspond roughly to the streets receiving the flowering mat in the 2013 festivities.

2.1.16 *Vila do Conde*

The theme chosen to be registered by the Vila do Conde municipality was the experiences and memories of men and women from the Caxinas community in Vila do Conde that were deeply connected with the fishery activity and the sea, whether that activity was land based or done at the sea. Initially, the theme proposed by the municipality was the Caxinas's parlance but, when the team fieldwork began, it was concluded that this particular parlance was not spoken any more. Although a particular pronunciation between inhabitants of the area could be identified, it can be said that the Caxinas's parlance was not in use any more. For this reason, and given the informant contacts that were provided, it was decided that what united our work were the memories connected with the fishery activities and that were practiced by men and women.

> *"I want to bring to mind those who have already departed or aged, like the old vessels they manned, with whom I often talked. I want to contribute for mankind never forgetting that it passes transiently, but it should always tie the past to the future. I feel*

that it is my duty to report here the hard life of this humble people, as a lesson to the descendants and those to come, so that they can keep as a document, as a memory, as example and advice, the legacy of these men, these people of my homeland—Caxinas" (Cova 2008).

A strong sense of identity between the inhabitants of Caxinas, that originated a long time ago, and that is still true in the present times, is always connected with the sea, or with the activities developed around it. A large part of the population was engaged and still engages in activities related to fishery. Those people, of both genders, are the informants that within this documentary share their memories from different points of view, thus the documentary "*O Homem e o Mar*" follows the life of the fishermen, men and women, their hopes and fears.

2.1.17 *Vila Nova de Gaia*

The theme chosen to be registered by the municipality of Vila Nova de Gaia was the associative movement, experiences and memories of the community. People belonging to theatre associations from some councils of the Vila Nova de Gaia municipality were invited to describe a life story, triggered within this context, that changed, in some particular way, their life. Based on their stories, they were selected and their memories were registered. Some stories have a very personal involvement; others represent an institutional involvement. "T*he experiences of individuals within the communities and the positive impact on their lives of these aspects are often overlooked. Habits and ways of life of hundreds of people who feed the associative sector do not manifest themselves in the representations of a play or a recital. Let's say these are just the tip of the iceberg*" [Vítor Silva Pinto, personal statement, C. M. Vila Nova de Gaia].

2.2 *Online platform*

The PIAMP (Património Imaterial da Área Metropolitana do Porto) project results are available in the web site http://piamp.amp.pt. This site contains links for the videos (15-minute full version and 5-minute teasers) of each of the 17 municipalities, and the video of the Metropolitan Area of Porto that was created combining clips from the videos of each municipality. The videos are stored in a Vimeo Plus account (www.vimeo.org), include subtitles in four idioms—Portuguese including Portuguese hard of hearing, English, Spanish, and French –, a short text in these four idioms describing the projects of each municipality, and a set of photographs of each project.

3 DISCUSSION

"Intangible cultural heritage can only be heritage when it is recognized as such by the communities, groups or individuals that create, maintain and transmit it—without their recognition, nobody else can decide for them that a given expression or practice is their heritage." (UNESCO 2011).

The project Collecting the Intangible Heritage of the Metropolitan Area of Porto (AMP) highlights the recovery of the collective imaginary of AMP, through their social practices, rituals and festive events, as well as its role in the identity construction of the territory, evoking three determining pillars throughout the project: the collective imaginary, memory and identity.

The Intangible Cultural Heritage, as defined by UNESCO, manifests itself among other areas in the oral traditions and expressions, social practices, rituals and festive events, and in knowledge and practices related either with nature or with the universe. It is presented as well as a wide range of manifestations and expressions of intangible character that have the memory as a means of preserving and orality as a transmission medium. Then arises, encompassed within this immateriality, legends, myths, folktales, but also the rituals and festivals, as well as the entire universe of knowledge and experiences of popular cosmogony.

Contrary to the designated material cultural heritage, the intangible differs from the first with respect to its supports of an extremely fragile nature, and therefore, easily perishable. In this sense, there is an urgent need to recover, collect and preserve them as part of projects such as this one from the Metropolitan Area of Porto. These turn out to be decisive, with its objectives of making the inventory, and treatment—we refer specifically to interpretive studies—as well as its disclosure, and are determinant for the collective memory and identity of a group or society.

3.1 *Intangible cultural heritage: collective imaginary, memory and identity*

The notion of intangible heritage appears as an expression of reaction, as an expression of concerns within an area not covered by those who worked the material heritage. Thus, the distinction between material and immaterial is a purely political distinction, first debated and worked within UNESCO, which is supra-national in scope, and becomes a part of the list of States' concerns, in order finally to reach the academy. Far from the debate remain the societies, the groups and the individuals holding the patrimony.

We understand that notions of material and immaterial are culturally determined notions, and that it is up to each culture, society or group to establish a boundary between what is material and what is immaterial. It seems appropriate to underline the lack of involvement of local communities in taking the initiative to preserve and safeguard their local heritage.

There are, therefore, two assumptions that must be present when working in the realm of intangible heritage. Since the definition of intangible cultural heritage is almost an anthropological definition of culture, it must therefore be recognized as something dynamic, something that is permanently evolving. A feast, a ritual, an agricultural practice, should be recognized as processes, reflections of the way of life of communities, of groups, but which will only exist as long as they make sense to individuals or communities. This feast, this ritual, or this agricultural practice, can never be fixed, crystallized, in the sense of an imposition. They will have to be regarded as dynamic processes, subject to re-significations, subject to changes due to socio-cultural context changes—and that the socio-semiotics explores and deconstructs scientifically—in a process very similar to the myths and their characteristics (evolutionary and non universal).

The second assumption is the need for an integrated approach to tangible and intangible heritage. In fact, separating tangible from intangible heritage is something that shakes Marcel Mauss's (1988) theory by which each cultural manifestation is considered as a "total social fact". If, on the one hand, the intangible heritage arises dependent on a material space—a territory—that gives it meaning, or a landscape that evokes it, intangible heritage always shows a subject/space relationship, even if both are implied. In other cases, this dependence results from the connection of an object, a tool, with a traditional practice. Facing intangible heritage as an element per se will result in de-contextualization and, consequently, loss of meaning. It will therefore be impossible to work an activity/knowledge, a memory, a myth or a legend decontextualizing it geographically, it is the territory itself, the space that also confers sense to it (see Edensor, 1998).

3.2 *Cultural identities identification, construction and transformation*

Likewise, this second question, translated into a material/immaterial separation, raises yet another problem. Intangible heritage by implying a collection (carried out by means of a written, audio, video or photographic record) leads to a process of materialization of the immaterial, that is, the record sanctifies intangible heritage, granting it a status that will allow it to exist as a tangible object. This process of sacralization is in line with the way how things end up operating, the objectives include a logic of action in the economic sphere, mainly for tourism purposes. This need for preservation arises when the tradition begins to disappear, and it is only from that moment on that it is an object of concern. In some cases, even when tradition does not exist as such, the process of preservation ends up becoming a process of

patrimonium-alization, of museum-alization, becoming almost an object of "authenticity" (staged authenticity) with objectives of tourism exploitation.

This whole set of problems leads us to the methodological question in the collection of intangible heritage. It is difficult to define a methodology of its own, however, as already mentioned, the identification and collection process will have to constitute itself as an activity. A process of stimulation in which the researcher participates with who holds the patrimony—the informant or social actor. In this process that passes through the evocation of memory, it is the responsibility of the researcher to bring the social actor into the present, in some cases, it would seem, to rescue him from the past. Likewise, it implies that the researcher is aware that the collective memory is always conditioned by belonging to a community or group, as well as by the physical transformations of the territory. When it transforms, there are no more spatial references in which memory is supported and dissipated.

Thus, it seems appropriate, in the context of collecting the so-called intangible heritage, to apply the methodology used by visual anthropology, because collecting a knowledge / activity, a memory, a myth, a legend or a short story does not only mean collection of a content, but also in a way, the way in which it is verbalized. The participation of gesture, the emphasis placed on words, facial expressions, among others, constitute a performance that is also part of the narrative. In this way, we have access not only to the text, but to a wide set of elements that participate in the story and the interpretation of it, bringing the social actor to the scene, giving it an active role.

The use of audiovisual media thus assumes a predominant role in the collection to be made. The relationship established on the ground is essentially a sharing relationship. A relationship that allows access to local knowledge, to the point of view of the subjects, a privileged time of constant relations and interactions. A time of active participation in the construction or collection of a knowledge. The use of the image in the research processes, is the basis of this construction or re-collection. The images made, as well as representing the starting point of the research process, are also the result of this same process. If the use of the image is fundamental at the beginning of the investigation—as a process to start the research, and later as a process for the development of the same research—its use also leads to the way in which the researcher uses the images in the production of knowledge, bearing in mind an axis polarized by two visual cultures: local visual culture and academic visual culture (Pink, 2001).

3.3 *Communication strategies of the cultural diversity of the Metropolitan Area of Porto*

This project was not only the collection of intangible assets but also the dissemination of the cultural and immaterial heritage of a region.

The (re) discovery of the local heritage by the populations that inhabit this space is of decisive importance. It will be important for local inhabitants to become aware of the existence of an identity within their region, hitherto unknown to the subjects. This implies to enjoy one's own identity in a direct way, to become aware of the unnoticed because it was daily experienced and as such considered pedestrian. Thus, local development policies should have repercussions in increasing the collective consciousness of the population as a member of a territory and its integration within it.

Dissemination can play an important role in this perspective, integrating the local populations, the identity, the values of a region, in the respective advertising messages with a tourist scope. By increasing the self-esteem of the populations and projecting it abroad, as members of a territory and the role played by them in the representation and valorization of the same, they become aware of the potentialities of the local heritage and the role they hold in their respective knowledge of the region. In this perspective, the local populations as well as the local heritage present themselves as central and inseparable elements.

Pedro Hellín Ortuño states that "local heritage represents a key element, an instrument of development capable of being integrated into the policy of territorial planning, which generates well-being, is an engine of economic growth and creation of jobs, besides favoring the creation of a differentiated brand image" (Hellín Ortuño, 2009: 219).

4 CONCLUSION

As stated in the introduction this was the first time that these municipalities tried to work together in a systematic way to build common information systems and record cultural assets.

Of this set of projects, the projects that have the potential to have higher impact are PIAMP (due to the strong involvement of different user communities) and DINTUR (due to the size and scope of the information being collected about the tourism dynamics of supply and demand). Now it is too early to tell, still both look promising. For instance, the decision in PIAMP to produce all materials according to a Creative Commons License that allows the creation of derived content can have a profound impact on the added-value of that project. In practice the raw materials can even become more important than the finished product.

As of now all six projects remain in active development or are being actively maintained, and this, comparing to the panorama of just five years ago, shows a completely different attitude and a completely different mindset. Now it can certainly be said that the 17 municipalities of the Metropolitan Area of Porto learned how to work together for the common good.

REFERENCES

Câmara Municipal de S. João da Madeira. 2013. Leaflet "Museu Chapelaria S. João da Madeira".

Costa, M. (Ed.) 2011. Notícias da Lancha 1991–1992 facsımile. Município da Póvoa de Varzim.

Cova, J. V. 2008. Caxinas: A minha terra e a minha gente. Câmara Municipal de Vila do Conde.

Edensor, T. 1998. Tourists at the Taj. Performance and Meaning at a Symbolic Site, London: Routledge.

Hellín Ortuño, P. A. 2009, "Estrategias publicitarias en la promoción del turismo de interior", in Enoturismo e Turismo em Espaço Rural, Maia: GEHVID / Edições ISMAI.

Henriques, E. C. & Rocha M. & Sousa, A. 2008. iporto 2.0: a collaborative software platform for low-cost dissemination of cultural and tourist information. I Jornadas Internacionais sobre Enoturismo e Turismo em Espaço Rural, Porto / Maia/S. João da Pesqueira

Maia, V. M. d. S. 2011. Santa Maria de Nogueira, Monografia, Volume 1. Nogueira, Maia: Author's edition.

Nunes, S. 2003. As Pescas e a Indústria Conserveira, Volume 7 of Matosinhos: Monografia do Concelho. Câmara Municipal de Matosinhos.

Pink, S. 2001. Doing Visual Ethnography. London: Sage Publications.

Ribeiro, O. 1991. O Mundo Rural. In Opúsculos Geográficos, Volume 4. Fundação Calouste Gulbenkian.

Saldanha, J. B. 2008. A causa do mar em Manuel Lopes. In M. da Conceição Nogueira (Ed.), Póvoa do Varzim Boletim Cultural, Volume 42, pp. 139–148. Câmara Municipal da Póvoa de Varzim.

Tedim, J. M. A. 1978. Os Santeiros da Maia. In F. de Oliveira, F. Ferreira, and E. Guimarães (Eds.), Bracara Augusta—Revista Cultural da Câmara Municipal de Braga, Volume XXXII (73–74), pp. 337–356. Câmara Municipal de Braga.


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The urban regeneration of the peripheral areas. The case study of Tor Vergata (Rome, Italy)

Luciano De Bonis
Dipartimento di Bioscienze e Territorio, Università del Molise, Italy

Giuseppe Di Benedetto, Maria Luisa Germanà & Ferdinando Trapani
Dipartimento di Architettura, Università degli Studi di Palermo, Palermo, Italy

Maurizio Petrangeli
Dipartimento di Architettura e Progetto, Università di Roma Sapienza, Roma, Italy

Chiara Tonelli
Dipartimento di Architettura, Università di Roma Tre, Roma, Italy

ABSTRACT: The 'Urban Regeneration of Peripheral Areas' workshop experimented with an innovative design model for the urban regeneration of Rome. The working method of the workshop is based on diachronic analysis of the evolution of the combined natural history and culture of the area, the architectural, technological, environmental and landscape situation and relation-ship with the surrounding territory. The workshop dealt with the mutual relationships, which run through and characterise the dimensional and relational scales of the environments of metropolitan ecosystems as structures and landscapes. The strategy for urban and territorial integration is left to the procedures and policies of the community activism organisations and the administration because only they play central roles in the implementation of the design proposal. Even in the most critical cases it is possible to regenerate the outskirts, preserve their value by trans forming them with the integration/recombination of their components and oppose the shared project of an urban landscape with an increasing number of buildings outside the proper context appropriate to their socio-cultural identity.

Keywords: Urban Regeneration; diachronic analysis; landscape; architecture; metropolitan ecosystems

1 INTRODUCTION

On Friday 14th October 2016 the 'Urban Regeneration of Peripheral Areas' workshop at the "Roma Tre" University came to an end. This workshop experimented with a new sustainable urban regeneration model for the case study of Tor Vergata in Rome. The area has been recommended by the Olympic Committee for the construction of the Olympic village as part of the candidature of Rome for the 2024 Olympic Games where the great works for the 2009 World Aquatics Championships had been started and then abandoned. The workshop was directed by Ferdinando Trapani and started on the basis of the scientific contributions of Maria Luisa Germanà and Giuseppe Di Benedetto. Maurizio Petrangeli led the work group with the help of Chiara Tonelli and Nabil Mohareb. Luciano de Bonis produced a study of the historic, environmental and regional situation together with the tutors Barbara Cardone, Nicola Moschena, Francesca Giangrande, Michele Porsia and Stefano Simoncini. Mieke Oostra, Adolf Sotoca and Ibrahim Maarouf took part in the discussion and final assessment.

2 THE ARCHITECTURE DESIGN AND URBAN PLANNING INTEGRATION DEBATE

The Tor Vergata district is a symbolic and exemplary case on account of the various topical questions arising in the debate on the contemporary city undergoing transformation. It is an area in the outskirts of Rome, definable and recognisable as a fragmentary, dispersed and weak area but at the same time also dynamic and open to a new morphological and urban identity. The meaning of "the territory of architecture" (Gregotti, 1966) must be extended as in this case study there are several vantage points because the approach to the subject of urban regeneration of extensive metropolitan outskirts must necessarily be interdisciplinary. In these multiple ambits, the architecture modifies the relationships of meanings of the physical space which once again becomes a place opposed to the idea of terrain vagues: a space which is unbounded, of a hereditary disposition and morphologically vague (Augé, 2004; Gregotti, 2013). The combined architecture-town planning concept, (Samonà, 1975) which interprets the complex construction of physical space in the transformation process of urban settings by radical regenerative actions, comes again to the fore.

Architecture reconsiders the themes connected with the "form-content" relationship and reassesses the interweaving of relations as "connective tissue of the content and form of the results of the same process" (Samonà, undated). The combined architecture-town planning concept makes it possible to include the cultural, social and political interactions that control the physical configuration of every transformation. The renewed unification of urban architecture and building architecture has more sense, since it assimilates the very idea of the city with the place, with the environment and with the manmade landscape. Architecture affects the entire setting on which it aims to confer aesthetic value and can be understood only considering all the dimensional scales. It is preferable to speak of reclamation and redevelopment rather than a new process since these activities are related to the existence of values produced by a possible regeneration in the urban dimension (Gregotti, 2011; Ricci, 2011). Architectural-town planning design operates continuously through various scales and reconnects the fractures in the periurban and infrastructural landscapes of the contemporary city.

Urban outskirts are sometimes transformed through horizontal development with dissemination of buildings over vast areas (OMA—Rem Koolhaas; Villette Park; Melùn Senart; Bernard Tschumi and the "office park" covering more than 200 hectares at Chartres; Jean Nouvel with the "Active city" of Nîmes). In other cases it is vertical condensation of buildings that prevails in order to free as much ground as possible and strengthen the open structure character as in the Atlanpole of Nantes (Di Benedetto et al., 2017). Gregotti, Battisti, Gabetti, Isola and others base the architectural strategy on the enclosure archetype or principles of initial anthropisation (Busquets in the outskirts of Grenoble or the headquarters of Fiat by Gabetti and Isola in Candiolo), in an attempt to give character to the places by delimiting them and giving the design a founding role.

This peripheral city can no longer be interpreted in terms of finished parts. The "unfinished" condition results in the need for an empirical approach based on reconstruction and regeneration of the incoherent and morphologically weak building forms. Reflection on the architecture of this city, which started in the 1990s, adopted geographical and socio-political approaches (Lanzani, 2003) without viewing the project as an instrument for examining and becoming acquainted with spatial transformations (Torricelli, 2012).

3 URBAN IDENTITY BY THE BUILT ENVIRONMENT: THE INCOMPLETENESS OF THE PERIPHERAL AREAS

'Urban identity' represents a decisive and extremely concise factor in regeneration, both as an analytical focus and a design objective for works in historic town centres, outskirts, disused areas or residential districts (Lo Piccolo, 1995). Even if the regeneration processes are driven by an organic view of cities in continual evolution and typically have resilience in dealing with the many critical aspects of the question, there is a need for clear and shared guidelines. This

does not imply the need to differentiate between approaches and strategies for the parts of the contemporary city that were developed in different periods, but rather to be able to adapt them to the specific circumstances of regeneration (Germanà, 2013/a; Trapani, 2016). Numberless portrayals, of an artistic, scientific, essayist and literary nature, comment on the ambiguous character of the outskirts, anonymous places perennially waiting for a meaning, no longer countryside and not yet city, where "a kind of environment resignation„ a daily familiarity with the unfinished, which makes even thoughts incomplete" (Fois, 2015, 194) seems to have concentrated. A similar characteristic which can be found in any outskirt takes on a special meaning in the case of Tor Vergata, characterised by the City of Sport (also known as the "Sails") designed by Santiago Calatrava and never completed. For this reason some considerations on the incompleteness in the field of the Architectural Heritage (Germanà 2015/a; 2015/b) can be reviewed.

Incompleteness may refer to material or immaterial aspects which often interweave or interact. Incompleteness in the process may refer to gaps attributable to single phases (planning, design, execution and management) or operators (clients, designers, contractors and users) or—in the more serious cases—the entire process, when due account has not been taken of the continuity of the long term vision, of the integration of the cultural, social, economic and environmental spheres or of the interactions between experts and end-users. The incompleteness of the product is found in the physical state of the buildings which were once intact but are no longer (such as the thermae building covering more than 500 sqm, probably connected to a luxury residence of the first century A. C. recently excavated at Tor Vergata by the University) or buildings never completed (such as the buildings for the 2009 World Aquatics Championships, just a few yards from the example mentioned above). Material incompleteness is measured on various scales, in the building component and/or the urban and landscape context, the consequences of which may lead to three main types: the intrinsic vulnerability of buildings to natural and anthropic agents; impossible or limited utilisation, starting with accessibility; the difficulty in attributing coherent understandable meanings.

A second consideration concerns the extent of the incompleteness, which manifests itself in relation to the various circumstances in which it is found. A mainly recently built environment prevails in the outskirts, having typological, morphological and material characteristics disconnected from the specific location. Although this, archaeological remains are found in peripheral areas very often, especially in the Mediterranean areas (Germanà, 2013).

For these traces of the past ages, as for many other much less patchy seattlement„ the state of incompleteness may reach various levels of which varying degrees are more or less identifiable: from the evident ruin to the less perceptible effect of the interruption of contextual connections and irreversible transformation of the production processes that originated them. In any case, incompleteness in the Architectural Heritage must be considered inevitable and not necessarily something negative but rather an acceptable identity condition to be dealt with each time by searching for a temporary unity of the knowledge, meanings, relative physical conditions, appropriate uses, participation of the users and of the community.

In the case of the 'Sails' of Tor Vergata designed by Calatrava, an example which for its dimensions and wishful thinking may be considered symbolic of the widespread plague of unfinished public works in Italy, any proposal of urban regeneration must include some form of completeness for this relic of contemporary times. Some theories provocatively attribute an aesthetic value to the unfinished buildings and infrastructures of recent decades, almost wishing ironically to put right the shameful legacy of our corruption and inefficiency (Arboleda, 2017). In effect, the imposing metal structure of the closed Calatrava site may produce an aesthetic impact but the main effect of this type of unfinished project, in Tor Vergata as elsewhere, is another: a deep resentment for the enormity of the wasted natural, financial and human resources which overall make the acceptance of these abandoned works unsustainable.

4 WHAT KIND OF CITY WITH WHAT ENERGY

With the prospective of Rome's candidature for the 2024 Olympic Games and Paralympics an opportunity has arisen in the city to provide an answer also for the housing emergency.

The foreseeable accommodation for the athletes, like those built for the event in 1960, could be allocated later to council housing. This would help to meet the demand for housing which, for intrinsic reasons due to the economic crisis, impoverishment of the middle class and pressure exerted by migratory flow, is becoming a pressing matter in the capital city.

In the aftermath of these profound transformations, which make it necessary to formulate new residential and urban models, the Olympics could have started a concrete experiment in: a) high energy efficiency of the housing and management models for living in them, in accordance with NZEB standards, constructing highly efficient buildings, raising awareness in the inhabitants regarding their consumption, with the aid of sophisticated monitoring systems but conceived to increase awareness of how to manage energy; b) innovation in dimensional standards and the use of spaces in the home, since current building standards are by now obsolete, evolution of the archetypes of home design developed in the past century in order to satisfy a housing demand that is different from what they were conceived for; c) new production and construction systems, with advanced prefabrication, meeting the needs of economy, certainty of completion dates and rapidity, correspondence to the quality levels of the designs; d) a cultural conscience for environments which are healthy and highly performing, for the most part using natural and renewable materials.

The answers should have come through the international Solar Decathlon international competition (Bellingeri, Tonelli, 2016), conceived by the US Department of Energy in 1999 which selects twenty universities from all over the world to compete every two years in the conception, construction and management of housing prototypes of the future, powered by solar energy. The prototypes are assembled together in the same competition field where a kind of smart village is created for the duration of the competition which, through a single information network, monitors the performance of the houses during the ten contests of the Decathlon. The best solutions would then be the housing models to be used in the entire Olympic Village in the area of Tor Vergata and near the "Sails" site thus providing urban regeneration of an area that is extremely incomplete.

The structure was conceived for accommodating about 18,000 people during the games and then for conversion into housing for 7,000 with a part being destined for residences to complete the campus project of the Tor Vergata University and another part to extend the buildings of the University Teaching Hospital for the relatives of hospitalised patients.

In line with the recent European trend which encourages the saving of ground and recovery of empty urban spaces, the proposals should have identified in the urban regeneration of these rundown areas of the capital the way forward for the coexistence of archaeological remains and unauthorised building, with the construction of multi-story buildings in the spaces present to complete the already consolidated developments.

5 THE CHARACTERISTICS OF THE AREA AND ITS URBAN INTERPRETATION

The expression "urban regeneration" immediately raises questions of definition, not only in the overall sense but also in reference to the meaning of its component terms, namely "regeneration" and "urban". Without getting into the now widespread technical and scientific discussion on the topic here, it is however useful to give account for the approach to the subject used in the workshop considered in these notes.

First of all the idea of tackling any kind of regenerative project in the chosen area (Tor Vergata) was not considered possible, especially but not only if giving it a "green" connotation, unless by placing it in a temporal dimension including not only its cultural history but also its natural history which should be handled in an integrated way and not separately and in a markedly cross-scale spatial dimension and therefore completely conforming to the above "inclusive" temporal dimension.

The evolutionary process of the Tor Vergata area, in accordance with the approach adopted, is thus attributable "at its origin" (Faccenna et al., 1995) to the initial phase (about 600,000 years ago) of the activity of two volcanic districts in the area of Rome, the Monti

Sabatini to the northwest and the Alban Hills to the southeast, the products of which extend progressively across the pre-existing plain, altering the morphology considerably and causing variations in the paleo-river bed of the Tiber. It is precisely to the hydrogeological unit of the Alban Hills (Cafiero, 2003) that the area under study belongs. From the biotic viewpoint to that unit corresponds the vegetation series of Carpino orientalis-Querceto cerridis sigmetum of the plains and pyroclastic slopes, as can be seen in the map of the vegetation series of the new 2008 Local Plan of Rome.

The structure of the environmental system of the Rome area overall is completed after the last glacial period (Wurm, about 18,000 years ago), when the watercourse of the Tiber before deepens and is then filled with alluvium in the following interglacial period (Faccenna et al., 1995). It is with this abiotic and biotic environmental structure that historically human interaction commenced in the area of Rome. Although this concerns mainly the alluvial deposits at the core of the city, in practice it also concerns all the rest of the system including the hydrogeological unit and vegetation to which the area under study belongs, an area which in fact still conserves a heritage which is often of inestimable value (see par. 3). But this heritage certainly does not represent the only sign that the historic evolution, especially recent, has left on the environmental sub-system of the Tor Vergata area. Or to put it in a better way, the historic and environmental sub-system of the area under study overall (Calzolari, 1999[1]) certainly does not now manifest only the features to which we are inclined to attribute value (because, take note, it is always a question of our attribution of values though it may be widely supported and justifiable). Faced with the by now "typical" (at Rome and elsewhere) forms of urban sprawl recently involving also this area the abovementioned new Local Plan of Rome, the D2 "Structures of the Plan and metropolitan strategies" map in particular, formulates an approach based substantially on: i) metropolitan outlook; ii) decentralisation and polycentrism; iii) protection of the environment and heritage; iv) more services and urban functions in the peripheries; v) privileging the railway network for mobility (the so called "iron therapy").

Tor Vergata represents one of the centralities at the metropolitan level on which the polycentric strategy is hinged. It also is the site chosen by the 2024 Rome Olympics Committee for the Olympic Village (see par. 4), in contrast however with the residential dimensioning of the Plan and with the orientation of the Marino Administration (prior to the current administration and to the subsequent compulsory one) which places it, together with a river park and without residential "legacies" (but directional instead), in an area gravitating around the northern section of the Tiber within the Grande Raccordo Anulare (orbital motorway encircling Rome). The new and current Administration of Rome, on the other hand having declared itself contrary also to the approach of the 2008 Plan, definitively resolved the question, to put it one way, with an announcement on 21 September 2016 by the Mayor Raggi to the effect that the candidature of Rome for the 2024 Olympics would be withdrawn.

The activities of the workshop, with the conceptual preconditions explained in the preceding paragraphs and with the methods and visions described further below, has been done constantly in a state of complete and free immersion in the complex situation described so far, dating back from our time to 600,000 years ago (at least) and extending spatially throughout the historic and environmental system of Rome and its environs well beyond the limits of the study area but also the boundaries of the municipal territory. Acknowledging that it is more convenient today to define the term "urban", going beyond any traditional definition and residual city/countryside dualism, as a kind of physical and mental reference system consisting of material and immaterial networks as well as technical objects, manipulation of which implies introducing a stock of images and information circulating in loops regarding the relationships our society has with space, time and men, and that urbanity basically consists of a dynamic of mutual adjustment between a form of urban fabric and a form of conviviality (Choay, 1994).

1. See also Calzolari M.V. (ed), Roma: Permanenza e fragilità del sistema storico ambientale (https://goo.gl/q54zH099).

6 URBAN ANALYSIS WITHIN THE LOGIC OF PLAN

The didactic method used in the workshop is generally based on the prior planning experience for social innovation with the support of ICT (Marsh et al., 2013; Concilio & Rizzo, 2016; Eskelinen et al., 2014), on an analysis of the socio-economical context in terms of urban value (De Bonis & Trapani, 2016). In particular the analysis took account of the multidisciplinary studies on the relationship between the centre and outskirts (Di Benedetto et al., 2017) and urban regeneration in the historic evolution over a long period (Prescia & Trapani, 2016). The key used to exploit the legacy of cultural, infrastructural and environmental resources in the ambit of sustainable tourism was the theoretical-design model of integrated interactive tourism (Trapani & Ruggieri, 2010). Lastly, consideration was given to the aspects of possible resistance to the collapse of this great urban sub-system also considering the aspects of urban resilience (Minozzi & Trapani, 2016). The urban context was studied very carefully with special attention being given to recent planning and planning forecasts as well as public debates at the municipal and local levels concerning the decisions of the administration and the advocates of Tor Vergata as a sports hub. The work group explored in particular the possibility of distinguishing the various components in the features of the urban and semi-rural landscape as follows:

a. Points/hubs: Centres/large attractors (University, Hospital, Shopping area, unfinished sports area); these points represent the hubs and metropolitan turbines of the research and study immersed in the semi-urban landscape of Tor Vergata
b. Residential zones: planned housing/redeveloped areas of urban disorganisation; the project provides for reuse of the houses built in accordance with the above technical norms and mainly those built without a plan (later redeveloped) which require maintenance, urbanisation, energy consumption improvements and revision of consumption cycles (water and refuse).
c. Rural zones: Large abandoned or underused rural areas and large trees in private gardens
d. Lines/corridors: urban and territorial mobility infrastructures (motorways, roads, pedestrian paths)
e. Lines/corridors: Waterways which have undergone soil bioengineering works for connection of the grid of urban vegetable gardens in the area of Calatrava's 'Sails' project. In the final vision the residents who practise zero consumption living styles constitute an urban laboratory, the integrated model of which (centrality/mobility/accessibility/"green" policies and sustainable planning and design regarding water resources) is adaptable to all the outskirts of the great cities of the world with the due precautions being taken.

7 FOUR VISIONS FOR THE URBAN REGENERATION

Four planning opportunities in differing scales, methods and instruments can redefine the Tor Vergata area, assigning it a role and influence in the urban panorama of Rome.

The first consists of a possible relationship between architecture and infrastructures. The developed area, which is heterogeneous in morphology, fabric and quality, is in fact all within the existing city and features alternating open and built-up areas deeply imprinted by the Rome—Naples railway line. Redesigning the infrastructures to interact in various ways with the surrounds—underneath, above or beside—would transform the outskirts to produce a city with a futuristic appearance as seen from the motorway when passing through.

The motorway also passes Calatrava's "Sails" project which is an urban landmark of great strength and visibility and the new gateway into the city for those arriving from the south. As something to complete, rethink or leave as an unfinished ruin, the "Sails" project represents an opportunity and a challenge. It could represent a changeover from a traditional single-centred development model to a network system where community facilities—the "Sails" project, the teaching hospital, universities—would become new hubs.

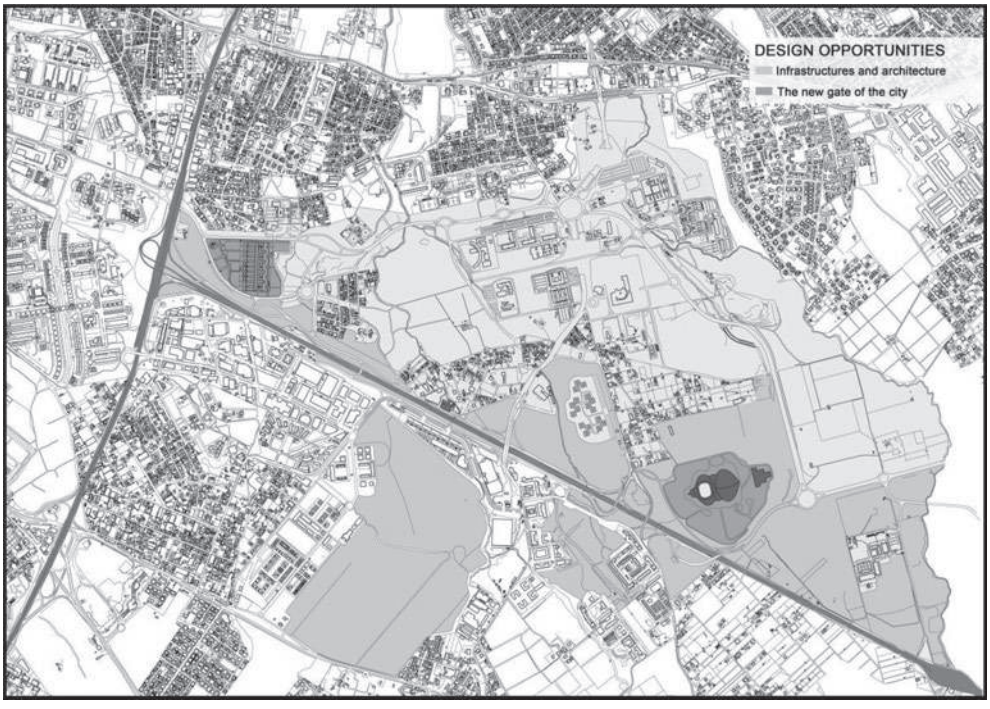

Figure 1. The areas of the possible: the new infrastructure and architecture relation; the new Town Gateway localization.

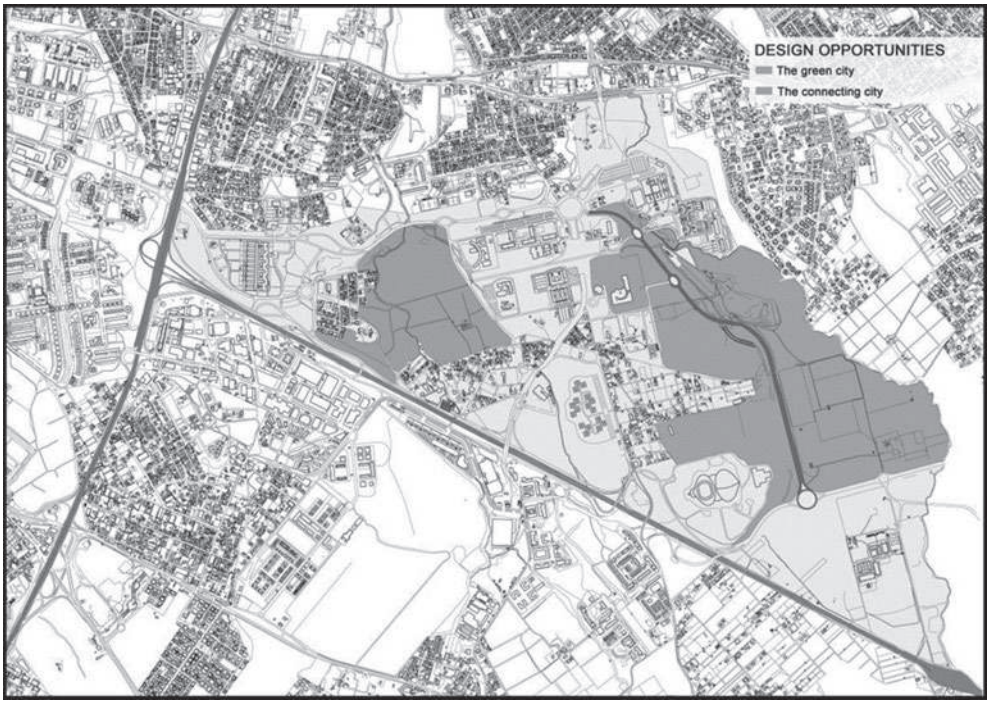

Figure 2. The green & connecting new city fields.

The third opportunity consists of the possibility of transforming Tor Vergata into a green city. The free areas destined by the General Urban Development Plan to be used as a botanical garden, equipped green area and agricultural concerns could become a single large integrated and homogeneous setting, a park with urban traits and attractivity, capable of forming relationships connecting the main features of the area—the sports facilities, university buildings, residences—and of giving shape to a complex multipurpose part of the city.

Lastly, in contrast we have the connecting city: the rejoining of the pre-existing developments by planning the still free areas which wind through the developed areas assumes a style based on the differences, lack of homogeneity, alternation of full and empty, the denser areas and sudden rarefactions. A new urban design could reinvigorate what already exists, rescuing the area from its present situation of anonymity, fragmentation and randomness.

These are the four different planning opportunities, four approaches which provide some possible answers regarding what could be the future of the outskirts redeemed from a state of isolation and anonymity.

8 CONCLUSIONS

The short duration of the Workshop in which the urban regeneration plan for Tor Vergata was developed did not allow the first concrete step to attribute completeness to Calatrava's "Sails" project to be taken, at least from a viewpoint which is first conceptual and then physical. This is a step that only the Municipal Administration can take, perhaps with procedures involving all the stakeholders and the community, concentrating on examining the originally intended use and consequent determination of an alternative use. The general planning option developed and briefly outlined here consists of systematising the whole—currently uncoordinated—of what already exists in Tor Vergata'a area: the points/hubs (current and potential centres), the zones (residential and rural) and the lines/corridors (road infrastructures, waterways and ecological itineraries).

Most of the effort went into determining the connective relationships among already existing developments, which are not only physical or visual but also regard meaning. An example of this is the connection, which has lasted for two thousand years, between the thermae building that came to light in the archaeological excavations and the Calatrava's swimming pool, rethought in accordance with the principles of Environmental Design and integrated with developments connected with health and beauty. The urban regeneration of Tor Vergata then can be interpreted as an exercise in attributing completeness of meanings and of uses which are not measured in terms of filling space or land but in the fullness of the cyclical nature of the processes, which is a precondition for every sustainable transformation in the built environment.

REFERENCES

Bellingeri, G. & Tonelli, C. 2016. Strategie per l'alta efficienza energetica in clima Mediterraneo. Monfalcone, Gorizia: Edicom.

Cafiero, G. 2003 (ed.), Le nove riserve naturali di RomaNaturaUrbanistica. Urbanistica Quaderni, 37. Roma: INU Edizioni.

Calzolari, M.V. (ed.), 1999. Storia e natura come sistema. Un progetto per il territorio libero dell'area romana, Roma: Àrgos.

Calzolari M.V. (s.d.), Roma: Permanenza e fragilità del sistema storico ambientale. In Documenti di Ar-chitettura. Ordine degli Architetti di Roma e provincia. Available on website: http://www.architettiroma.it/ (accessed on 2th February 2017).

Choay, F. 1994. Le règne de l'urbain et la mort de la ville. In J. Dethier, A. Guiheux (eds.), La Ville, art et architecture en Europe, 1870–1993: 26–35. Paris: Centre Georges Pompidou.

Concilio, G., Rizzo, F. 2016. Human Smart Cities. Rethinking the Interplay between Design and Planning. Dordrecht: Springer.

De Bonis, L. & Trapani F. 2017. For a "Living (Lab)" Approach to Smart Cities. In E. Riva Sanseverino, R. Riva Sanseverino & V. Vaccaio (eds.), Smart Cities Atlas. Western and Eastern Intelligent Communi-ties, pp. 143–158. Dordrecht: Springer.
Di Benedetto, G., Germanà, M.L., Trapani, F. (in press). Peripheral centralities: an integrated approach; Proc. intern. conf., Green Urbanism, Rome, 12–14 October 2016. Amsterdam: Procedia Environmental Science-Elsevier.
Fois, M. 2015. Luce perfetta. Torino: Einaudi.
Germanà. M. L. 2013/a. Processi gestionali della città storica tra specificità e necessità di strategie unitar-ie: l'esempio dell'accessibilità. In Castagneto F., Fiore V. (eds.), Recupero, Valorizzazione Ma-nutenzione nei Centri Storici. Un tavolo di confronto interdisciplinare: 22–25. Siracusa: Lettera Ventidue.
Germanà, M.L. 2013/b. Archaeological construction and its relationship with place: the theme of shelters. In M.C. Ruggieri Tricoli & M.L. Germanà (eds.), Urban Archaeology Enhancement: 180–207. Pisa: ETS.
Germanà, M.L. 2015/a. How to face the incompleteness of the Urban Archaeological Buildings. EDA. In-ternational Journal of Architecture and Engineering: 70–81.
Germanà, M.L. 2015/b. L'incompletezza del Patrimonio Architettonico: testimonianze in terra cruda a Solunto. In Sposito, A. & Mangiarotti, A. (eds.). Project Soluntum. Tradition and Innovation in ancient Contexts: 91–94. Roma: Ermes.
Gregotti, V. 2013. Il sublime al tempo del contemporaneo. Torino: Einaudi. Lanzani, A. 2003. I paesaggi italiani, Roma: Meltemi.
Gregotti V. 1966. Il territorio dell'architettura. Milano: Feltrinelli. Gregotti, V. 2011. Architettura e post-metropoli. Torino: Einaudi.
Lo Piccolo, F. 1995 (ed.). Identità urbana. Materiali per un dibattito, Roma, Gangemi.
Marsh, J., Molinari, F., Trapani, F. 2013. Co-creating Urban Development: A Living Lab for Community Regeneration in the Second District of Palermo. In B. Murgante, S. Misra, M. Carlini, C.M. Torre, H-Q. Nguyen, D. Taniar, B.O. Apduhan, O. Gervasi, (eds.). Computational Science and Its Applications. ICCSA 2013; Proc. 13th intern. conf., Ho Chi Minh City, Vietnam, 24–27 June 2013, (III): 294–308. Hei-delberg Dordrecht London NewYork: Springer.
Ricci, M. 2011. Nuovi paradigmi: ridurre, riusare riciclare, città e paesaggi. In P. Ciorra (ed.) Riciclo. Mi-lano: Maxxi Electa.
Samonà, A. (s.d.). Storia, tipologia, morfologia nel processo architettonico e ipotesi di unità ar-chitetturaurbanistica, dattiloscritto, Roma.
Samonà, G. 1975. L'unità architettura-urbanistica. Scritti e progetti 1929–1973, Lovero, P. (ed.). Milano: Franco Angeli.
Tanzilli, M. 2015. Incompiute: Ruderi e Macerie della Contemporaneità. Available on website: http://www.tari-architects.com/portfolio-item/crac/ (accessed on 09/01/2017).
Torricelli, A. 2012. Ritorno alla costruzione. In Architettura civile, (5): 1–3.
Trapani, F. & Minozzi, L. 2015. Policies of Resilience in the New Institutional Process. The Case-Studies of Palermo and Siracusa in the South of Italy. In TeMA, Journal of Land Use, Mobility and Environment, Special Issue ECCA 2015. Smart and Resilient Cities Ideas and Practices from the South of Europe, European Climate Change Adaptaption Conference; Copenhagen, 12–14 may 2015: 47–62.
Trapani, F. & Ruggieri, G. 2009 (eds.). Integrated and Relational Tourism. Territories and Development in the Mediterranean Area; Proc. Third intern. conf. Helwan-Cairo—Egypt. 24–26 October 2009. Conference. Palermo: Gulotta.
Trapani, F. 2016. Rigenerazione urbana e innovazione sociale. In R. Prescia, F. Trapani (eds.) Rigenerazione urbana, innovazione sociale e cultura del progetto: 9–18. Milano: Franco Angeli.


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New ornaments' influence on the character of modern cities

Amr Elgohary
Higher Institute of Engineering, Shorouk, Egypt

ABSTRACT: Across eras and civilisations, architectural vocabulary and mechanisms have always played a great role in connecting architecture with culture, expressing the character of a city in a way that reflects the culture of its society. Consequently, ornaments are a major component of the architectural vocabulary that allows architecture to connect to culture. Nowadays, the new architectural theories deal with the concept of ornament by following a new vision and methodologies that reflect the new cultural turn of the twenty-first century. In this context, the paper discusses the role of ornament in connecting architecture with culture in new cities as well as the great influence of the new digital theories and technologies that form new ornaments in the twenty-first century, aiming to link the architecture and urban typology of modern cities with the new cultural turns.

Keywords: ornaments; culture; urban typology; digital; digital era; architectural software

1 INTRODUCTION

Ornament is an artistic form that is one of the main interests of architects and artists, because it gives new aesthetic, cultural and symbolic values, not only at the scale of architectural form, but through expansion to include the urban scale, where it can contribute to the formation of a city's character and theme.

By the end of the twentieth century and the beginning of the twenty-first century, ornament had undergone many changes in its form, characteristics and role in forming a city's character. This has occurred as a result of the new architectural design-fabrication-construction technologies that were developed during the new digital breakthroughs and have had consequences for various fields including architecture. In this context, this research aims to determine the meaning and concept of ornament, and the link between ornament and a city's character. It concludes by identifying the concepts and features of these new ornaments and how they contribute to forming the characters of modern cities.

2 THE CONCEPT OF ORNAMENT

The term ornament can describe many kinds of objects or forms of art. These can be clarified using the various definitions of the term as follows:

- Oxford Dictionary: *a thing used, or serving to make something look more attractive but usually having no practical purpose* (Ornament, n.d. [a]). Examples are listed in terms of buildings, objects, one's character and music.
- Cambridge Dictionary: *1. an object which is beautiful rather than useful; 2. a formal decoration which is added to increase the beauty of something* (Ornament, n.d. [b]). Examples are listed that include buildings, objects and urban design.

- Merriam-Webster Dictionary: *1. something that lends grace or beauty; 2. a manner or quality that adorns; 3. An embellishing note not belonging to the essential harmony or melody* (Ornament, n.d. [c]).

From these definitions we can conclude that ornaments are supposed to add a positive, decorative or some other aesthetic value to something else.

2.1 *Ornament in nature*

There has always been a strong coherence between art, architecture and nature. While nature represents the basic source of inspiration for artistic and architectural theories and forms, which appear in most architectural thoughts and theories, such as 'Art Nouveau', 'organic' 'functionalism', and etc., till the new digital architecture theories.

Therefore, through deep observation of nature, it can be seen that objects, like galaxies or planets, are recognised not only by their own body but also by the levels of visual information surrounding them. therefore that cosmic picture can be considered as a space pattern, which represent a kind of natural growing ornament system with no limiting border condition. The levels of "ornament" help to prevent the eye from being distracted by chaos in the field of vision; the swarm of stars, which can be interpreted as ornament, is enabling the human brain to focus on an important area in space.

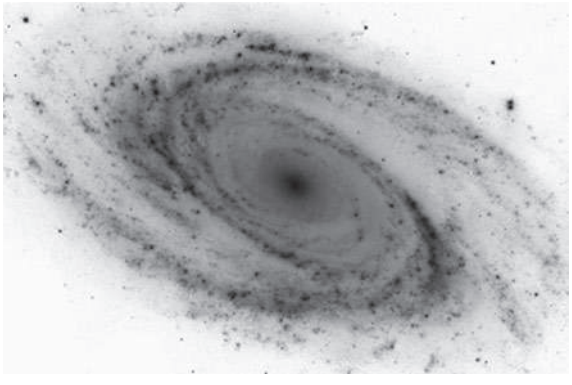

Figure 1. A swarm of stars within a spiral galaxy looks like a natural patterned ornament (pinterest, 2016).

Figure 2. Using mimetic ornaments within the Trevi Fountain to add aesthetic value to the building and the urban space (stefano, 2016).

2.2 *Ornament and architecture*

Ornament in architecture refers to any element added to an otherwise merely structural form, usually for the purposes of decoration or embellishment. Three basic and fairly distinct categories of ornament in architecture may be recognised: mimetic or imitative ornament, the forms of which have certain definite meanings or symbolic significance; applied ornament, intended to add beauty to a structure but extrinsic to it; and organic ornament, inherent in the building's function or materials (Ornament, n.d. [d]). Figure 2 shows the use of mimetic ornaments within the Trevi Fountain, the largest Baroque fountain in Rome, which adds aesthetic value to the building and the urban space.

3 CITY CHARACTER

A city is made up of many functional aspects and components. On the other hand, it can be considered that the character of a city is formed according to optical and symbolic aspects and components, which appear within the urban typology through a strategy of repetition of building elements such as massing, openings and ornaments.

3.1 *Buildings' character*

The character of a city's buildings is considered as a major factor in the creation of the city's character. It can be achieved through many aspects, such as their height, the way they are massed, their architectural vocabulary, materials, openings and ornaments (Alliance, 2007).

3.2 *Ornaments' character*

The main difference between ornaments and the other elements that form a building's character can be clarified by determining the functional purpose that each item serves. Ornaments, which are constructed mainly for aesthetic and symbolic purposes, have no functional purpose. Their meanings therefore change with changes in the culture and civilisation. Nevertheless, ornaments can be seen as playing a key role not only in the creation of a building's character, but also in creating that of a city as a whole.

3.3 *Strategy of repetition to create city character*

It can be considered that, the strategy of repetition can prioritises compatibility and minimises differentiation. This strategy will likely sustain the character of an existing setting so long as the historic elements to be replicated are well understood, 'the technical means to

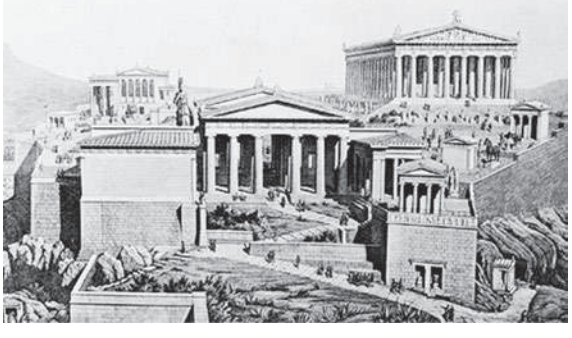

Figure 3. The Acropolis of Athens: a strategy of repetition of masses, roofs, columns, materials and ornaments creates the Greek city's character (The guardian, 2010).

effect replication are available, and as long as the scale of the replication is modest relative to the original building. Despite frequently expressed disapproval of this strategy by many contemporary preservation theorists and officials, it has the sanction of history. Architects have often chosen to add to existing buildings by reproducing a previous architect's work, sometimes even centuries afterwards, usually for the sake of completing an intended but unrealised symmetry or extending a pattern already established. In such cases, the resource is defined as the design concept as a whole rather than any isolated part of it as it appears at a given time' (Alliance, 2007, p. 4). Figure 3 shows the repetition strategy at The Acropolis of Athens, which is achieved by rhythms of masses, roofs, columns, materials and ornaments to create the character of the Greek city.

4 USING ORNAMENTS TO FORM THE CHARACTER OF CITIES

Ornaments can be seen as playing a key role in a city's character because they reflect its culture and its moral values. This can be illustrated through the following effects of ornament:

- Forming the urban character: an ornament is usually associated with the facades or the plasticity of buildings; yet it also establishes relationships between the building and the urban fabric, to form a new ornamental scale that can be observed through an aerial view.
- Adding symbolic meanings: the symbolic aspect of an ornament is widely viewed as representing several messages, which may be functional, aesthetic, political, social or economic. Jencks (2008) argues that an iconic building has to carry a plurality of meanings and mixed metaphors in order to continue its distinctive presence as a landmark.
- Forming the urban fabric character: ornaments at the scale of the city resemble gigantic carpets or textiles rolled across vast tracks of intensely used lands. Figure 4 shows how the urban fabric can be perceived as a growing digital, ornamental carpet. It demonstrates that buildings can be viewed from different scales and distances, as well as from various points of view, through which they reveal different ornamental dimensions.
- Relating regions and buildings: the human mind evolved in part to recognise and analyse hierarchical structures in nature, which is why artificial structures that are not hierarchically organised are often perceived as alien. 'A recognition mechanism based on hierarchical subdivisions is built into the human consciousness. We therefore need hierarchy in complex structures to perceive a structure as a coherent whole. Ornaments can help to relate different-scale regions to each other. It can also embody a level of scale itself in order to allow people to relate to an object or building' (Salingaros, 2000).

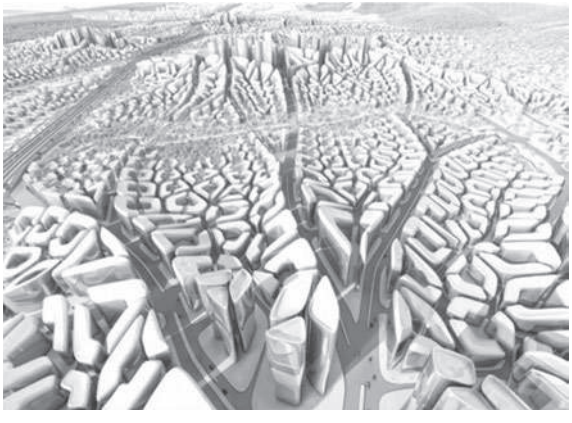

Figure 4. The urban fabric can be perceived as a gigantic ornamental carpet (Formakers, 2012).

- Defining transition zones: an ornament is often found in areas that attract attention, whether used to disguise particular parts or to amplify specific features. Often, an ornament is used in a transformation zone, in between things, at the margins or perimeter; where a door meets a wall, a facade touches the ground, or even when a square meets the street. These parts define the border of a designed shape or object.

5 ORNAMENT, CULTURE AND THE CHARACTER OF CITIES OVER TIME

Over the centuries, architects and designers have vied with each other to make their buildings and their cities as ornate as possible, to represent a culture, religion, or any other aspect of human life that gave each civilisation its own style and character.

5.1 *Ornament and character of the ancient cities*

Looking at the main ancient civilisations, such as the Egyptians, Greeks and Romans, we see that Egyptians embellished their temples with hieroglyphs and ornamented their buildings with pictures and sculptures of gods, which were inspired from the surrounding nature as represented in humans, animals and plants. Greeks and Romans celebrated the human form, harmony and proportion, which they represented in sculptures, ornamented columns and facades. All of these items formed the character and style of their respective ancient cities, such as Athens and Thebes.

5.2 *Ornament and character of the medieval cities*

Islamic civilisation can be considered one of the brightest of the medieval era. However, Islam forbade likenesses of the Prophet and people, but imposed no restrictions on other forms of decorative art. Buildings such as the Alhambra in Granada, in southern Spain, and the Topkapi Palace in Istanbul are among the most beautiful in the world. In addition, the Islamic urban fabric represented a form of organic ornament, which appeared in the unity of courts, building forms and the hierarchy of the street networks. Figure 5 shows a sample of the urban fabric of an Islamic city, suggesting an ornamental organic fabric characterised by harmony and unity of scale.

5.3 *Ornament and city character through the Renaissance era*

During the Renaissance era, artists, architects and engineers, especially in Italy, rediscovered a range of ideals and architecture from the classical world, from Greek and Roman to the Gothic style. They tried to reveal it in their buildings' facades, openings and internal

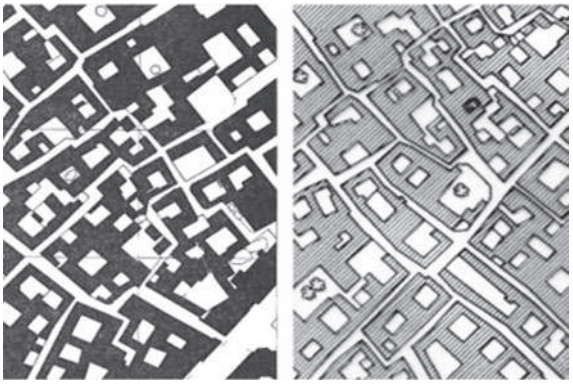

Figure 5. Samples of the urban fabric of an Islamic city (Researchgate, 2013).

decorations. Not only that, but they applied it widely in open spaces such as plazas, approaches, streets and gardens, all of which gave Renaissance cities a unique new classical character. Figure 6 shows many examples for the ideas of the Renaissance cities which resembles a geometrical ornamental fabric.

5.4 *Ornament and city character through the twentieth century*

By the turn of the twentieth century, many architectural trends called for a new aesthetics based on a new vision of using ornaments. 'Art Nouveau' was one of these trends, in which building facades formed floral pictures through the use of sculpture and ornament. In the 1930s, Art Deco flourished, characterised by geometric shapes, streamlining and unrestrained ornamentation. New York City's Chrysler Building is the most famous example (Pittsburgh, 2009, p. 14).

5.5 *Ornament and city character during the era of modernism*

Following World War I and the loss of almost an entire generation, Europe sought a break from tradition. Architects and designers eschewed decoration, which they saw as a hangover from the old world, and sought purity of form. Practitioners of the German Bauhaus movement were among the foremost exponents of this philosophy. Nevertheless, their buildings are by no means devoid of character. The materials themselves, the careful juxtaposition of forms, and strong simple lines make the best modernist buildings from this era somehow timeless (Pittsburgh, 2009, p. 15).

Architectural ornament, the art of decorative patterning, is commonly perceived as an historical characteristic of architecture that declined in the era of modernism. This modernist emphasis on unadorned form, combined with the upcoming international style and the replacement of craftsmanship by the rise of mass production, yielded a systematic elimination of ornament (Picon, 2011).

The resulting relationship between architects and the public has sometimes become confused. Architects are expected to employ current engineering, materials and technologies in the creation of "beautiful" design; however, the general public most often reveres the ornamented characteristics of historical architecture. New and improved are not always considered 'good architecture' by the common man. A frequent critique of modernist or standardised architecture is that it is 'boring', or lacks character. By contrast, historical, religious and cultural architecture embellished with ornamentation expresses character and

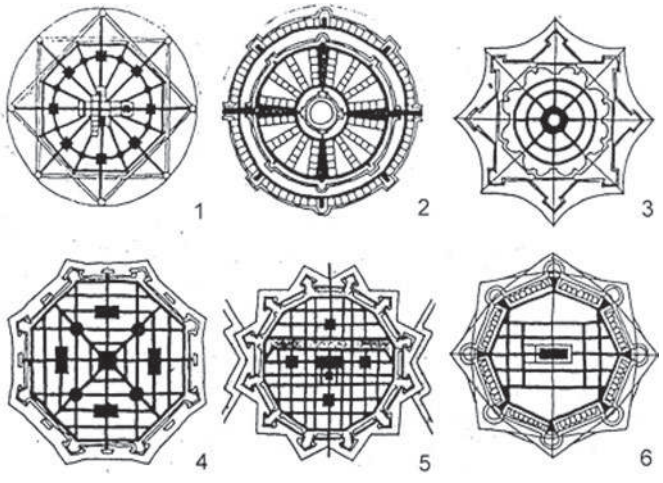

Figure 6. Examples for many ideas of the Renaissance cities (Quadralectic, 2013).

can reveal the relationship between advances in technology and materiality and the resulting evolution of that society. Above all, the ornamental narrative is visible, impressive, and appreciated by the public.

6 ORNAMENT AND TECHNOLOGY IN THE TWENTY-FIRST CENTURY

In the twenty-first century, contemporary architecture experienced a great technological breakthrough that forced a radical transformation in the whole architectural field, eventually creating a revival of the use of ornament. Many patterns are generated by software and transformed into, or applied to, construction elements. Complete facades are covered with these patterns, complex forms are generated in order to stand out, and buildings are subjected to experiments with new technologies, concepts or structural challenges.

It is remarkable that ornamental interventions that respond to the shape of a building, as well as the city fabric and character, have been changed radically using these new tools, methods, and techniques. The ideas of seamlessness and fluency have become the current paradigms for the exuberant use of ornament in the digital age. The integration of Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) has allowed the ready introduction of the concepts of scripture, algorithm, morphology, deformation, distortion, evolution, formation, mutation, generation, transformation and variation (Loveridge & Strehlke, 2006, p. 35).

a. *Role of digital technology in transforming the concept of ornament*

According to Loveridge & Strehlke (2006), it can be argued that the new digital technologies are challenging the traditions of architectural design methodology, the relationship between context and design, and the dependency on skilled workmanship for the fabrication of beautiful and complex architecture. Intellectually, applications of digital technologies are also allowing for the reinvestigation, reinterpretation and redevelopment of historical concepts, theories and skills (Loveridge & Strehlke, 2006).

Consequently, digital technologies can play a key role in the generation of intelligent and responsive patterns that would enhance building designs so that the city fabric can become more complex and interactive. In addition, 3D computer modelling and scripting tools can now define very complex formal language and facilitate mass customisation processes, from Computer Numerically Controlled (CNC) milling and laser cutting to interactive systems and robotics.

b. *Lighting technology for new virtual ornaments*

Within the twenty-first century, lighting technology has undergone many developments, especially when combined with the new digital technologies, which feature strongly in many architectural applications such as the media facades that basically depend on combined systems of LEDs, projected lights and digital programming systems to give building facades new virtual ornamental effects, changeable according to the programming system. Figure 7 shows how the digital lighting systems (projections, screens or LED media facades) in Times Square, New York, gave the buildings' facades as well as the city's character a new ornamental and changeable digital image.

c. *Economic constraints of the new technologies*

The character of the contemporary city is more limited by economics than by design or style. Developing more efficient concepts, methods and technologies for the process of design-fabrication-construction will foster a rational and creative approach to ornament and architecture (Loveridge & Strehlke, 2006), combining the new concepts of design and new technologies with historical and cultural aspects.

Figure 7. Digital lighting systems' effects on the facades of buildings (Jeremy, 2011).

7 NEW ORNAMENTS FOR A NEW CHARACTER

Nowadays in contemporary architecture we see a revival of the use of ornament. But this has tended to be patterned ornament rather than the traditional sculptured ornament. Thus, pattern in its broadest sense has been included in this research into ornament, as it consists of aspects that may be described as sequential, dynamic, configurative, informative, performative, morphogenetic and parametric. Many new terms have been added to the vocabulary of ornaments, such as 'pixelisation, porosity, fractal, digital, and virtual' (Balik & Allmer, 2016). On this basis, we can classify the new ornamental trends and their impact on city character into three main categories:

- Patterned facades: the new contemporary architectural ornament tends to utilise patterns rather than individual forms in the traditional sense. It is also much more superficial, or rather surface-bound, than traditional ornament, which might take the form of carvings jutting out from the plane of the wall. The new ornament also seems to form the actual skin of the building. It may have a textured effect, but regardless of the form it takes, it essentially stays on the surface of the wall without ever breaking away from it (Picon, 2011). Figure 8 shows how Alibaba's headquarters buildings are linked by an ornate latticed roof that wraps around their exterior and serves as a sun shade.

Consequently, Contemporary ornament can also exhibits a tactile quality, as if its function were to encourage the viewer to go beyond the visual experience and literally caress the surface. This tactile quality is present in many projects, sometimes to the point of being a caricature.

- Fractal ornaments: the term 'fractal' describes any of a variety of extremely irregular curves or shapes, of which any suitably chosen part is similar in shape to a given larger or smaller part when magnified or reduced to the same size (Fractal, n.d.).

Nature is full of fractal ornament; it always involves a great deal of irregular complex shapes that are oscillating and undergoing change, such as leaves, mountains, clouds, or the distribution of galaxies in the universe.

Fractal ornaments are characterised as rough or fragmented geometric shapes that can be split into parts, each of which is (at least approximately) a reduced-size copy of the whole form. Consequently, thanks to the new digital technologies and their great impact on architectural theory and technique, a new cascade of fractal forms as well as fractal ornament has emerged as more dynamic, flexible and nonlinear (Jencks, 2008). Figure 7 shows a digital sketch of the Kartal–Pendik masterplan for Istanbul, which was designed by Zaha Hadid Architects. The designers applied the concept of digital fractals to shape an entire masterplan for the city that gives it a new digital character.

- Virtual ornaments: the concept of virtual ornaments is a concept of virtual reality, which is defined in the online Cambridge Dictionary as 'a set of images and sounds, produced

Figure 8. Ornate latticed roof and facades connect the Alibaba headquarters buildings (Inhabitat, 2011).

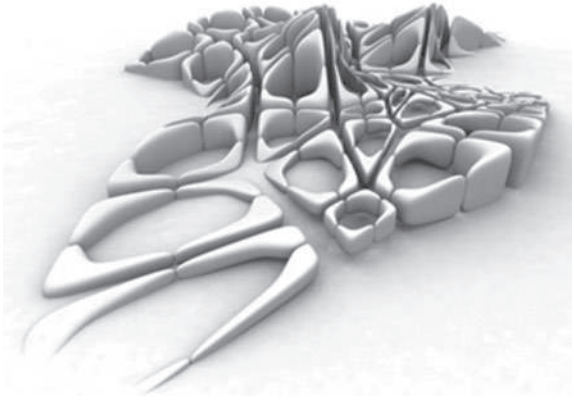

Figure 9. Fractal ornamental fabric in the Kartal–Pendik masterplan (Zaha-hadid, 2016).

by a computer, that seem to represent a place or a situation that a person can take part in' (Virtual reality, n.d.). It can also be argued that virtual ornament is one of the most unique achievements of digital lighting technologies, whereby it can be applied to any part of a building as well as the city, whether it's a new city or an old one; it can change the character of the building facades and thus the entire city.

8 CONCLUSION

This research set out to clarify the concept of ornament and how it contributed to the creation of the character of cities through the ancient and medieval eras, the Renaissance and the era of modernism. Based on the above, the following conclusions can be drawn:

- Ornament contributes to forming the character of a city and reflecting its culture and its moral values in many ways and through techniques such as:
  - Forming the urban character
  - Adding symbolic meanings
  - Forming the urban fabric character
  - Connecting regions and buildings
  - Working as transition zones
- The last decade has continuously highlighted that ornament in contemporary architecture has a new definition and aspects that can be described as follows:
  - Sequential
  - Dynamic

- Configurative
- Informative
- Performative
- Morphogenetic
- Parametric

- The vocabulary of ornament has been expanded to include many new types of ornamental types and techniques, which can be classified into three main types:
  - Patterned facades
  - Fractal ornaments
  - Virtual ornaments

REFERENCES

Balik, D. & Allmer, A. (2016). A critical review of ornament in contemporary architectural theory and practice. *ITU A|Z*, *13*(1), 157–169.

Formakers. (2012). Urban field adabtive urban fabric. Retrieved from http://www.formakers.eu/project-587-uto-ursula-frick-thomas-grabner-urban-field-adaptive-urban-fabric.

Fractal. (n.d.). In *Merriam-Webster Dictionary online*. Retrieved from http://www.merriam-webster.com/dictionary/fractal.

Inhabitat. (2011). Alibaba headquarters wrapped in a Spider web—like solar shade. Retrieved from http://www.inhabitat.com/hassell-architects-alibaba-headquarters-bring-a-sense-of-community-to-an-office-complex/.

Jencks, C. (2008). The new paradigm in architecture: The language of post-modernism. London, UK: Yale University Press.

Jeremy. (2011). United states—tourist attractions: Times Square—New York. Retrieved from https://www.theguardian.com/culture/2010/nov/07/ancient-world-greece.

Loveridge, R. & Strehlke, K. (2006). The digital ornament using CAAD/CAAM technologies. *International Journal of Architectural Computing*, *4*(1), 33–49. doi:10.1260/147807706777009000.

Ornament. (n.d.[a]). In *Oxford Dictionary online*. Retrieved from https://en.oxforddictionaries.com/definition/ornament.

Ornament. (n.d.[b]). In *Cambridge Dictionary online*. Retrieved from http://dictionary.cambridge.org/dictionary/english/ornament.

Ornament. (n.d.[c]). In *Merriam-Webster Dictionary online*. Retrieved from https://www.merriam-webster.com/dictionary/ornament.

Ornament. (n.d.[d]). In *Encyclopaedia Britannica online*. Retrieved from https://www.britannica.com/technology/ornament.

Picon, A. (2011). Ornement et Subjectivité, de la Tradition Vitruvienne à l'âge Numérique. *Le Visiteur, 17*, 65–75, 176–180.

Pinterest. (2016). Las galaxias del universo. Retrieved from https://www.pinterest.co.uk/explore/las-galaxias-del-universo/?lp = true.

Pittsburgh university. (2009). modernism, ornament, reform. University of Pittsburgh press: 14–15.

Preservation Alliance for Greater Philadelphia. (2007). Sense of place: Design guidelines for new construction in historic districts: 4–5 Retrieved from http://www.preservationalliance.com/publications/SenseofPlace_final.pdf.

Quadralectic architecture. (2013). Ideal cities from the Renaissance. Retrieved from https://quadralectics.wordpress.com/4-representation/4-1-form/4-1-4-cities-in-the-mind/4-1-4-1-the-ideal-city/
Research gate. (2013). Old Islamic urban pattern examples. Retrieved from https://www.researchgate.net/figure/259169693_fig6_Old-Islamic-urban-pattern-examples.

Salingaros, N.A. (2000). Hierarchical cooperation in architecture, and the mathematical necessity for ornament. *Journal of Architectural and Planning Research*, *17*, 221–235.

Stefano's romecabs. (2016). The Trevi fountain. Retrieved from http://www.romecabs.com/tours/rome-in-a-day/.

The guardian. (2010). Greece: Birthplace of the modern world. Retrieved from https://www.theguardian.com/culture/2010/nov/07/ancient-world-greece.

Virtual Reality. (n.d.). In *Cambridge Dictionary online*. Retrieved from http://dictionary.cambridge.org/dictionary/english/virtual-reality.

Zaha-hadid. (2016). Zaha hadid parametric design. Retrieved from http://www.zaha-hadid.com/wp-content/files_mf/1245_karta_rend_03.jpg.

History and arts


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Arabian urban text art: Between cultural identity and artistic identity

Shereen Alharazy
College of Art and Design, King Abdul-Aziz University, Kingdom of Saudi Arabia

ABSTRACT: This research is an analytical study of the aesthetics of the city's art in the form of written text, such as calligraphy, typography, graffiti and other types of art that involve the use of Arabic letters. This research also studies the impact of this art on Arabian cities by examining how they are influenced by intellectual and religious thoughts and by studying the impact of art on society.

In the present era, Arabian cities are drifting away from their local identity and have started to take an international path that is influenced by existing ideas, elements, volumes, typographies, ornamentations, colours and materials that coincide with globalisation. Given that Arabs have calligraphy that can be used to protect local identity and can be contemporised, this issue can be ameliorated by portraying the beauty of local identity through calligraphy and using it to enrich Arabian cities and protect their cultural identity.

This study hypothesises that using urban text art in Arabian cities reveals their beauty and the richness of their heritage and helps in maintaining their local identity. It is also considered to be one of the only art styles that uses calligraphy and carries a significant and pure ideology associated with Arabian culture.

Thus, highlighting the importance of urban text art in Arabian cities is a way of ensuring that a city's national identity and specificity can continue to exist. Arab nations are in dire need of this, especially in light of the challenges they face, as it will enable them to adhere to their culture and traditions. This is considered an urgent requirement to help these nations defend and maintain themselves because their cultural heritage is still suffering from neglect, given the lack of awareness among people. It is also important that urban text art be integrated into the educational system, as it constitutes a coherent whole in terms of the knowledge and goals on which it is built.

Keywords: Arabic letters; Arabian cities; local identity; typographies; heritage

1 INTRODUCTION

The development of urban text art has gone through many different phases that coincide with the emergence of cultural and social evolution. Text art is considered one of the most important types of visual art because it involves rules and characteristics of excellence and uniqueness not seen in other language arts.

Since ancient times, people have documented their history, times and events on the walls of caves and ancient temples, wooden panels, animal bones and skin, and paper in different parts of the Arab and Islamic world. Writings on walls have been found in various languages, including Arabic, Turkish, Farsi, Indian and African.

This original art is linked to the unique Arabian culture and language, which has overthrown other art styles, even though times have changed and the existence of technology has made Arabic calligraphy available all over the world.

Urban text art types differ from other types of art seen in streets and outdoor structures for many reasons, including the cultural experience of the people who see it and regard it as a

primary part of the old and modern city. These art forms are also part of an Arab country's identity, and can be found on banners and walls in the form of random love and hate phrases. All these art forms provide each Arab country with its own signature, leading many visitors to tour city streets and enjoy these text art pieces in terms of font, colour and meaning (2).

This study deals with one of the most important characteristics of Arabian cities, urban text art, which began to lose its identity given the interference of modern technology and the effects of modernisation and globalisation that damaged the identity and independence of Arabian cities. Urban text art is no longer seen as part of the heritage and identity of the city but as an aspect of pollution and an indication that the city is underdeveloped (8).

Many examples of neglect indicate the absence of vision, the continued marginalisation of the Arab city, and the disregard of its roots in attempts to keep up with the development of civilisation. This is done without considering the aesthetic and geographical identity of Arabian cities.

2 CONCEPTS OF TEXT ART: CHARACTERISTICS AND OBJECTIVES

Every nation is proud of its heritage and considers it a connection to its history. Cultural heritage encompasses aesthetic, historic, scientific, social, economic and spiritual values of the past. The role it plays in Arabian cities shows the continuous need to assess its importance and study it as the present.

As the main topic of this research talks about the Arabic font, a brief listing of other Arabian font styles must be included. The art of writing has characteristics, rules and types that make it stand out among other visual arts. Urban text art is divided into two main types depending on the font used in writing, as described in Sections 2.1 and 2.2.

2.1 *Traditional Arabic fonts*

The evolution of Arabic letters has been a long journey, as at first they were simple and basic but later changed to more complex forms with the development of society and the emergence of Islam.

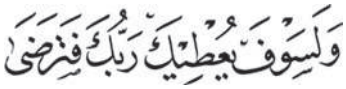
Later on, fonts of Arabic letters were named after Arabian countries, people, or the pens they were written with. The lines and the fonts started to overlap, and some of them were derived from each other, until calligraphers were able to invent new lines, fonts and styles.

Arabic fonts continued to develop over time and new modern fonts were invented, which were free in style and had no rules. Some of the most important types of calligraphy are as follows:

a) Al-Tholth

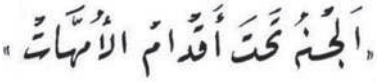
b) Al-Kufi

c) Al-Naskh



d) Al-Diwani

e) Al-Rukaa



f) Al-Andalusi

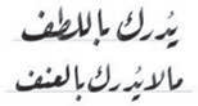
g) Al-Farsi

2.2 *Modern Arabic fonts*

The evolution of Arabian calligraphy has continued in the modern era, with calligraphers inventing patterns and new dimensions until the Arabic font became art with its own elements and characteristics. Additionally, the appearance and development of computers as the new writing method led to the emergence of the following fonts:

a) Free modern font

b) Egyptian Reqaa



c) Computer font

The aim of urban text art is to emphasise expressive writing. While following urban text art in all its forms, shapes and cultures, we find an interesting journey filled with lines and colours that are drawn all around the streets of Arabian cities. Some of them tell a story about heritage and some show a place or product. Some even express sorrow, grief, the hardships of life, or the beauty of love.

The art of writing in all its forms represents creativity in one way or another, which manifests itself on walls, cars, or store signs and is connected to the geographical identity of a place or city.

3 FEATURES OF URBAN TEXT ART: PATTERNS AND TECHNIQUES

Text art in all its forms represents creativity and excellence that is shown wherever it appears and is much related to the geographical identity of the place or city, and the artistic identity of the society. Sometimes we find theses writings on cars as a way to confront the unknown or to express the thought of its owners. And other times we find them on public walls as a way of encouragement or guidance. Sometimes, this type of art appears on top of stores in different fronts, all of these writings reflects meanings driven from spatial and geographical identity (5). The thing that makes each text art stand out, depends on the writer, whether he is an artist or a hobbyis. The text arts are divided into three different expression styles according to the method and the type of writing, as discussed in Sections 3.1–3.2–3.3.

3.1 *Calligraphy*

Calligraphy is the art of writing and drawing using Arabic letters and decorating them in geometric forms using design elements such as harmony and consistency in lines and curves that have an Eastern characteristic. It is known as the Islamic Arabic script and is considered to be one of the oldest types of handwriting. This type evolved along with Islamic architecture and ornamentation and managed to maintain its identity and beauty. It continues to develop with the evolution of technology, where design programs and software are used to create these types of visual arts. Pens and paintbrushes are the most widely used tools for calligraphy (1).

3.2 *Typography*

Typography is the adjustment in font to form a composition of letters depending on the content. It is often designed using software such as Adobe Illustrator.

3.3 *Graffiti*

Graffiti is the art of drawing on walls, especially street walls, using special tools in an artistic way, often representing contemporary words and free expressions. This kind of art appeared in the early 1970s when it was associated with hip-hop music in New York, and was known as 'lower-class art'. However, this label did not last long as the middle classes began to express and rebel in the same way. Graffiti is of two types: (a) the written and (b)

the signed. One of the most important tools that graffiti artists use is a spray can and/or a graffiti pen (3)..

When digging deep into studies of urban text art and its forms, we find that all its types share some of the characteristics that resonate with the reader and observer. It targets individuals and communities, and it must catch their attention in a few seconds or minutes. It should be catchy enough to attract a person passing by or someone stuck in traffic. Therefore, urban text art must leave an impression that makes people think about what is written: the words written must be clear, consistent in colour, notable and impressive.

4 VISUAL CRITICAL STUDY OF URBAN TEXT ART IN ARABIAN CITIES

Urban text art and calligraphy has taken control of visuals in Arabian cities, and they are nearly impossible not to notice. This art defined the visual character of these places and spread across billboards and signs, walls, floors and buildings.

According to sociological and anthropological studies, artistic identity is considered a principle of harmony and conformity. On the social level, artistic identity plays a big role in traditional culture because it is the base of creativity and a method of personal expression.

These countless writings with all their colours and forms have become a tourist attraction in Arabian cities. They have also shaped the identity of these cities (9).

There is no doubt that urban text art, in all its forms, has become a part of the Arab city's landmark that fascinates people and draws in tourists. In order to recognise the geographic identity of calligraphy and its relationship with Arabian cities, it is necessary to study and analyse the social, economic, intellectual and religious bases and factors that have a clear role in the formation of this kind of art. The following section includes examples of one of the most important functional and aesthetic subjects affecting the diversity of urban text art forms. This art became a symbol of the geography of a place throughout different eras (4).

4.1 *Folk heritage*

Folk heritage and customs play an important role in urban text art, as they have inspired well-known authors to write popular, well-established phrases that are part of the Arab identity and have been inherited by generations. These widespread ideas and phrases are reflected in the form of comic writings or popular songs, followed by popular expressions and warnings. These are based on religious and social traditions (Figure 1), with other sentences being based on the cultural heritage of the community (Figure 2). These folk thoughts can be reflected in the form of comic writings or folk song writings (Figure 3), followed by folk expressions that are sometimes written on the back of vehicles, for example, expressing the driver's philosophy in life (Figure 4). Some of the sentences written on walls reflect the values and methods of thinking. Popular folk phrases express injustice, cruelty, lost love, anger and envy (Figure 5), and call for patience, surrender, or the need to be near protectors. Some call for mercy, love and cooperation, while others reflect religion, virtue and the acceptance of destiny (Figure 6). All these phrases represent cultural characteristics that are deeply rooted in history.

Figure 1. Egypt.
Pilgrimage is justified and guilt is forgiven

Figure 2. Saudi Arabia.
Eid and winning

Figure 3. Egypt.
Take care of Zuzu

Figure 4. Egypt.
Be with god and god will be with you

Figure 5. Egypt.
Hay evil people enough

Figure 6. Saudi Arabia.
Saying: no god but allah is better than anything in the world

Figure 7. Yemen.
Excuse me I am human

Figure 8. Saudi Arabia.
There is a light never fades

Figure 9. Jordan.
We love life as much as we can

4.2 *Expression of social problems*

This type of art is expressed using succinct phrases that are often written in the local dialect and vary according to the nature of each society and the level of suffering (Figure 7). It is represented in written slogans and is used to express a reality full of sorrow and sadness (Figure 8). There are many writings that show deep grief, an unfulfilled dream, or injustice (Figure 9). They also convey other issues in the lives of citizens such as the admission of love (Figure 10), advocating and supporting a particular team, or expressing daily preoccupations such as housing and work (Figure 11). These writings often turn into graffiti paintings that carry a social, cultural and political message (Figure 12).

Figure 10. Jordan.

Going up come down and don't be arrogant

Figure 11. Sudan.

Flavor defying time

Figure 12. Palestine.

I will not go back until I plant in my garden

Figure 13. Egypt.

Groppi

Figure 14. Jordan.

Alshater cooctail

Figure 15. Algeria.

Barber of fashion

Figure 16. Morocco.

Fanta

Figure 17. Dubai.

Don't waste our time and take us quickly to alzaroob

Figure 18. Kuwait.

Fruition cookie

4.3 *Publicity and advertising*

Paintings used for advertising are an important source of income for a country and they enhance its general appearance. These paintings are linked to the status of individual cities, urban planning and population concerns. Billboards significantly contribute to the formation of the aesthetic culture of the city because of the bright colours used (Figure 13). Some could say that Arabian cities suffer from a chaos of advertisements and random writings that result in severe visual contamination; however, one could view an Arabian city as an art gallery rather than a city that lacks identity. Looking at different billboards and advertisements, we see pictures of products displayed for sale (Figure 14), whereas others indicate the name of a shop or the services it offers (Figure 15). Some signs have names that will catch the atten-

Figure 19. Egypt.

Do not forget to mention God

Figure 20. Bahrain.

Say: "Are those equal, those who know and those who do not know

Figure 21. Saudi Arabia.

Motherhome in our hearts

Figure 22. Bahrain.

Love you Bahrain

Figure 23. Saudi Arabia.

High morals

Figure 24. Algeria.

We will declare war on drugs

tion of consumers (Figure 16), whereas others choose funny names (Figure 17). We can also see signs that localise foreign names (Figure 18).

4.4 *Guidance and advice*

A lot of the art that is found around Arab streets represents guidance and religious advice, such as always remembering God's name, 'Allah' (Figure 19). There are also some of the verses from the Book of Allah, the Qu'ran (Figure 20), or phrases that emphasise patriotism (Figure 21) and the raising of the national flag (Figure 22) accompanied by the King's image. Some of the art aims to spread a culture of awareness, respect and the ethics of national development (Figure 23) or discuss social, behavioural or economic problems and situations (Figure 24). Art also offers guidance in psychological, moral and educational aspects so that an individual might become a better-rounded member of society.

5 CULTURAL IDENTITY OF URBAN TEXT ART

Cultural identity indicates uniqueness in everything that is connected to culture, including habits, behavioural patterns, values and visions for life.

The cultural identity of a nation is an essential and common feature that makes the national character a unique one among all other national characters and figures.

Urban text art that involves calligraphy has always been an essential pillar of cultural identity, and it stimulates a sense of pride. Calligraphy has always inspired artists, poets and philosophers and, eventually, it has ended up being a cultural heritage map that connects the nation to its past and reinforces its presence in the global arena (6)

The definition of heritage includes every concept that relates the history of human experiences in the past, present and future. Cultural heritage is the legacy left to us by our ancestors. Its ties could be financial or non-financial bonds with the current people.

There is no doubt that urban text art represents a living memory of the individual and society, and therefore represents the identity of races that can be easily recognised by people across the globe. This cultural heritage that we aim to maintain has a positive relationship with creativity between individuals and communities. As each race has its own heritage that is passed on verbally or through common practices, text art resulted from the interaction between individuals and the community with the surrounding environment through the ages. With the progression of time, it turned into an art form that holds the experiences of individuals and groups and is a source of existence and continuity (7).

The loss of cultural heritage across Arab cities implies a loss of identity. Cultural heritage, as known to researchers and specialists, has two sides:

1. Tangible objects or surfaces produced by former writings and graffiti on buildings and around cities.
2. Non-tangible bonds that include beliefs, customs, rituals and traditions, which are known as traditional heritage that artists and calligraphers use in their work.

Maintaining these two elements means maintaining a nation's identity and history. They also represent the nation's civilisation.

6 CONCLUSION

Today, in light of modern scientific principles that highlight the importance of preserving cultural heritage and shed light on the role it plays in the formation of the basic components of any Arab country, cultural heritage in Arab cities must be studied and analysed more closely.

6.1 *Results*

Given the importance of studying art and cultural heritage, the following conclusions have been drawn:

1. Planning the cities according to its identity without disregarding its heritage and culture.
2. Maintaining urban text art and studying it will enrich human culture and preserve the cultural diversity of the Arab people.
3. The study of urban text art is an educational, scientific, artistic and social source of information.
4. Urban text art has, in places, become a tourist landmark and a source of attraction for people, and also a source of income in many Arab countries.
5. The removal and loss of this type of art means a loss of identity and a lack of cultural, social and economic development in Arab countries.

7 RECOMMENDATIONS

In an attempt to shed light on the positive aspects of urban text art, the following recommendations and observations are made:

1. It is necessary to deal with artistic and cultural heritage as an integral part of the present.
2. Urban text art reflects and also forms the Arab identity.
3. Calligraphy used in urban text art in its various forms is a reflection of the type of visual art associated with the aesthetic vision of a distinct geographical identity.

4. Reconsider the urban planning of modern cities without ignoring the identity of Arabian cities, and develop this identity on all functional, structural, aesthetic and environmental levels in a balanced manner without marginalising the role of aesthetic text art.
5. Avoid planning ideas that are far removed or different from the local environment and cultural traditions; rather use ideas that have distinct historical and cultural patterns.
6. Focus on urban text art as part of the cultural identity.
7. Conduct intense educational campaigns for citizens and encourage them to reconsider the environment and local culture instead of regarding urban text art as environmental pollution.

REFERENCES

[1] Abdel Salam, A. (2002). *Encyclopedia of Arabic calligraphy*. Amman, Jordan: Dar Osama Publishing.
[2] Al-Aiderous, A.H. (2011, 6 April). Identification place & place of identification. *City Publications*. Retrieved from http://www.al-madina.com/article/78238/
[3] Al-Harbi, A. (2017). *Graphite art*. Riyadh, Saudi Arabia: Obeikan Publishing.
[4] Al-Saqr, I.M. (2009). *Graphic design*. Amman, Jordan: Dar Al Ahlia for Publishing and Distribution.
[5] Bellon, D. & Bellon, K. (2010). *Typography for the people: Hand-painted signs from around the world*. Avon, MA: HOW Books.
[6] Berer, J. (2008). Arabic calligraphic design. Retrieved from http://www.arabiccalligrapher.com/
[7] Reza, A. (1986). *Letter calligraphy*. Cairo, Egypt: Publishing Encyclopedia of Art History and Architecture.
[8] Villagomez, N. (2015). *Culture + typography: How culture affects typography*. Blue Ash, OH: PRINT Books.
[9] *Zaman Al Wasl Newsletter*. (2011, 1 June). Visual pollution threatens the oldest inhabited city in history. Retrieved from https://www.zamanalwsl.net/news/19742.html.

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The remaining houses of the two pearl merchants Ahmed Munawar Rifai and Hussein Bin Yahiya Rifai in the Farasan Islands in the 14th century AH/20th century AD: A study of aesthetic and artistic values

Eman Ahmed Aref
Art History Department, Faculty of Fine Art, Helwan University, Helwan, Egypt

ABSTRACT: The houses of the two pearl merchants Ahmed Munawar Rifai and Hussein Bin Yahiya Rifai in the 14th century AH/20th century AD, in the Farasan Islands, south-west of the Kingdom of Saudi Arabia, witnessed a cultural shift and great development in the processing of stucco art decorations. This study discusses the phenomenon of artistic enrichment, its mingling with the local heritage arts, its investment according to common sense, and the rationale behind using some elements of Indian–Buddhist architecture in the Al Najdi Mosque. This study aims to explore the factors that helped in distinguishing the Farasan stucco art style from the contribution of other artistic styles. The Ottoman arts accompanied their actual presence in the region, by developing the units of Farasan stucco art, in spite of the isolation of the Farasan Islands. Through a descriptive, analytical method, this study links historical events to show that the Farasan Islands are considered one of the shipping routes linking the Far East with the Far West. This helped in the mixing of local and imported cultures, as reflected in the appearance of the unique Farasan stucco style.

Keywords: Ottoman patterns, engraving stucco, Farasan Islands, Rifa'i house, Al Najdi Mosque in Farasan, heritage of Farasan

1 INTRODUCTION

Before the advent of Islam, commercial trips around the world extended from the Far East to the Far West where the arts of China, India, Iran, and Middle Asian civilisations mixed with the arts of the Middle East and Western civilisations in Africa and Europe.

With the centralisation of pearl fishing and trading in the Arabian Gulf and Farasan Islands, south-west of the Kingdom of Saudi Arabia, and the presence of the Asir port,[1] where 'various collections of blue and alkaline green porcelain, which was known in the Abbasid period, were found in their ruins, as well as models of porcelain, ceramic and stone pottery imported from China' (Alzele'i, AH 1423). This helped in the emergence of the Farasan stucco art decoration style. The façade and entrance walls of the houses of the two pearl merchants Ahmed Munawar Al Rifa'i and Hussein Bin Yahiya Al Rifa'i are considered as important heritage monuments, where most of the emerging influences on the art of wall processing with stucco decorations through the Islamic eras converged.

The style of decorations on the façades of religious and residential buildings was not common in all parts of the Kingdom of Saudi Arabia, in accordance with the Islamic teachings of simplicity and abstraction. However, the heritage Najdi style of the region offered a fertile field for the mingling and mixing with the arts of new cultures. Stucco decorations

1. Built in the Umayyad era, it is located 40 km from Jizan City on the coast of the Red Sea, south-west of the Kingdom of Saudi Arabia. Asir port is considered one of the most important active points of communication with the African coast, Asia and China.

developed at the beginning of the 14th century AH/20th century AD. At first, stucco decorations adorned the frames of apertures and windows with white colour, and were limited to the guest reception halls (coffee sitting areas) and their associated doors. Then, attention shifted from privacy to showing off the lavishness of the building; this stage was accompanied by the foundation of the Jizan Idrisid state, which was interested in decorating its palace façades and gates. After the Ottoman sovereign took over ports of the Red Sea and Hejaz countries, Ottoman taste in art leaked in, which carried in its folds Iranian and Chinese art forms, especially in the Safavid and Timurid eras. This was because Tamerlane hired artists of the Ottoman Empire to work in his kingdom where their artistic creations appeared in Samarkand city, the radiation centre of Timurid art with Iranian–Chinese style dyes.

The Farasan Islands contain more than 500 houses that were characterised by their façade decorations with stucco, such as Sayer village Castel, Al Najdi house, Al Najdi Mosque, the two houses of Ahmed Munawar Al Rifa'i and Hussein Bin Yahiya Al Rifa'i, Jarman house, and the Ottoman Castle. Nevertheless, only the two Rifa'i houses and the Al Najdi Mosque had a significant extent of stucco decorations, which helped to show the cultural features and uniqueness of stucco decorations not evident on other buildings.

1.1 *Statement of the research problem*

This study discusses the phenomenon of architectural and stucco art enrichment in helping to distinguish the two houses of the most famous pearl merchants and the Al Najdi Mosque in Farasan Islands in the 14th century AH/20th century AD, despite the spread of Yemeni and Najdi styles and their closeness to Sebia city, the centre of the Jizan Idrisid state. However, it is difficult to gather enough information about these houses due to the rarity of resources and of studies about their artistic influences.

1.2 *Research objectives*

This study aims to determine the characteristics and features of the components of Farasan stucco art by studying and analysing stucco decorations of some buildings on the Farasan Islands. It highlights the contribution of the Farasan stucco art style in the enrichment of the arts of excavated walls in the south-west of the Kingdom of Saudi Arabia.

1.3 *Research limitations*

1.3.1 *Topic limitations*

The contribution of the trade routes and pearl trading to the enrichment and development of stucco decoration art in the Farasan Islands.

1.3.2 *Geographical limitations*

The Farasan Islands are located off the south-west coast of the Kingdom of Saudi Arabia, in the Red Sea.

1.3.3 *Time limitations*

The study covers the period of the 14th century AH/20th century AD.

1.4 *Research assumption*

The most famous pearl merchants hired the best artisans from many countries in the 14th century AH/20th century AD to build and decorate their houses in the best artistic and architectural styles.

1.5 *Research hypothesis*

The study examines the impact of geographical and geological factors on the culture and the ways of thinking of the wealthy people of the Farasan Islands, which is reflected in the

decorative wall art and the conversion of natural raw materials into a precious decorative form.

1.6 *Research methodology*

The study follows the analytical, descriptive method that depends on observation and historical links.

2 HISTORICAL PREFACE

Islam arrived in India in the Umayyad Caliphate period (1st century AH/7th century AD), and it was deployed effectively by Qutayba Ibn Muslim Al Bahli (AH 49/AD 669 to AH 96/AD 715), the prefect of Khorasan under the reign of Al-Hajjaj Ibn Yusuf Al Thaqafi during AH 86/AD 97. The Umayyad were followed by the Abbasid, who ruled Transoxiana (Uzbekistan—Tajikistan—Turkmenistan—Kyrgyzstan—Kazakhstan). As a result of the weakness of the Abbasid Caliphate, some states, such as the Samanid Empire (AH 261–389), obtained their independence. The most prominent of succeeding rulers/states were the Seljuk Empire in the 5th century AH/11th century AD, 'the Khwarazmian Empire that was pulled down by the Mughals at the time of Genghis Khan, then the Timurid Empire that was founded by Tamerlane, prince Targai's son 771 AH'/1369 AD (Amer, 1998, p. 119), 'and then [they] were pulled down by the Uzbeks in the 10th century AH (16th century AD) led by Shaybani Khan, who founded the Mughal Empire in India' (Mones, 1983, p. 244), and conquered Bukhara, Samarkand and Tashkent cities. Despite these conflicts, the architectural movement was not affected adversely, but it was more enriched. On the other hand, the commercial movement succeeded on the 'silk route that was there before the advent of Islam (4th BC) and which connected the Far East with the Mediterranean Sea' (Leven, 1998) and passed through the Arabian Peninsula until the British invasion in 1857 (13th century AH/19th century AD).

The two centuries, 7th–8th century AH (13th–14th century AD), are considered a stage of flourishing and dominance of the Mughals over the states and centres of Islamic civilisation, such as China, Iran and Mesopotamia, extending to the ends of Asia. Sultan Muhammed Ghouri's era (AH 602/AD 1205–1290), and especially the era of his deputy Qutb Al Din Aibak (AH 603–688/AD 1206–1290) who ruled after his death and was the first Mamluk sultan from Turkish origins with a Persian culture, witnessed a huge architectural breakthrough in Delhi city, where various Indian cultures mingled and unified with the Arab Islamic culture, especially during the reign of Sultan Ghiyassudin Balban (AH 664–684/AD 1266–1287). Several families, such as Khalgi and Tughluq, succeeded after Sultan Ghiyassudin Balban's reign until India joined the Mughal Empire in AH 932/AD 1526 under Babur Shah's reign (AH 888–937/AD 1483–1530) (Al Nadawi, 2012). Throughout history, cultural, architectural and artistic enrichment grew across sprawling India, producing art with special features, including Persian, Sasanian, Turkish, Iranian and local art features. Muslims were devoted and gave their best in all fields to raise the profile of these faraway countries until they became part and parcel of them. Soon, the notion of the Islamic doctrine moved to India and the number of Muslims increased in Tughluq Abad city. South India became the seat of the Bahmani Sultanate (AH 748–826/AD 1347–1423). The trading routes (i.e. the spice and silk routes) linked the Farasan Islands, located in the territorial waters of the Red Sea, with the Far East Asian countries, which facilitated the transmission of different artistic influences and is reflected in some of the religious and residential buildings under the reign of the Ottoman Empire. The closeness of the trading routes to Eritrea and the Dahlak Islands, which are located near the East African coast, helped in enforcing commercial and cultural relationships between the regions, via a sea lane linking all continents from the Far East to the Far West. In addition, both regions united in the course of pearl trading, selling to India, China and countries of Middle Asia, thus bringing an impact on their architecture that was influenced by Indian and Mughal arts.

Figure 1. The trading routes passing through the Farasan Islands.

Figure 2. The Farasan Islands.

3 GEOGRAPHICAL LOCATION OF THE FARASAN ISLANDS

The Farasan Islands are considered the largest islands in the Red Sea, located off the south-east coast (Figure 2), from where they extended steeply towards the west. They are located to the south-west of Jizan, 30 miles distant, and opposite Eritrea and the Dahlak Archipelago on the East African coast.

The Farasan Islands are characterised by the diversity and breadth of their geography and agricultural lands between hills, valleys and soft sands. Their location has earned them a high strategic status since the early ancient ages, where they were among those islands close to the lanes of the marine fleets that passed through the Bab El Mandeb strait that connects the Arabian Sea, the Indian Ocean and the Red Sea (Figure 1). This revived their economic activity with many countries, such as China, India and countries in the Far East and Middle Asia.

4 TRADING AND PILGRIMAGE ROUTES OF THE FARASAN ISLANDS

The Portuguese and Spanish discovery of India and the Far East route in the 10th century AH/16th century AD negatively affected the economy and the trading of countries in the Middle East. The trade routes were also affected by a state of insecurity due to pirate attacks and, thus, the region became a stage for military conflict between the Portuguese and the Ottomans, in order to secure their maritime journeys, during Hadim Suleiman Pasha's time in the 10th century AH/16th century AD. Despite these conflicts, trading continued in the Red Sea, helped by the ease of communication with the countries located in the Atlantic and Indian Oceans. Thus, trading was revived in all parts of Africa through the trade movement among the Nile Basin countries, such as Egypt, Sudan and Abyssinia. The Farasan Islands, with their geographical location on the south-east of the Red Sea and west of the Kingdom of Saudi Arabia, gained commercial, economic and cultural benefits by being located near the two trading routes of the coastal Tihama and the central Sultani avenues, which connected Yemen, Hejaz countries, Mesopotamia, the Levant and the Nile Basin countries. The emerging and local cultures mixed there, producing a unique and distinct type of architectural art and stucco decoration that was not found in the rest of the region. This was particularly due to the abundance of the stucco material formed from the geological composition of the limestone content of the local coral reefs.

5 THE OTTOMAN CASTLE IN THE FARASAN ISLANDS (10TH CENTURY AH/16TH CENTURY AD)

Many events took place on the Farasan Islands as a result of the colonial ambitions of Britain, France, Italy and Germany, who made it one of their stores for supplying their ships with coal. However, the Ottoman Empire under the reign of Sultan Abdul Hamid II, which

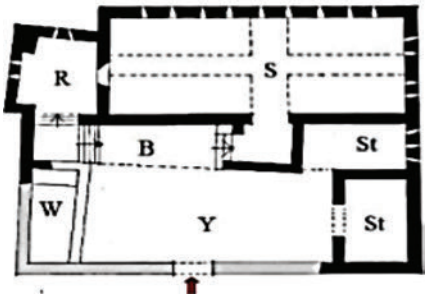

Figure 3. A plan of the Ottoman Castle.

Figure 4. The Ottoman Castle.

extended for more than 30 years 1292–1326 AH/(AD 1876–1909), followed an enlightened policy that enabled the sultan to maintain the islands—rich in natural resources, such as coal, natural gas and pearls—as they were one of the gateways of the trading routes in the Red Sea and the strategic Suez Canal port.

In the 10th century AH/16th century AD, the Ottoman Empire left behind one of its castles in the north region 'between [the] Farasan Islands and the region of Messila and Meshiref' (Saban, 2010), on a hill that gave it a strategic location because it overlooked most parts of the island. The castle was designed in a rectangular form (Figure 3) over an area of 44 square metres, and it was built with the stones and stucco abundant in the Farasan Islands. Its flat roof was covered with palm leaves based on columns made of thick iron bars. The general design was limited to achieving the goal of protection and practical defence of island properties and trade movements (Figures 3 and 4). The castle had a small courtyard on the ground floor, located at the front entrance; to its left was a store believed to be used for keeping supplies and ammunitions. To the left of the courtyard, there was a place for saving water. Next to the courtyard, on the opposite side, there was a stone bench seat and then a small room that was apparently a place for guards. Upstairs, there was a large room allocated for resting soldiers, apertures that revealed parts of the island in many directions, and watchtowers.

6 MODELS OF WEALTHY PEOPLE'S BUILDINGS ON THE FARASAN ISLANDS

This research deals with the interpretation of the origins of artistic influences that were considered one of the factors shaping the Farasan stucco decoration art style. Some distinct models were chosen and analysed, wherein their influences could be seen. This is why the Al Najdi Mosque was the starting point despite its later building date of AD 1929 compared to the two houses of Ahmed Munawar Al Rifa'i and Yahiya Al Rifa'i of AD 1922. The origins and sources of the emerging artistic influences clearly met and multiplied in this mosque, which is why it is necessary to start with an analysis of its elements.

6.1 *Al Najdi Mosque of Sheikh Ibrahim Ibn Ibrahim Al Tamimi (AD 1929)*

The mosque of Sheikh Ibrahim Ibn Ibrahim Al Tamimi (AH 1336–1386), also known as Al Najdi, is located in the middle of the largest of the Farasan Islands. The mosque was built with mud bricks in AH 1347. Ibrahim Al Tamimi was one of the sons of Hotat Bani Tamim in Najd and one of the pearl merchants who settled on the Farasan Islands to look after their trading. Fishing and diving were among the most honourable professions at that time; thus, after Sheikh Ibrahim Al Najdi obtained the biggest pearl and sold it for a large sum of money, he decided to build a mosque more glorious than any other on the Farasan Islands. He brought manufacturers and raw materials for the mosque's foundation from all over the country, where he travelled for pearl trading. This was reflected in the diversity of the elements of its architectural and decorative structures that were accurately handmade, which gave it a religious dignity and prestigious character.

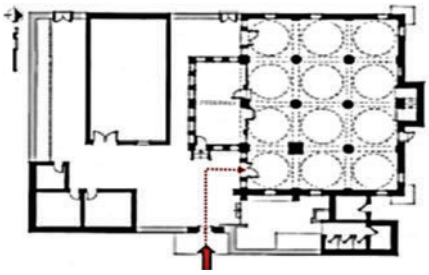

Figure 5. A plan of Al Najdi Mosque (14th century AH/20th century AD) (Mortada, 2014).

Figure 6. Al Najdi Mosque courtyard.

6.1.1 *The mosque design*

The mosque was designed in a rectangular form (Figure 5). In its foreground, there was an exposed *sahn* with a limited exposed area, which almost intertwines with the outer space of the street. It is surrounded by a simple fence painted in white stucco, about 2 metres high (Figure 6). Its bases are built with stones, surmounted by mud bricks. In the fence, there are two entrances, one on the east side and the other on the west, both leading to the *sahn*. There are also remnants of an octagonal minaret base on the south side of the mosque. Next to the east entrance from the inside, there is a place for ablutions (Figure 7). In the middle of the north wall of the *kiblah* from the outside, there is a rectangular salient protruding structure, which is an extension of the *mihrab* and the pulpit with a small window (Figure 8), which is believed to be a louvre used in the hot seasons. Two thick pillars protrude in the north and west corners of the mosque (Figure 9). The mosque is surmounted by 12 shallow domes (Figures 5, 6, 8 and 9), which look like snow-white pearl beads with their smooth texture. There are two gates on the south wall, leading to the inside of the mosque. The Najdi Mosque design was apparently influenced by the most prevalent Indian mosque designs, which are characterised by only one *sahn* and one courtyard, as in the Taj Mahal mausoleum, Jama Masjid and Sunehri Masjid (Golden Mosque, Red Fort). However, this cannot be confirmed because of the small area of the Al Najdi Mosque courtyard (Figure 7). It is more likely to be a mosque without a *sahn*, where it is composed of a totally covered space (one porch) divided into several tiles and domes, opening directly onto the street, like the Moti Masjid (Pearl Mosque) in the Red Fort in Delhi, India, which was built by the Mughal Emperor Aurangzeb in AD 1659–1660.

6.1.2 *The dome*

The mosque is surmounted by 12 shallow domes (Figures 5, 6, 8 and 9) that end in a simple pointed part with an iron column that was believed to be used in fixing the *hilal* ornament. Each dome is based on intersecting Persian broken arches that were used in Persian, Abbasid and Mughal–Indian architecture. The end of the arch is based on thick rectangular abutments. These domes are similar in their appearance to the shallow onion-shaped dome of the Quwwat-al-Islam Masjid (Strength of Islam Mosque) in Delhi (Figure 10), built by Qutb Al Din Aibak, one of the first Mamluk sultans in India (AH 589/AD 1193). This was one of the characteristics of Mughal architecture in India, where features of Islamic and Hindu arts mixed. The shallow dome was previously used in the Ashraf Mosque, the big Jama in Abu 'Arish city in the island (AH 1002/AD 1594), which was built by Sharif Hamoud Bin Muhammed Al Khairati Abu Musmar at the time of the first Saudi state. This emphasises the nature of the ancient mutual influence between Middle Asia and the Farasan Islands, even before the Arab Islamic conquest in India.

The linings of the domes were painted with oil colours and decorated with abstract drawings inspired by nature and its different elements, some of which take the form of a natural scenery of the sky (Figures 11–13), as if the artist was emphasising the symbol of the upper heavens—which the hearts long for, hoping and pleading to Allah—by raising the inner

Figure 7. Al Najdi Mosque courtyard.

Figure 8. The pulpit and the *mihrab*.

Figure 9. The middle of the north wall of the *kiblah*, Al Najdi Mosque; the front entrance.

Figure 10. Quwwat-al-Islam Masjid (Strength of Islam Mosque), at the time of Qutb Al Din Aibak, the first Mamluk sultan in India (AH 589/AD 1193).

Figure 11. The decoration of the inner dome based on four pointed arches, Al Najdi Mosque.

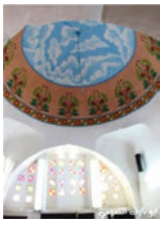

Figure 12. The decoration of the inner dome, Al Najdi Mosque.

Figure 13. The decoration of the inner dome based on four pointed arches, Al Najdi Mosque.

Figure 14. Madhubani *rangoli*, handmade Indian tribal art/folk painting from Mithila, Bihar.

curvature of the dome. These decorations are similar in appearance to the Chinese cloud decoration known as *Chi*, and also the miniature arts in the Timurid era in Iran, which was creative in showing the sky and depicting it with stories from the prophetic Sunnah and the Holy Qur'an. One of the dome linings included drawings (Figures 11–13) containing a floral bunch that appeared to be influenced by Ottoman art, characterised by the drawing of units and elements of three- and four-petal flowers with bending branches in simple lines (see Figures 11 and 12). The delicacy of these floral bunches is similar to those on the walls of the Taj Mahal, drawn with henna on the red sand and known as *parchinkari* (Figure 13). The Hindu *rangoli* influences are seen more clearly in Figure 14, represented in the assortment of decorations in the form of floral plates with a big four-petal flower at its centre, surrounded by floral frameworks, widening towards the base of the dome. It is noticeable that these floral decorative patterns were commonly used on heritage coffee and tea pots in all parts of the Arabian Peninsula. Thus, the origin of these decorations is attributed to the local arts, in spite of their similarity to Asian heritage arts. As artisans were hired from India, it was normal that they carried their heritage with them, which reflected spontaneously in their technical work.

6.1.3 *Windows*

The position of windows and their architectural functions vary. The four upper windows on the *kiblah* wall were ornamented with stucco interspersed with stained glass (Figure 12) to allow light to enter the mosque. Wooden shutters decorated with wooden frameworks perforated with vegetal patterns of an Indian influence were used internally (Figure 11). The lower windows located on the façade of the mosque have hollow stucco mesh, allowing the entrance of light and air, and look like oriels, as in Figure 16 showing the Jama Mosque of Champaner, built by Mahmud Begda (15th century AD), as commonly seen in the Mughal–Indian era.

6.1.4 *The external façade*

a. Overlooking the street: Despite the attention given by the architect to the internal decorations of the mosque, the external shape was simplified for convenience. Therefore, only the top of the narrow entrance is decorated with a blind broken arch containing an ornament of a palm tree, the symbol of the third Saudi state, and a simple wooden door with a horseshoe arch (Figure 6).
b. Overlooking the inner courtyard: The design of the façade of the house of prayer (Figure 18) uses different methods of stucco decorations, both hollow and solid. The façades of the two entrances of the house of prayer was designed so that a semicircular arch is located above the entrance gate (Figure 17) followed by rows of square stucco sunshades. Underneath them, there are big stucco windows that are hollowed-in square figures, containing rhombus figures resembling oriels, with Persian and Mughal–Indian influence, as in Figure 16 in the Jama Mosque of Champaner, built by Mahmmoud Begda in 15th century AD. The stucco artist used incised stucco decorations on both sides of the Mughal–Indian broken arch, and simple excavated wooden gates to minimise the sense of bulkiness of the architectural mass and to maintain its lightness and coherence.

6.1.5 *The house of prayer for women*

It is located directly opposite the *kiblah* and the pulpit (Figures 17 and 18). The stucco artist maintained the privacy of the place of prayer for women while keeping the balance of the design. A hollow stucco barrier, about 2 metres high, was used taking into account audio-visual communication for the prayer (i.e. performing and listening to the Friday sermon or *khotba*); this was also to reduce and limit the size of the big pillars located between the *mihrab* and the pulpit and the house of prayer for women. A wooden door with a frieze excavated with high- and low-relief decorations was added to the stucco barrier. This type of hollow

Figure 15. Al Najdi Mosque, Farasan Islands (14th century AH/20th century AD).

Figure 16. Jama Mosque of Champaner, by Mahmud Begda (15th century AD).

Figure 17. The façade of the pulpit and the *kiblah* wall, Al Najdi Mosque.

Figure 18. The house of prayer for women, Al Najdi Mosque.

stucco barrier was commonly used in most Middle Asian countries and India. However, in most of the Middle East regions and Arab Morocco, bars of lathe wood were used to separate the places of worship for women and men inside the mosque.

6.1.6 *The concave* mihrab

The *mihrab* is located in the centre of the *kiblah* wall (Figures 19 and 20). It was designed deep into the wall. The stained and excavated wooden pulpit was formed of two parts.

a. Façade decorations: These consisted of two types of two pairs of cylindrical columns surmounted by fine decorated crowns, which differed in height and size (Figure 20). The two inner columns were connected by a circular arch, surmounted by a frieze made of a collection of vegetal patterns and fruits and pots known in India in the Buddhist arts (Figure 21), as seen in the Thanjavur Palace in the Thanjavur region of Tamil Nadu, India, from AD 1674 to 1855. The wood of the *mihrab* was also painted with the same colour group used in Indian buildings, such as red, blue, yellow, white and green, which is definitive evidence that it was imported from India.
b. Concavity of the *mihrab*: The concavity of the *mihrab* extended to almost a metre deep, which is a Mughal–Indian influence (Figure 19). It ends with two alcoves having a stained glass shutter in the form of windows, where one is located in the front and the other is located on the left side of the *mihrab*. On the right side, there is an aisle provided with a staircase leading to the balcony of the pulpit.

6.1.7 *The suspended pulpit*

This is an elevated room inside the wall, with a balcony overlooking the place of prayer (Figure 20). Its façade is in line with the *mihrab* wall, connected to the *mihrab* with an unseen side staircase, and decorated with a frieze identical to the one decorating the façade of the *mihrab*. This pulpit design was rarely used in Islamic architecture. However, it appeared in the 20th century AD in some mosques in Middle Asia, and moved to the modern mosques, such as Sidi Muhyuddin Mosque in the town of Thiruppanandal in Tamil Nadu. It also moved to Yemen and is seen in the Ahmed Bin Omar Al Jami Mosque, in Ibb Governorate in the 14th century AH/20th century AD (Figure 22). Soon enough, this design moved to most of

Figure 19. The *kiblah* wall and the pulpit, Al Najdi Mosque, Farasan Islands.

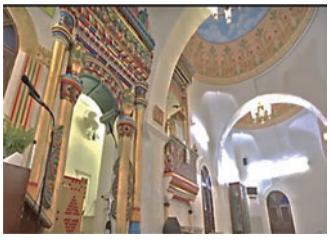

Figure 20. The *kiblah* wall, the pulpit, and the wall pulpit, Al Najdi Mosque, Farasan Islands.

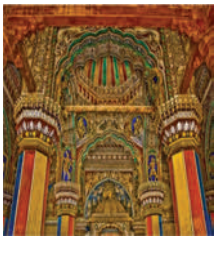

Figure 21. Thanjavur Palace, Thanjavur region, Tamil Nadu, India (AD 1674–1855).

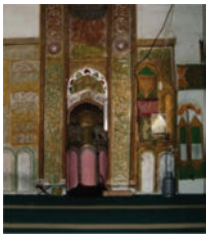

Figure 22. Ahmed Bin Omar Al Jami Mosque, Ibb Governorate, Yemen (14th century AH/20th century AD).

the Arab Gulf countries. The architect was creative in adding a door and a staircase to the pulpit, as sometimes a door was added to the same *kiblah* wall beside the pulpit, and at other times there was an unseen aisle inside the *mihrab*. This was probably due to the lack of space and not wishing to disconnect those praying in the first rows from the preacher (*Khateeb*), by filling the space between them with the pulpit gate and the staircase. On the other hand, it was for achieving the security of the prefect at a period of time when conflict prevailed, as in the time of the Mamluk reign. Hence the pulpit was the symbol of ruling and religion, where rulers, judges, scholars and sheikhs preached to the common people. The tolerance and brotherhood of Islamic teachings was evident in using a *mihrab* and pulpit that were made in the Buddhist–Indian art style used in temples and palaces, proving the success of the Islamic conquest of India in eliminating racism and spreading brotherhood and equality. Islamic art mingled with Hindu and Buddhist art forms, producing at the time of the Khalgi dynasty a genuine Hindu–Islamic art style consisting of *mihrabs*, pulpits, domes and calligraphy.

6.2 *The Ahmed Munawar Rifai house (AD 1922)*

The Ahmed Munawar Rifai house is located in the middle of the Farasan Islands. It was built in AH 1341/AD 1922 under the Ottoman reign of the Kingdom of Saudi Arabia, by two accomplished builders, Ali Hassan Badr and Muhammed Mekki Muharam, who carved their names and the building date on the top of the gate of the excavated segmental arch located inside the forefront of the house (Figure 24). Different types of rocks available on the Farasan Islands, such as mountain rocks and calcareous coral rocks, were used in the building. Tamarisk and palm wood were also used in the ceilings, gates and windows.

6.2.1 *The house design*

The house was designed in a rectangular form (Figure 23), surrounded by different courtyards on the north and west sides for healthy ventilation and lighting, as humidity is very high in this region. Window openings were varied; some were directly opened, whereas others were ornamented with stucco decorations. This building had a special architectural design following the Ottoman style, composed of several storeys, where the ground storey was for receiving men, whereas the upper one contained a harem and rooms for women only. Tamarisk, oak wood and palm leaves were used in covering the ceilings.

6.2.2 *Decorations of the gate overlooking the street*

At the forefront of the house, there is a huge main gate with a fence fused to it from both sides in a triangular form. The fence extends to surround the house at a height less than that of the gate. Above the fence, there are windows in the form of a leaf (Figure 24). The fence was built with mud bricks with a stone base painted in white stucco (Figure 25). The gate was formed of a horseshoe arch, which is considered one of the oldest, most widespread and commonly used arches in Islamic architecture because of its ability to withstand heavy weights. The two arch abutments are based on the arcature wall and use two pairs of simple cylindrical columns as motifs, like those found in the arcatures of the Ahmed Bin Tolon Mosque (AH 263–265) in Egypt, which reflects Persian–Abbasid influence. The arch was decorated with a floral frieze and a trefoil design surmounted by the word Allah in the form

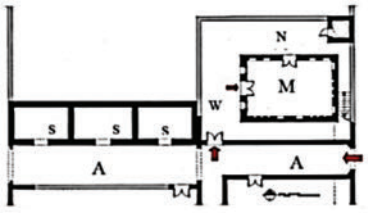

Figure 23. Plan of the Ahmed MunawarRifai house (AD 1922).

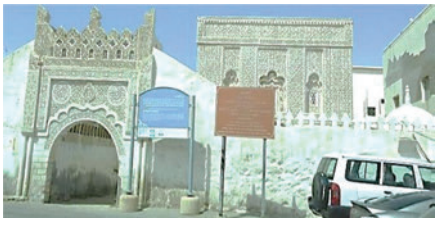

Figure 24. Outer gate of the Ahmed Munawar Rifai house (AD 1922).

of a pineapple with a Sasanian influence (Figure 25). The hollow interlaced vegetal branches were used as a background for the two medallions, which contain a motif that was commonly used in different materials in Mughal buildings in India, as in the Tomb of Bahlol Lodi, built by his son Sikandar Lodi in India in 15th century AD (Figure 26), and the mausoleum conspicuously located at Lado Sera, built in the Lodi era (AD 1451–1517) (Figure 27).

It is well known that the decorative medallions were used symmetrically in the corners on the façades of buildings, especially gates, since the Abbasid era. This tradition moved through the times to countries belonging to the Arab conquest, which were preceded by the Greeks and Romans in the triumphal gates where these medallions were.

6.2.3 *Decorations of the façade overlooking the inner courtyard of the house*

The façade of the house was designed in the Ottoman style, which consists of a gate in the middle of the wall, with two smaller windows on both sides (Figure 28). The stucco artist showed lavishness and luxury in the fineness of the stucco decorations, which were like coral reefs in their texture. Motifs were inspired from Far Asia, where the Mughal–Indian and Chinese arts were found, with the spirit of Moroccan–Andalusian art, which was characterised by covering the wall with fine stucco arts, with minimal use of calligraphic elements.

The Farasan style used most of the Indian arch types (Figure 29) in all their stages before and after the spread of Islam, particularly the Mughal–Indian stage, where it succeeded in implementing it in inner and outer surfaces in a balanced way. The style also excelled in repeating them and creating harmony and balance between the high and low reliefs on the stucco decorated wall surfaces, which helped in breaking the monotony due to repetition and overcrowding of decorations. The Ahmed Munawar Rifai house contained windows made of red wood excavated with geometrical and vegetal patterns. The wood and glass were imported from outside as they were not available in the Kingdom of Saudi Arabia. The blind arches were used in a decorative way, especially above the rectangular door openings inside and outside the walls of the sitting hall (Figures 30 and 31). The stucco motifs of the sitting

Figure 25. Front façade of the sitting hall of the Ahmed Munawar Al Rifa'i house (AD 1922).

Figure 26. Tomb of Bahlol Lodi, built by his son Sikandar Lodi, India (15th century AD).

Figure 27. Mausoleum conspicuously located at Lado Sera, Lodi era (AD 1451–1517).

Figure 28. Façade of the Ahmed Munawar Al Rifa'i house (AD 1922).

Figure 29. A collection of the most famous arch types used in Indian buildings.

Figure 30. Stucco decorations, calligraphic streaks, and stucco sunshades with stained glass in the sitting hall of the Ahmed Munawar Rifai house (AD 1922).

Figure 31. Details of the upper wall in the sitting hall of the Ahmed Munawar Rifai house.

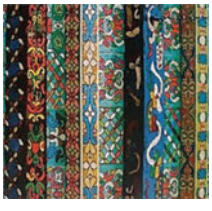

Figure 32. Details of ceiling decorations of the Ahmed Munawar Rifai house.

hall of the Ahmed Munawar Rifai house were greatly influenced by the Sasanian, Seljuk, Indian and Ottoman arts; the wall decoration method depended on multiple levels. Thus, the façades became protruded with various embodied shadows, as in the Seljuk sculptures. They were also characterised by great accuracy despite their minute details. Stained glass was used in the hollow spaces of the upper windows, allowing penetration of light while maintaining privacy. The Ottoman style was evident in the drawings of the parallel wooden column decorations covering the ceiling of the sitting hall (Figure 32). All patterns of Ottoman decorations, with their known colours of turquoise, blue, green, ultramarine and yellow, were used. The Ottoman influence was also reflected in ornamentation of the façade above the guest reception room, with calligraphic streaks of Qur'anic verses (Figure 31). This was seen in the sitting hall of the Ahmed Munawar Rifai house. The top of the door from the inside was ornamented with an arch surmounted by short verses of poetry and calligraphic streaks containing Qur'anic verses, such as the *Al korsi* verse and a verse from the *surat Al Tawba* among others (Figure 31). The walls of the sitting hall were decorated from the inside with a collection of stucco patterns in the form of successive double arches, some of which are segmental arches and the others ogee arches crowned with a flower of Mughal–Indian influence, which were previously used in building decorations in the Abbasid era and in the Ahmed Bin Tolon Mosque.

6.3 *The Hussein Bin Yahiya Rifai house (AD 1924)*

The Hussein Bin Yahiya Rifai house was built under the Ottoman reign in the Kingdom of Saudi Arabia. Its building date was probably AH 1343/AD 1924, two years after the establishment of the Ahmed Munawar Rifai house, which is adjacent to it on the north-west side. However, no plan was found for this house; its main form is similar to the plan of the Ahmed Munawar Rifai house (Figure 23).

6.3.1 *The house design*

The house was designed in a rectangular form and its walls were built using a regular-shaped stone course technique. A large main portal (Figure 33) was located on the west side of the house, connected to the fence surrounding the house. The height of the fence was almost 6 metres. The portal was followed by an exposed inner courtyard known as *hosh*. The house consisted of several storeys; a separate one-storey building was established for the sitting of men. The house was designed in the Ottoman style, where its façade was characterised by a door in its centre with two big rectangular windows on both sides, followed by two small rooms located on the right and left sides and used for storage and for keeping drinking water jars, followed by the huge sitting hall. The house ceiling was covered with wooden columns from India and tamarisk wood available locally.

Figure 33. Front façade of the Ahmed Munawar Rifai house, with sunk or recessed arch, overlooking the street (14th century AH/20th century AD).

Figure 34. *Peshtak* of Qila-i-Kuhna Mosque, in the Lodi era.

Figure 35. Marble *mihrab* belonging to the Abbasid era, Islamic Museum in Baghdad.

Figure 36. Fragment of stucco, excavated in Iran, Tepe Madrasa in Nishapur (4th century AH/10th century AD) The Metropolitan Museum of Art.

6.3.2 *Decorations of the gate overlooking the street*

The decorations covered most of the outer gate surface. There was obviously some linear calligraphy on the right side that may have been eroded due to weather factors. The gate was in the form of a rectangular panel (Figure 33) with a pointed arch; its extrados was ornamented with two decorating streaks, one high- and the other low-relief, with Abbasid and Mughal–Indian influences as seen in the *peshtak* of the Qila-I-Kuhna Mosque in the Lodi era (Figure 34). The pointed arch of the gate was surmounted by a blind segmental arch, influenced by the Mughal–Indian art style that has several styles of recessed or sunken arch. The arch was surrounded by a collection of vegetal patterns with low-relief bending and intertwining branches, which was reminiscent of Samaraa decorations in the third stage, which is characterised by the abstraction, bending, and the bevelled corners with the clarity of the ground depth, as seen in the decorations of Bulkuara Palace in Samaraa, Iraq, and a *mihrab* decoration from the Abbasid era (Figure 35). The top of the gate was surmounted by a series of balconies in the form of spruce cones with a Byzantine influence. However, they were closer to a Sasanian figure (Figure 36) in one of the Nishapur schools in both form and lining.

6.3.3 *Decorations of the façade of the sitting hall overlooking the inner courtyard*

The outer main portal led to a courtyard through a narrow corridor, where a sitting area was allocated on the south side for men only. The southern corridor was supplied with facilities used in ablutions and purification. The façade of the sitting hall was a simple one-storey building with a door centred between two low windows, similar to the Ottoman architectural style (Figure 37). Above the door, there was a rectangular area of low-relief decorations that look like Mughal–Indian decorations, and on both its sides were four frameworks containing blind ogee arch patterns.

Several entrances were annexes to the house. On one of the side gates, the creativity of the stucco artist is evident, with decorations that look like the outstanding stone sculptures in buildings in Agra and India and in the Lotus Mahal (see Figures 38–40). The cleverness and creativity of the stucco artist are obvious in the variations between the segmental

Figure 37. Details of the main portal of the Hussein Rifai house.

Figure 38. One of the side entrances of the Hussein Rifai house.

Figure 39. Stucco details of one of the side entrances of the Hussein Rifai house.

Figure 40. Pavilion of the Lotus Mahal (12 century HA/18th century AD).

Figure 41. General view of the reception room in the Hussein Rifai house.

Figure 42. A detailed corner of the wall slots inside the Hussein Rifai house.

Figure 43. Wall slots inside the Hussein Rifai house.

Figure 44. Diwan-i-Khas Mahal, inside the Agra Fort, during the reign of Mughal Emperor Shah Jahan, India (14th century HA/17th century AD).

arches and the ogee arches, with the surfaces becoming finer and more complicated in the multiple levels and differences in the hollow spaces, thus matching the creativity of the Seljuk *muqarnas*.

6.3.4 *Decorations inside the sitting hall*

The sitting hall in the Hussein Rifai house (14th century AH/20th century AD) contained different stucco arts that covered two thirds of the upper wall in the form of wooden friezes excavated with Arab calligraphy from Qur'anic verses and prayers, most of which were erased with time. In the front, stucco wall shelves that were aligned in successive rows appeared (Figures 42 and 43). They were decorated with soft lined arches with various levels and shapes in a Mughal–Indian style, similar to the Diwan-i-Khas Mahal (Figure 44) inside Agra Fort, during the reign of Mughal Emperor Shah Jahan, in India in the 14th century HA/17th century AD. These wall slots and shelves were known by the Mughals as *pishtaq*, and were commonly used to keep things, such as books and lanterns, during the time of the Lodi Sultanate in 9th century AH/15th century AD. They were also seen in Mamluk and Ottoman houses in the 9th–13th century AH/15th–19th century AD, and were characteristic of heritage Najdi architecture, especially in the sitting area on the *kamar* wall, a wall in the middle of the sitting hall, which has stucco decorations, shelves and a place for the fire used for preparing coffee. The crowns, inner surfaces and sides of the arches were decorated with plenty of vegetal patterns that were excavated with soft lines in the low-relief style.

7 FARASAN PLASTER PATTERN ART STYLE

The houses of the two pearl merchants are characterised by stucco decorations that reflected their taste and showed the craftsmen's wide knowledge of the advantages of plaster material and its processing methods, which led to innovation and creativity. This advanced leap in stucco decoration could be due to many factors, such as close contact with other art forms, acquisition of knowledge, and the influence of cultural openness as a result of bringing skilled workers from other regions and the use of trade and pilgrimage routes. Stucco artists presented patterns in an organised way despite their complexity, which is one of the features of Mughal–Indian and Moroccan–Andalusian art styles.

The appearance of natural elements in stucco designs, where the textures and bending and intertwining lines in an accurate and regular way resemble natural coral reefs, spread in this region. The stucco material gained aesthetic value, transforming it from a simple, crude material into a valuable, high-quality material. This was utilised to maintain the balance and the harmony of the total unity of the wall surfaces internally and externally, through the distribution of the stucco patterns over the walls of the religious and residential buildings. It is worth noticing that the calligraphic streaks were not used on the outer stucco façade of buildings, whereas the sitting halls of the house had calligraphy containing Qur'anic verses, poems and prayers.

Stucco artists used the following two methods in decorating the inner and outer walls of the two houses discussed:

a. The casting method using wooden moulds, which were pre-made in the form of hollow decorated or calligraphic patterns, where the plaster was poured into them and after drying was taken out and fixed on the walls in the form of streaks, windows or balconies. This method goes back to the Abbasid era in the 8th century AH.
b. The direct method that depended on the drawing and hollowing of surfaces using special tools, where the surfaces of the stucco decorations were hollowed out in the form of geometrical frameworks and horizontal and vertical streaks.

8 RESULTS

This study reveals the most important factors that contributed to the Farasan plaster pattern art as follows:

a. Pearl trading contributed to the movement of people to the Far East and Far West, saving a lot of money that helped wealthy people in choosing the best methods and materials to establish their buildings.
b. Farasan stucco decorations were free from the abstract elements of the Najdi art style, characterised by geometrical and vegetal patterns inspired by nature, such as palm trees, stars and *hilal*. They were also free from the scratches made by repeated broken lines and arches that gave a rough texture.
c. Farasan artists did not copy the Jizan Idrisid style in stucco excavation, which, sometimes, was limited to streak-form frameworks and, at other times, to decorative abstract intertwined vegetal patterns. They inspired boldness and the freedom of expression on most wall surfaces from that style.
d. Stucco artists found inspiration for their decorative units from most cultures that they knew about through trade movements, using them according to their needs and heritage. They tried to unify different artistic styles to reach a human and environmental balance, which created a sense of internal joy when seeing these innovative stucco decorations.
e. The features of Mughal–Indian and Ottoman arts dominated the buildings that remained from the time of the most famous pearl merchants in the 14th century AH/20th century AD, also carrying Persian art features.
f. The Farasan stucco excavation art was inspired by distinguished cultures, and interest was focused on methods of using these enriched stucco decorations on the surfaces of internal and external walls. In spite of using many architectural elements and stucco decorations on the external walls of the Al Najdi Mosque, it looked plain because of the uniform colour of the stucco, depending on the high- and low-relief texture in the stucco formulation, which was reminiscent of the Najdi architectural spirit and depended on the nature of the material and its formulation according to use. However, stucco artists took good care in showing the artistic and decorative lavishness inside the mosque, using Indian–Buddhist elements that were represented in the pulpit and the *mihrab* and were brought from India as witness to the tolerance of Islamic civilisation and its ability to employ some artistic architectural elements that were contrary to Islamic teachings.
g. Artists attempted to maintain the best decorative product and to manipulate the stucco material. As they reached maximum creativity in the decorations of the houses of Ahmed Rifai and Yahiya Rifai in 14th century AH/20th century AD, their accuracy was equal to that seen in the stone sculptures of the Seljuk era, the Ottoman arts, Arab Moroccan countries and Andalusia, whose stucco arts were characterised by the feature of filling the walls with decorations.

9 CONCLUSION

The history of the Farasan Islands since prehistoric eras has been full of many great civilisations, such as the Greeks, Romans and the Yemini Himyarite Kingdom extending to the Ottoman Empire in the 16th century AD, that considered the islands one of the strategic security points for marine fleets. They all had one goal: to secure their trading fleets heading towards Middle Asia and India through the Bab El Mandeb strait and the Red Sea against the Arab pirates of the South. Thus, they left their traces in this region. The profession of diving for pearl fishing contributed to improving the income of the Farasan people. And despite the rough terrain of the islands, their inhabitants were famed for knowing the secrets of the sailing routes towards the East African coast where the Dahlak Islands, which were under Italian control at that time, were. This contributed to the enrichment of their cultural contact. The Farasan people travelled to the Dahlak Islands, which were rich in pearls, for about three diving journeys a year. The Farasan divers also dived in the Arabian Gulf, which eased their cultural contact with Persia; thus, the Farasan artists were exposed to a variety of civilised cultures.

The geological environment, rich with coral and calcareous stones, contributed to producing this creative artistic energy, especially when the artists discovered the properties of the

plaster material, which is characterised by resisting and absorbing humidity and thermal insulation. This enabled the Farasan people—through their experiences in stucco decorations since the time of the Aid and Khairat families, and especially in the Idrisid dynasty era—to change the limited use of stucco decorations in the inside of the house in a form of privacy to full coverage of wall surfaces, especially the external walls of buildings. The time of the Jizan Idrisid dynasty witnessed great freedom in stucco decorative art. This was reflected in the styles of the Farasan artists who lived in this period. They innovated and created various methods of stucco excavation and hollowing, covering internal and external architectural surfaces, while maintaining the national identity and harmony of performance. Thus, they transformed the cheap plaster material into a valuable one full of aesthetic value and equal in its magnificence to that of the stucco arts in India, Middle Asian countries, Morocco and Andalusia. This is why the two houses of the two pearl merchants Ahmed and Hussein Al Rifa'i, as well as the Al Najdi Mosque, are considered the best witnesses to the contribution of the different styles and methods of the 14th century AH/20th century AD from the Far East to the Far West, in the emergence of a new distinguished style in the field of stucco decorative art, which came to be known as the Farasan style.

REFERENCES

Al Nadawi, A.A. (2012). Islamic architecture and the consolidation of Islamic culture in the Sultanate of Delhi, 602–932 AH/1205–1526. In *Yearbook of the Islamic History and Mediator* (No. 2, p. 277). Egypt.

Alzele'i, A.B.O., et al. (Eds.). (AH 1423). Jizan region monuments. *Monuments of the Kingdom of Saudi Arabia series*. Riyadh, Saudi Arabia: Ministry of Education and the Agency of Antiquities and Museums.

Amer, I.I. (1998). Architecture in Samarkand in the Timurid period: A research in the monuments of the East of the Islamic world (p. 119) [Seminar]. Giza, Egypt: Faculty of Archaeology, Cairo University.

Ettinghausen, R., Grabar, O. & Jenkins-Madina, M. (2001). *Islamic Art and Architecture, 650–1250*. New Haven, CT: Yale University Press.

Fuhring, P. (1994). Renaissance ornament prints: The French contribution. In K. Jacobson (Ed.), *The French Renaissance in Prints, 1994*. Los Angeles, CA: Grunwald Center, UCLA.

Leven, B. (1998). *The New about the Ancient East* (Trans. Jabir Abi Jaber, p. 121). Moscow, Russia.

Mones, H. (1983). *Atlas of the history of Islam* (p. 244). Cairo, Egypt: Al-Zahraa for Arab Mass Media.

Mortada, H. (2014). Urban and architectural features of traditional environment of Farasan Islands, Saudi Arabia. In F. Pena & M. Chavez (Eds.), *International conference on Structural Analysis of Historical Constructions, Mexico City, Mexico, 14–17 October*.

Nath, R. (1995). *Colour decoration in Mughal architecture: India and Pakistan*. New Delhi, India: Historical Research Documentation Programme.

Saban, S. (2010). German attempts to exploit Farasan Islands in the south of the Red Sea in the light of the documents of the Ottoman archives: 1318–1320/1900–1902. In *Jordanian Journal of History and Antiquities* (p. 131).

Planning and approaching the city

Architecture


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Architecture of the 21st century museum as a catalytic phenomenon in the evolving cultural identity of a city

Nina Ugljen-Ademović & Senka Ibrišimbegović
Department of Architectural Design, Faculty of Architecture, UNSA, AFS, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

ABSTRACT: Cultural buildings play an important role in enhancing the image of a city as a tourist attraction. It is well known that museums, galleries, art centers, concert halls identified with the city have created a part of cultural revitalisation strategies. Museums also illustrate the evolution of architecture and an accelerated transformation of trends in architecture, and are often planned to be generators of the urban development. Taking care of the development of the city and how city's cultural identity evolves is a sign of respect to the built cultural heritage, so that it presents the distinctive aspects that clarify its uniqueness, distinguishing it from any other city. Creation of such cultural responsible (museum) architecture would contribute to defining architectural processes, if we aim to build or preserve buildings, which respect the past and open new visions of the space for the future. Such processes are very sensitive, since in this age of cultural transformation they may become irreversible and result in losing the cultural identity. In this paper we will focus on the catalytic architectural proposals for the reconstruction and conservation of the History Museum, 'the people's museum', in Sarajevo, Bosnia and Herzegovina.

Keywords: cultural buildings; tourist attraction; cultural revitalization; cultural identity; cultural heritage

1 INTRODUCTION

Cultural objects, especially museums, as well as architecture by which they are represented and communicated, play an important role in promoting values of a city.

Although it may at first appear that this is a frequently discussed topic of reactivating the space in this way, the truth is that it always and ever anew contributes the planning of important development strategies that promote the importance of cultural and spatial identity. Taking into consideration the inevitable economic importance that goes along with a correct approach to the design and construction of museums, by which it becomes an active participant of the city's developmental processes, this time accent will be placed on the role museum architecture has in raising awareness on the importance of culture and the development of cultural identity of a specific area, a city. To claim that, in accordance with the contemporary architectural discourse, museum architecture exists the sphere of the "closed" relationship the observer – the exhibit, and opens up to other phenomena, is really simple. Although those phenomena, pressured by the global processes, frequently lose their true sense, they can be rescued by the correct strategies applied in valorisation, reconstruction and new construction of these chests of knowledge, history, tradition and memory. One of the approaches would certainly be a culturally aware architecture that does not necessarily entail a sensation in space. It rather becomes a space for contemplation of time, place and traditional values embodied in the cultural identity.

2 NEW DIMENSIONS OF SPATIAL FLEXIBILITY

Before we define the principal question and place the issue in a specific context, it is necessary to position the contemporary views on the process of changing the conceptual role of museums. Namely, in the long history of the museum and exhibit space development in general, it is only in the 18th century (1793) when the Louvre, the first public museum opened, that the individual (the visitor) – public (national) domain significantly changed. That moment of "reshaping" the museum into a public space symbolically established a new, more intimate relationship with the daily life, and initiated the processes of change of the past understanding of the museum as an isolated, elite and chosen place. Instead, a dialogue started in which museum exhibitions and exhibits communicate with the visitor, and influence the rise of awareness on the importance of cultural identity, open and dynamically changeable. Yet, it was not before the First World War that modernisation processes encompassed all segments of the society and that the previously disintegrated world started to integrate into a new, modern society. Art and architecture were then more than ever called upon to help those processes and offer a complete liberation of the thought through the liberation of space from the previous obstacles, both physically and spiritually. Mies van der Rohe's pavilion in Barcelona is one of the objects that symbolically reflect new tendencies towards "democratisation of architecture" and "democratisation of art" (Fig. 1). The dynamic and flexible permeation of spaces that flow and erase the borders of the open and the closed are even today considered a matrix in the conceptual sense.

However, since democratisation also carries with it a new and a greater responsibility, the process was not easy and a lot of time passed before it took off and gained its present scope, as well as before the notion of "public" responded to the complex demands. Many authors agree that the departure from the traditional understanding of the museum started in the 1960s, however, the moment that certainly set new standards with regards to the symbolic and functional role of the museum in an urban context was the construction of James Stirling's Neue Staatsgalerie in Stuttgart in the 1980s (Fig. 2). Suggesting the *new dimensions of spatial flexibility*, this object actively participates in the life of the city and remains one of the most important examples of conceptual complexity, which functions as a living organism.

> *"New shapes – forms, apart from being based on pure intuition of the creator, also need to have a respectable base in the author's knowledge of the former solutions applied in the concrete problem. From that arises a creation that can be called the process of adaptation of the forms gained from the past aesthetic ideologies that could serve the needs of the present." (Ugljen-Ademović, p. 37.)*

Although we would later witness the fascinating, globally-recognised architectural structures, we consider this example to be a relevant answer to the complex demands, for, unlike others, it does not create tensions in space, rather, it questions the thesis according to which only the dazzling, sensational and overly dimensional architectural structures can attract

Figures 1 & 2. German Pavilion in Barcelona, Spain, designed by Ludwig Mies van der Rohe for the International Exposition in 1929; Neue Staatsgalerie, Stuttgart, James Stirling, 1984.

attention and thus be generators of progress. On the contrary, by creating an analogy between the object-museum and the city, and by respecting the urban pattern, the Neue Staatsgalerie is permeated in functional, formative and symbolical sense, reflecting timeless values that can be evaluated even decades after the construction, as Michael Levin states:

> *"Museum is an instrument that defines, represents and makes transparent changing cultural trends. The museum, almost by definition, does more than express current social values and tastes; it also makes a cultural statement which goes beyond its own place in history." (Giebelhausen M, 2003)*

Such an approach is seen as a starting point of the research, and the messages it carries are applicable to the case study of the History Museum in Sarajevo (the former Museum of the Revolution), and will serve as an answer to the question – in what way to approach a reactivation of the existing context, keeping in mind the preservation and protection of valuable architectural structures within it, and which demands does the museum need to fulfill in order to become a catalyst of progress and enhancement of a specific cultural identity? Regardless if the context is global or local, polarising attitudes towards the approach to architectural shaping of the museum, keeping in mind its symbolical reflexion, are more than ever prominent. Thus, today, the museum can be a *representative* of time and place, or an *attractor* in a certain point in time, or, finally, a *corrector* and critic of the society, simultaneously offering completely different spatial implications. Finally, should a museum protect the existing (referent) cultural and spatial identity, or promote its spontaneous development and changes?

3 DEVELOPMENT OF CULTURAL AND SPATIAL IDENTITY – SPECIFIC CHARACTERISTICS OF A PLACE

Finding an answer to the posed questions is even more important in the present moment, marked by prominent processes of commodification of the daily life, applicable to architecture more than ever, for spiritual, non-material traits of our existence, the creativity, the inventiveness, are becoming a commodity. That is one of the reasons why we make cultural identity in synergy with architecture the focus of the issue. In that way, architecture visualises cultural values, and, as such a powerful medium, it gives rise to new ideas, sets criteria and by doing so it determines its place in history. However, a dynamically changeable cultural and spatial identity that we witness possesses certain implications both at the local and at the global level, and introducing balance between them becomes imperative. Namely, the existing context has its local characteristics that do not suggest a closed concept; rather they are an open process. It is important to enter that process gradually, without any predefined global signifiers that disturb the vital, semiotic relationship between the sign and its meaning. By gradually developing local characteristics, we enable a spontaneous development towards the global goal, enriching it by the new and the special. In that case, a redefinition of the local by other, superordinate terms characteristic of globalisation is unnecessary; rather, one can speak of their synchronic action. If we were to accept the fact that "there is no final state in the life of a city" (Perković, 1969), we, in fact, reveal anew the different meanings in architectural forms, which construct an urban space as "the place of a permanent, repeated activity" (Rossi, L'Architettura della Citta) that came as a result of an endless process of shifting of different aspects – developmental, historical, social, architectural. That also liberates urban memory, as a specific juncture of individual memory and the memory embodied in architecture, while spontaneous, continual development of cultural and spatial identity is encouraged as well.

> *"Space is locally unique, but that local specificity is produced through its socio-spatial relations to other places both local and global. Crucially therefore the positive and rich multiplicity of places is only realised through practice in space which connect, react, and change the political, economic, and cultural relations that are infused in local and global spatial relations." (Bower, p. 181)*

4 MUSEUM ARCHITECTURE – A SPACE THAT INTEGRATES, OR A "WHITE BOX" – A NEUTRAL, EMPTY SPACE

In the years of considering this issue, a dual relationship is posed, which, on the one hand, observes the museum as a place that intrigues and provokes by its architectural expression – the place of "new monumentality", or, on the other hand, as a "white box" – a neutral, empty space, showing thus the relationship between the architectural form and context, as well as the relationship between the architectural form and art that it contains. Due to such a simplified treatment of the complex issue, based on opposition and polarisation of the approach, it is necessary to establish valorisation criteria by which architecture should preserve its own vitality, even in the time of ever increasing shifts of the cultural aspect of architecture. The case study will show that the existing spatial flexibility offers *new dimensions of spatial flexibility* through integration with the context at several levels – aesthetic, usable, flexible, symbolic, and, instead of a simplified juxtaposition or superposition of the new architectural structures, it is spatially integrated and becomes a mediator between the past and future meanings and a sub-creator of identity of a place.

5 CASE STUDY – THE HISTORY MUSEUM OF BOSNIA AND HERZEGOVINA IN SARAJEVO

The architectural heritage of Modernism in Bosnia and Herzegovina is valuable in many respects. It shows a strong mark of tendencies characteristic of its era, but also of signature styles of renowned regional, European and even globally acknowledged architects. Mostly, these are buildings whose visual identity is often even ahead of its time. (Ugljen-Ademović, Turkušić, Ibrišimbegović, p. 365).

5.1 *Architectural heritage of Modernism in Bosnia and Herzegovina*

The City of Sarajevo has for centuries been a meeting point for different cultures. Layers of Ottoman and Austro-Hungarian heritage, all the way to the socialist era and urbicide of the 1990s, are omnipresent in the city culture. Today, 22 years after the war, a question is asked: What is Sarajevo today?

Leaning on urban and architectural experience of the past periods (Ottoman and Austro-Hungarian architecture), architectural Modernism, although autonomous and functioning beyond spatial and temporal realities, is a true bearer of cultural memory and a constructive creator of Bosnian national and cultural identity. Architectural work as an integral unit is defined by its parts, function, construction, materialisation, form; priorities and approaches to emphasising certain parts of these units have changed through history. That is why it appears that architecture survives only when it manages to preserve its own character, by negation of the form that the society expects of it. That is why Tschumi suggests that there never was a reason to doubt the necessity of architecture, for the necessity of architecture is its "non-necessity". (Tschumi in Tschumi 2004: Fireworks, 1974) (Ibrišimbegović, 2015)

5.2 *Architecture of the History Museum – new dimensions of spatial flexibility through merging with the context*

The specific combination of transcendentalism of modern architecture, and sensitivity towards history and cultural heritage, is reflected in the building of History Museum of Bosnia and Herzegovina that is located within the historically-sensitive, urban fabric of the Sarajevo city centre, the Marijin Dvor area, a natural link between the historic centre and the modern city zone, between the old and the new. Architectural design of the museum was based on a disciplined adoption of modernist practices not only in the field of architecture and art, but also from the culture in general. Such procedures are prominent in shaping the museum space on the principles of reducing the expressive language of the architectural and

of autonomy of the artistic form in respect to the content. White, stone-lined cube, erected on a pedestal, which also highlights the monumentality of the building, is part of the universal formative vocabulary, which will later appear in other modernist centers (Fig. 3). Such elevated main exhibition space is also emphasized by the appearance of floating volume, which is achieved by its separation from the pedestal by a modular grid of glass surfaces, which at the entrance level very subtly connects visitors with the environment (Fig. 4).

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The inner atrium of the main corpus of the building on the second floor forms the ideal "white box". (Ugljen-Ademović, Turkušić, Ibrišimbegović, p. 365–370) Bernard Tschumi emphasizes, on the one hand, architecture as a matter of mind, a dematerialised or conceptual discipline with this typological and morphological variations, and, on the other hand, as an empirical event, focusing on the senses, on the experience of space. Architecture is finally a meeting place. It flourishes in its dual position, between cultural autonomy and advantage, between contemplation and dwelling. (Tschumi, 2004, p. 70) Even in Le Corbusier's time, architecture was defined and viewed upon as a phenomenon of emotions, hence, he, as a representative of the very beginnings of Modernism. It is important to understand that in order to understand the role of architecture in the society, be it the material role, artistic-aesthetical, and spiritual. Acknowledging a certain building stems from the relationship established between architecture and the way in which the social community percieves that architecture in cultural, functional or emotional sense. That relationship between architecture and tis perception is conditioned by heterogenous imageries and expectations about the "artistic" values architecture should represent, especially in situations when they are marked by a strong identitary charge. *"A building becomes a part of the social landscape only when it absorbs the imageries of a social community."* (Mrduljaš, 2009, p. 86–88) Architectural theoretician Norberg-Schulz refers to phenomenology in architecture as a method that urges us to *"return to the natural things"*, unlike the abstraction and mental construction.

Figures 3 & 4. History museum: View of exterior garden, View from courtyard towards the street.

As for his claims, he made several phenomenological studies of the environment. The potentional of phenomenology is identified in architecture as an ability of the surounding to gain sense through creation of special places. He again introduces the old Roman idea of **genius loci**, the "spirit of a place." (Ibrišimbegović, 2015, pp. 37–39)

5.3 *Architectural proposals for History Museum in Sarajevo*

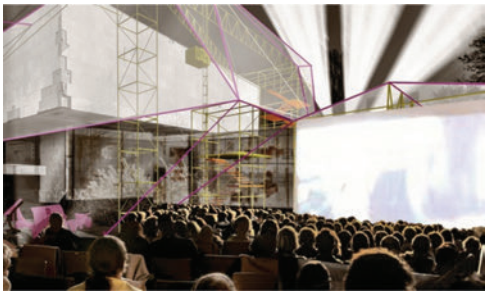
The "Reactivate Sarajevo" initiative, together with domestic (History Museum and Faculty of Architecture, University of Sarajevo) and international (Urban-Think Tank at ETH Zürich and Baier Bischofberger Architects) experts, presented the project "Sarajevo Now" at the 15th Venice Biennale of Architecture in 2016, entitled "Reporting from the front". The project analyses challenges and potentials of the city of Sarajevo, as well as a reactivation of the existing infrastructure through development of various conceptual designs. The Historic Museum was in the focus, treated by domestic experts as a concept, both architectural and comprehensive, that needs to stay in its original state and should, as the pearl of Modernism in Bosnia and Herzegovina, be an indicator of evolutionary development of the City of Sarajevo's cultural identity through architecture. The intention of Baier Bischofberger Architects, inspired by demonstrations of solidarity and popular ownership, is that the exhibitors redefine the museum not as an elitist institution dedicated to the display of objects, but as a catalytic urban space. A temporary strategy of adaptive reuse can compel a new reading of the site and its surroundings. Their intention was sheathing the museum in transparent vinyl skin leaves, the decay and patina of the original building intact, while juxtaposing the old and the new (Figs. 5, 6). The overall effect is a détournement, with the design projecting an oppositional message. The historic structure itself is enclosed as an uncanny artefact, subverting conventional notions of a museum as a sterile container.

The new proposal of the authors of is considered to be a very ad-hoc approach:

"*The envelope would actually be covered with a special material made to shrink-wrap scaffolding. We would be shrink-wrapping the structure around the building so that there is no further deterioration from its current state. The covering also offers new spaces between the existing building and the scaffolding structure, which can be activated with programs and attractors. We envisage the project as a short-term ten-year plan until the money can be found to restore the building. We are interested in the space in-between, which will be filled with new programs, for using the building in a completely new way.*"

"*What we are doing is trying to create a system that protects the building from further decay. Instead, we are interested in the possibility of creating a functional space that can still be used while repairs take place. The future of this building depends on how the city adopts it, and embraces its expanded function as a cultural centre.* But if you really understand modernity it is a series of layers. Cities are built up over time in layers, and Sarajevo represents those layers. *We are designing a reactivation strategy that crosses into the realm of the arts and intellectual life. Architects have always played an important role in these areas throughout history.* Architects are reinventing themselves through participation in local and national politics that impact the urban context." (Figs. 7, 8).

Figures 5 & 6. The existing structure is contained within a transparent vinyl skin; History Museum.



Figures 7 & 8. Site plan illustrating the proposal in more detail; The decay of the original building is preserved image.

Such a solution for preserving the History Museum is "questionable" as it is opposed to the idea of new dimensions of space flexibility. By this, the significance of architecture as a sub-creator of a cultural identity is neglected, since by the fulfilment of strictly functional conditions, it is set as a closed and a separate entity, which performs only its basic function. The whole structure and architecture of Museum hast to be visible, as it is an attractor to the visitors by its Modernist architecture.

6 CONCLUSION

Research has shown that the existing approach suggests the contemporary tendencies of integration of the "high" and popular culture, as well as democratisation of the audience, without the danger of integration into the consumer culture. It also reflects upon the thesis that one should not create tensions in space in such a place, and this proposal most certainly does that. When successful, architecture takes into consideration joint activity in a senseful action, enabling participants to understand their place in the world. In other words, it opens space for experiencing purpose of an individual through participation in cultural institutions. In that way, architecture offers a place for existential orientation to the societies, and its meaning is time-related. (Perez-Gomez, 2009, p. 143) Architecture offers understanding of one's place in the universe and in the civic world; it changes the life of an individual and provides grounds for one's own being. Indeed, inspite the seductive abilities of the modern technology and telecommunicational capacities aimed to strengthen democratic processes, it is important to understand how the local artistic and architectural practices resemble the precious endangered species. That means that architecture is neither a clear form, nor is it exclusively determined by socio-economic and functional limitations; rather, the quest for its definition should always be within urban dimensions, that is, within a spatial context as well.

The surrounding with its material and non-material facts becomes a part of an architectural strategy in which a museum is a catalyst of progress and cultural identity enhancement. Perhaps a new architectural strategy lies there, a strategy that warns us, in the time of the global culture, that only through critical thinking of architecture can we construct, react, and change the expected urban succession, not by the ad hoc, hermetically closed concepts, which turn the existing form into their opposite.

REFERENCES

Bower, R., 2016. *Architecture and Space Re-imagined: Learning from the Difference, Multiplicity, and Otherness of Development Practice.* s.l.: Routledge.

Giebelhausen, M., 2003. *The Architecture of the Museum: Symbolic Structures, Urban Contexts.* s.l.: Manchester University Press.

Ibrišimbegović, S., 2015. *Arhitektura muzeja savremene umjetnosti kao kapsula vremena.* Sarajevo: PhDissertation.
Liebeskind, D., 2003. Traces of the unborn. In: *Architecture and Revolution: Contemporary Perspectives on Central and Eastern Europe.* London: Routledge, p. 256.
Mrduljaš, M., 2009. Otvorena arhitektura. *ORIS časopis za arhitekturu i kulturu: broj 55*, pp. 86–97.
Mrduljaš, M., 2010. Vrijeme muzeja. *ORIS časopis za arhitekturu i kulturu; broj 63.*, pp. 8–28.
Mrduljaš, M., 2012. Naoshima. *ORIS časopis za arhitekturu i kulturu: broj 76,* pp. 8–39.
Norberg-Schulz, C., 1979. *Genius Loci, Towards a Phenomenology of Architecture.* s.l.: Rizzoli.
Norberg-Schulz, C., 1996. The Phenomenon of Place. In: K. Nesbitt, ed. *Theorizing a new agenda for architecture: An anthology of architectural Theory 1965–1995.* New York: Princeton Architectural Press.
Norberg-Schulz, C., 2009. *Intencije u arhitekturi.* Zagreb: Naklada Jesenski i Turk.
Perez-Gomez, A., 2009. Izgrašeno na ljubavi: arhitektonska čežnja za etikom i estetikom. *ORIS časopis za arhitekturu i kulturu: br. 55*, pp. 140–147.
Rossi, A., 1984. *The Architecture of the City.* Boston: MIT Press.
Tschumi, B., 2004. *Arhitektura i disjunkcija.* Zagreb: AGM.
Ugljen-Ademović, N., 2004. *Sistematično proučavanje starog da bi se moglo izraditi kreativno novo.* s.l.:Arhitektonski fakultet Univerziteta u Sarajevu.
Ugljen-Ademović, N., 2007. *Dvojnost pirstupa problemu integriranja novog u postojeće u arhitektonskom oblikovanju.* s.l.:Doktorska disertacija, Arhitektonski fakultet Univerziteta u Sarajevu.
Ugljen-Ademović, N., 2012. *Kritika - stimulans arhitektonskoj ideji.* Sarajevo: Dobra Knjiga d.o.o.

FIGURES

Figures 1 & 2. German Pavilion in Barcelona, Spain, designed by Ludwig Mies van der Rohe for the International Exposition in 1929; Neue Staatsgalerie, Stuttgart, James Stirling, 1984. http://www.jasonmkelly.com/2013/09/30/mies-van-der-rohe-barcelona-pavilion/; http://kultur-online.net/node/17486

Figures 3 & 4. History museum: View of exterior garden, View from courtyard towards the street www.muzej.ba; http://u-tt.com/exhibition/sarajevo-now-at-the-venice-biennale/

Figure 5 & 6. German Pavilion in Barcelona, Spain, designed by Ludwig Mies van der Rohe for the International Exposition in 1929; Neue Staatsgalerie, Stuttgart, James Stirling, 1984. http://archinect.com/features/article/149947453/examining-the-2016-venice-biennale-sarajevo-now; http://muzej.ba/sarajevo-now-peoples-museum/

Figures 7 & 8. site plan illustrating the proposal in more detail; The decay of the original building is preserved image http://u-tt.com/exhibition/sarajevo-now-at-the-venice-biennale/; http://www.designboom.com/architecture/venice-architecture-biennale-urban-think-tank-sarajevo-now-the-peoples-museum-05-31-2016/

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Conserving historical areas through the roles of main cities: Urban identity in the era of globalisation

Ahmed Elewa
Department of Architecture, Faculty of Fine Arts, Helwan University, Helwan, Egypt

ABSTRACT: Throughout the last three decades, the process of globalisation has impacted the spatial urban structure of the world's main cities; however, this impact has negatively affected cities that still have historical hubs and are looking to preserve their local urban and architectural heritage. Meanwhile, adhering to the common requirements of urbanisation for the sake of globalisation has been mandatory for economic and political reasons. The cities that managed to adapt to the impacts of globalisation and, in turn, conserved their urban and architectural heritage, are currently the ones that have a significant and unique urban identity. Cities like Rome, London, Paris and Istanbul have generated good examples of dealing with this issue.

The hypothesis behind this study is that urban identity in main cities can balance between the common requirements of globalisation and the conservation of their architectural heritage. This paper will discuss the connection between the urban requirements of globalisation, the conservation of urban local heritage and urban identity.

The methodology used depended on an analytical comparison of selected case studies to evaluate their urban experiments. The results showed that cities with a significant urban identity have created successful urban experiments, showing that they have been able to find a balance between globalisation and the conservation of local urban heritage.

Keywords: globalisation, spatial urban structure, historical hubs, heritage

1 INTRODUCTION

It is the era of globalisation. Over the past decades the world has witnessed the results of globalisation as a process. Globalisation has become a commonly known term, particularly in the field of contemporary world economics and culture. Meanwhile, there are other parallel processes in addition to globalisation that have affected the formation of the world's main cities (WMCs) of today throughout the recent decades. The most significant process is the rapid growth of the urban population, since it is projected that the urban areas in the world will host 70 per cent of the world's population by 2050. According to the United Nations (2014), this future urban population growth is expected to be concentrated in the WMCs that consist of at least 10 million inhabitants.

Globalisation and the rapid growth of urban population are continuous processes that are strongly linked to the WMCs. A new type of WMC has risen; this is what is now known as the so-called global city. Today, WMCs compete for global resources, capital and talented human resources, positioning themselves as platforms for innovations and ideas to grow. Global cities are sharing a global urban identity, which reflects the new spatial urban plan as well commonly urban features. The transformation process of the WMCs has negative impacts on the local urban identity and poses a threat to historical areas given that they may be neglected and lose their importance. This is why there is growing awareness among scholars and decision makers about the necessity of conserving these areas, not only to preserve

buildings but also to protect the historical urban context as a physical component of the local urban identity in the era of globalisation.

While the majority of research that concerns globalisation focused on its economic and cultural understanding, this study illustrates this phenomenon from an urban perspective. The study discusses the possibility of using the roles of urban identity as a tool to conserve the historical areas of today's WMCs that transformed to be global cities. This hypothesis is based on the practical results extracted from actual cases of global cities that managed to conserve their historical areas while still responding to the mandatory urban reforms of globalisation.

2 GLOBALISATION AND URBAN IDENTITY: AN OVERVIEW

The rise of global cities has led to a new type of urban identity that can be observed in today's WMCs. This new global urban identity has impacted the WMCs and has imposed urban features, which has led to reforms in the urban spatial structure of those cities to be global cities.

This globalised urban identity may be suitable (or ideal in some cases) for some of the WMCs, such as in the case of Sydney, Rio de Janeiro and Dubai. This particular type of WMC involves new cities in comparison to the world's main historical cities, which include cities such as London, Paris, Vienna, Istanbul and Cairo. These historical WMCs already have their local urban identity; however, policy makers in these cities have to respond to the mandatory urban requirements of globalisation, which may cause negative impacts on the original urban heritage of these cities. There are some good examples of WMCs that managed to balance the need to conserve their local urban heritage and the need to be global cities. This study raises specific questions about the nexus between globalisation, global cities and urban identity:

- What is the meaning of globalisation from an urban perspective?
- Are there new types of WMCs due to the impact of globalisation?
- What is the impact of globalisation on the urban identity of WMCs?

2.1 *Globalisation from an urban perspective*

Globalisation is a recent term, the current meaning being established in the 1970s (James & Steger, 2014). Globalisation as a phenomenon has impacted all international anthropogenic activities, including international economy and culture. As a result, daily urban life has changed in the WMCs, having lost a lot of their own local essence. In addition, the term 'globalisation' represents an interdisciplinary concept of uncertain definition due to differences in views and interpretations. Thus, one of the main questions of this research has to do with a clear definition of 'globalisation' from an urban perspective. There is a strong nexus between globalisation as a process and WMCs of today or what are so-called global cities. These cities are threatened by the process of globalisation, in particular, the type of cities in which there is a unique local urban identity; for example, the main historical cities of Europe, such as London, Paris and Rome. These cities are threatened by shifts in the global economy and this process has already started early in the last three decades of the 20th century. The shift in the global economy has impacted the WMCs, leading to physical changes in the urban spatial plan of those cities; however, these cities were and still are in the arena for the processes of globalisation. The definition of globalisation from an urban perspective can be extracted from the understanding of its influences on the urban spatial plan of global cities; globalisation has the same effects over the cities. 'Cities that are getting shaped according to the new world order are tending to show similarities between themselves within globalisation' (Hergül, 2014).

Globalisation, from an urban perspective, can also be understood as the phenomenon by which today's WMCs are being reformed to a new urban spatial plan, which enables them to perform their key role as arenas for the various anthropogenic activities that occurred due to the globalisation process. This definition illustrates the strong nexus between globalisation as a process and WMCs (global cities) as they are the urban spaces in which globalisation takes place.

2.1.1 *Rise of global cities (WMCs of today)*

Through the recent decades, and under the impact of globalisation, the WMCs transformed into global cities; the new millennium witnessed the rise of global cities, which can be seen as the building blocks of globalisation (Charnock, 2013).

In this study, it is important to determine a specific definition of global cities from an urban perspective. This will be necessary to understand the influences of globalisation on WMCs and how they transformed into global cites. It will also help scholars to recognise the new urban spatial features that form their globalised urban identity.

2.1.2 *Definition of global cities*

The definition of global cities in this study is based on the understanding of globalisation from an urban perspective; in the light of this, global cities represent the physical part of globalisation. They are the urban production of globalisation. However, there is a broad definition of global cities from an economic perspective; for example, the definition by Sassen (1991), '[a] global city is a significant production point of specialised financial and producer services that make the globalised economy run', as well as the definition by Charnock (2013), 'an urban centre that enjoys significant competitive advantages and that serves as a hub within a globalised economic system'.

In actuality, this idea of defining global cities from an economic point of view does not in any way oppose the definition of global cities from an urban perspective. On the contrary, both points of view investigate the integrated relationship between globalisation as a process and global cities as the urban nodes where the operations of the global economic system takes place; this is in line with Keil and Brenner's (2006) definition of global cities: 'they are exactly the interplay between globalisation and urban development'.

2.2 *Urban identity of WMCs (global cities)*

Urban identity, place identity or what is known as urban character are terms that refer to the same concept that is concerned with the recognition of urban areas through their significant urban features. These features reflect the socio-economic and cultural functions of urban areas. The term 'place identity' was identified by many authors with a background in urban studies. Lynch (1984) defined place identity as 'the simplest form of sense of place. Identity is the extent to which a person can recognise or recall a place as being distinct from other places-as having a vivid, or unique, or at least a particular, character of its own.' This definition is in line with the views of Proshansky et al. (1983) and Hague and Jenkins, (2005), which identify urban identity as a term that concerns the meaning and significance of urban places for their inhabitancy and users. Urban identity has become a significant urban issue during the last three decades as a result of the awareness of specialists and the local authority of the necessity to protect the local urban heritage. This took place notably under the impact of globalisation and the rising fears about the loss of individuality and distinctiveness between urban areas (see Figure 1). 'There has been a growing concern that local communities, towns, cities and regions are losing their identity in the midst of rapid globalisation and urbanisation' (Kim, 2000).

Global cities are those that have responded to globalisation requirements and, as a result, their urban spatial plans have already changed to a new one, with new urban characteristics that can be summarised as follows:

- An active central business district (CBD) or districts that offer a variety of international financial services, including finance, banking, insurance, real estate and other related activities (logistic services), such as hotels and conference halls.
- An advanced infrastructure system, notably the communication sector.
- An advanced transportation system that offers multiple modes of transportations and serves a large mass transit network.
- One or more major international airport(s) that make the city globally well connected.
- A liveable downtown area that offers multiple socio-economic, recreational and cultural activities attracting global tourism.

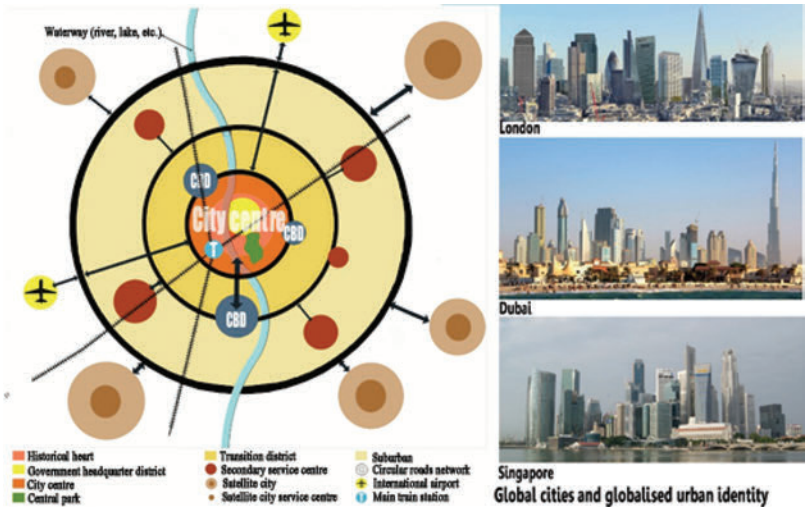


Figure 1. Global city model and the globalised urban identity (Source: Author).

- Having a prominent skyline that characterises its CBD area and summarises its economic power as a global city.

Globalisation has impacted the urban spatial plan of the WMCs to be transformed into global cities; see Figure 1, which shows a model of the urban spatial plan of global cities.

2.3 *Urban identity of historical WMCs (historical global cities)*

WMCs have transformed into global cities with a new urban spatial plan that includes some significant urban features forming its global urban identity. This urban identity symbolises the impact of globalisation on today's WMCs through a dominant identity that characterises all global cities. This new globalised urban identity was not a problem in the case of global cities that have no significant local urban identity, such as Dubai (there is a consensus on considering it a global city) (A.T. Kearney, 2016), which has no deep history. However it is a real challenge in the case of WMCs with a significant local urban heritage (due to their historic legacy) to appropriate between globalisation requirements and the conservation of its local urban identity. Obviously, there are two types of WMCs (global cities) in terms of the urban identity issue:

- First type: Contemporary global cities such as Singapore, Dubai and Abu Dhabi;
- Second type: Historical global cities such as London, Paris, Berlin and Rome.

2.3.1 *The intended meaning of conserving historical areas in this study*

In this study, the intended meaning of conserving historical areas is broad. It is not only about the preservation of buildings and the urban context as they represent the physical aspect of the historical areas, but also about how to protect the scenic views of historical areas and individual valuable buildings. This understanding of conservation means to protect the view of a specific place or historic building from another location.

3 URBAN IDENTITY AS A CONSERVATION TOOL

Based on the definition that has been reached for urban identity, using urban identity as a tool to conserve historical areas is a reasonable concept; there is a strong nexus between the urban identity of a city and its local urban heritage. Urban identity concerns the meaning and significance of urban places that form the local urban heritage and give each city its own urban

identity. In other words, the existence of urban identity requires the existence of significant urban features such as the historical urban areas; thus, any strategy that aims to maintain a distinguished urban identity ought to take into consideration the conservation of historical areas.

3.1 *The roles of urban identity in historical WMCs (historical global cities)*

The discussion about urban identity explains the main role that it plays in WMCs, which is to protect the local identity. It also assumes other roles that support the conservation of historical areas in direct and indirect ways as follows:

- A remarkable urban identity relies on the existence of historical areas as a physical criterion, according to Lynch (1984): 'Design scholars also focus on physical aspects of local identity of place in their theoretical studies.' This is why urban identity plays an important role in dealing with the undesired effects of modern urbanisation that are impacted by globalisation. As a result of this, urbanism is almost meaningless and lacks any unique identity (Tavakoli, 2010).
- Urban identity serves as a reference point in terms of conserving a sustainable urban image and in terms of the wishes of the society. It is also important to note that the recognition of the value of an urban area is a fundamental component in urban studies. 'The sustainability of a place depends on a series of factors, which contribute to the quality of life, sense of place and recognition of identity' (Sepe, 2006).
- Urban identity acts as an index for the quality of urban life and the socio-economic conditions of each city; moreover, a unique urban identity can be a source of community pride and satisfaction with their city (Ghavampour et al., 2008).
- Urban identity is the reflection of the historical context of the city as a part of both its physical components and cultural spirit. The urban identity of cities grows from the continuous relationship between the place and its residents by forming the inhabitants' collective memory; at the same time, it is a means of making the community aware of the conservation of the historical context (Oktay, 2002).
- Urban identity can be an honest indicator of the development rate of a city. According to Torabi and Sima (2013), it is a measure of growth for the city's identity as a factor for the development and promotion of environmental quality.
- A significant unique urban identity can also act as an economic tool that can boost city branding among the other competitive global cities. This essentially means more foreign investments and attracting the talents of various people. 'A strong sense of identity can be an attractor, bringing new investment and talent into an area' (Watson & Bentley, 2007).

4 CASE STUDIES

Two cases of European cities were selected to represent examples of historical WMCs (historical global cities) that still have historical areas (this includes historical buildings and urban contexts from different ancient ages up to the 19th century). An analytical comparative study was done to clarify how the decision maker managed to use the roles of urban identity in the era of globalisation to conserve historical areas. The criteria of the analytical comparison study included the following aspects:

- A brief note about the case.
- Recognition of the current urban identity through the study of the urban spatial plan of the city and how far it responded to the globalisation impact (through the existence of the urban characteristics of global cities that was highlighted before); also, exploration of the current situation of historical areas and recognition of the current skyline of the city as a reliable indicator of the current urban identity.
- Explanation of how the decision maker, through urban strategies and regulations, dealt with the issue of conserving historical areas in this age of globalisation through the roles of urban identity.

4.1 *Case study of London*

London is the capital city of the United Kingdom. It is also the largest metropolitan area and the largest urban zone in the European Union by most measures. The city is an example of the historical capitals of Europe. London still has significant historical areas, notably from the 18th and 19th centuries. Further, the city was ranked as the most important global city in the world in 2016 (A.T. Kearney, 2016).

4.1.1 *Urban spatial plan of London*

London is one of the most important global cities in the world according to most urban scholars, such as Sassen (1991). London's urban spatial plan is a clear example of plans of global cities, as the common urban features of global cities exist in it. London has two active CBDs: London city centre and Canary Wharf (i.e. the transformed docklands area); both these form an important hub for the global economic system. London is one of the most important destinations for international flights; the city is served by six international airports and several smaller airports, and together they make one of the busiest airport systems in the world in terms of passenger numbers. The city has a liveable downtown area, forming London's socio-economic, cultural and historical heart. It is an important global centre for media and innovation. It also has an advanced public transportation system and infrastructure (see Figure 2).

4.1.2 *Historical areas in London*

Although London has a rich urban and architectural history, there is no patchwork of historical areas of ancient ages; however, like other historical European main cities, London has its classic urban context in the downtown area (City of London and Westminster) that reflects Victorian London in the 18th and 19th century. London's scheduled sites and listed buildings are individual structures, in many cases assembled gradually by parts from many different periods (Roumpani & Hudson, 2014).

4.1.3 *Recognition of the current urban identity of London*

London has no prominent skyline that characterises the urban identity of the city as a contemporary global city or as a historical city with a local urban heritage that it relies on. The urban identity of London is derived from its long history and its contemporary role as a major global financial centre. These factors have resulted in a city skyline of great complexity and diversity. It is an embodiment of the conflict between the global urban identity and the local urban identity that reflects its local urban heritage.

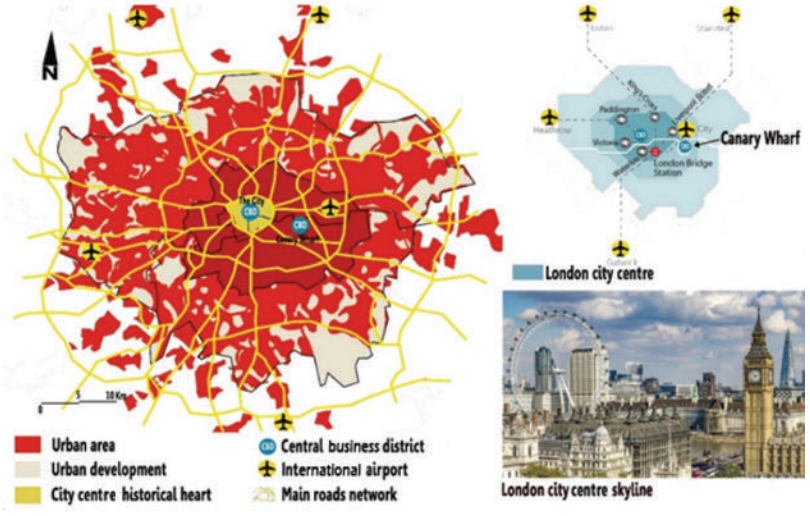


Figure 2. The urban spatial plan of London and central area skyline (Source: Author).

4.1.4 *Urban strategies and regulations that form the current urban identity*

The decision maker's awareness of the urban changes that are related to globalisation started in the 1990s through the successive urban development plans of the city. In the 1994 Unitary Development Plan, the issue of conserving the historical areas in London was the main concern and a priority target. This plan was based on previous plans in 1989 and the supplementary guidance for London on the protection of strategic views in 1991. The plan defined the historical areas as 'areas of special architectural or historic interest, the character of which it is designed to preserve or enhance' (English Heritage, 2016). The plan also regarded the review of the boundaries of conservation areas as the city's duty with a priority to protect London's skyline, especially its landmarks and historical buildings.

In the year 2000, the Greater London Authority (GLA) was established. In the updated plan of 2009, the mayor of London described his vision and objectives to conserve historical areas as the main physical component of the local urban heritage and to ensure that London is a leading global city. This vision demonstrated how to use the roles of urban identity as tools to conserve the historical areas. According to the mayor of London, over the years to 2031 and beyond, London should be ensuring the following aspects:

- An internationally competitive and successful city with a strong and diverse economy and an entrepreneurial spirit; a city which is at the leading edge of innovation and research and which is comfortable with—and makes the most of—its rich heritage and cultural resources.
- A city that delights the senses and takes care of its buildings and streets, having the best of modern architecture while also making the most of London's built heritage.
- Supporting a high-quality urban living space—including protection of London's heritage from air and noise pollution (Blowers & Evans, 1997).

4.2 *Case study of Paris*

Paris is the capital city of France and a socio-economic and cultural hub. It has a special place in people's imaginations because it owns a significant urban identity that is derived from its historical downtown (the Paris of Haussmann) (Ehrlich et al., 2016). The city is also one of the first global cities (A.T. Kearney, 2016).

4.2.1 *Urban spatial plan of Paris*

While Paris is ranked as the third among the top 15 global cities (A.T. Kearney, 2016), the city still has areas that reflect its local urban heritage. The urban spatial plan of Paris represents the same common urban features of global cities, with a unique central area known as the Paris of Haussmann (Enright, 2016). It is an active liveable downtown that represents a good example of the socio-economic and cultural activities that should exist in a WMC and, of course, in a global city as well. Paris is a centre of innovation in fashion, arts and other cultural aspects. The city has a main CBD, La Défense, which is the hub for global economic activities. It is home to no fewer than 1,500 corporate head offices (Lang, 2005) and is located to the north-west of the Paris of Haussmann. The city is a major hub for advanced transportation systems that connect the city locally and with Europe; it is also connected globally by two international airports, Charles de Gaulle, which is the second busiest in Europe, and Orly (Ehrlich et al., 2016) (see Figure 3).

4.2.2 *Historical areas in Paris*

Paris has a unique and long history; the city has grown over the centuries from a central point that dates back before Roman times, this point is in Île de la Cité. The whole central area is the Paris of Haussmann, which has a unique urban context of the 18th and 19th centuries. There are also sites and historical buildings of various eras, notably the medieval times. The central area also contains the historical districts of La Cité, Louvre, Champs-Elysées, Les Grands Boulevards and Le Quartier Latin. The area is almost exactly delimited by the route of the Paris inner ring road, or Boulevard Périphérique, which circles the city centre.

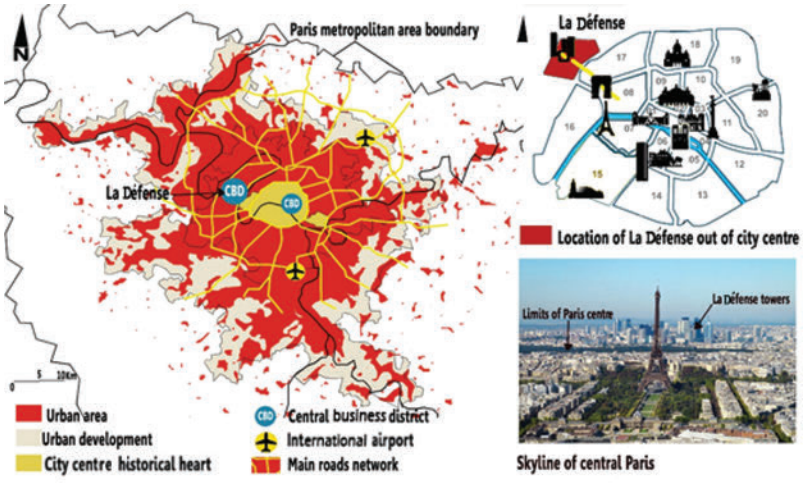


Figure 3. The urban spatial plan of Paris and the central area skyline (Source: Author).

4.2.3 *Recognition of the current urban identity of Paris*

Paris has many faces, in other words the city has clear areas and each one has a dominant urban identity. So far, the city, through its urban spatial plan, has managed to keep its historical heart protected from the invasion of contemporary tall buildings of globalisation. The city centre still has its own classical urban identity, but the city has another face that represents its global urban identity which is clearly observed in the areas that are located out of the city centre, such as La Défense where the main CBD of Paris is located. Thus, this is why the city has diverse skylines, each one with a dominant urban heritage, and that is what marks the city as a unique example of historical global cities.

4.2.4 *Urban strategies and regulations that form the current urban identity*

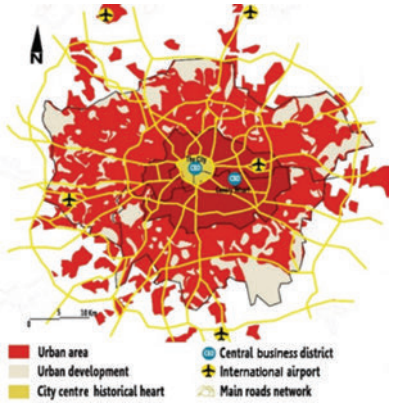
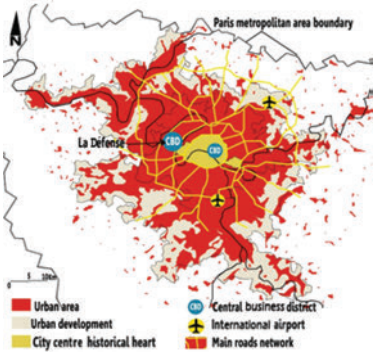
The current iconic skyline of central Paris is owed to Georges Haussmann because his urban modification (started in 1853 and continued to the end of the century) remodelled the medieval urban spatial plan of the city in keeping with the significant urban context of the 19th century. It is characterised by long straight boulevards, magnificent open spaces and elegant building façades. Haussmann also set urban regulations that were imposed on building façades and heights. He set a decree that buildings should not be more than five storeys high (Girouard, 1985). These buildings allow for a clear line of sight to the Eiffel Tower and other monuments that define Paris architecturally (Karmelek, 2015).

The decision to establish the CBD La Défense in 1958 west of central Paris (now a part of the Paris metropolitan area) was a successful one. La Défense has a towering skyline that represents the global identity of the city. This project protects the historical heart of the city that is mostly free of tower blocks, except the Montparnasse Tower built in 1973. This 59-storey, 209-metre-high eyesore has had few champions since it was built. Following this experience, the City Council in 1976 set a height limit of 37 metres (121 feet) for new buildings within the city limits. This allowed famous monuments, notably the Eiffel Tower, to form the unique skyline of Paris and to give the city its significant urban identity. However, this unique skyline and urban identity is threatened by the urban requirements of globalisation, given that in 2010 the City Council raised the height limit to 50 metres in certain central areas and 180 metres in the city's outer areas (Karmelek, 2015).

4.3 *Evaluating the cases through a comparative study*

For a brief comparison of the two cases, see Table 1.

Table 1. A brief comparison of the cases of London and Paris.

Aspects of comparison	Case of London	Case of Paris
Urban spatial plan	The city's spatial plan contains the main urban components of global cities. 	Although the city's spatial plan contains the main urban components of global cities, the city centre (the historical heart) still has a classical urban spatial context. 
Historical areas	Like other historical European main cities, London has its classical urban context in the downtown area (City of London and Westminster). London's scheduled sites and listed buildings are individual structures that are distributed randomly in the city.	The whole central area is the Paris of Haussmann, which has a unique urban context of the 18th and 19th centuries.
Recognition of the current urban identity	The city has no prominent skyline that characterises the urban identity of the city as a contemporary global city or as a historical city with a local urban heritage. The urban identity is derived from London's long history and its contemporary role as a major global financial centre. 	The city has clear areas and each one has a dominant urban identity. The city centre still has its own classical urban identity. The global urban identity is clearly observed in the areas that are located outside the city centre, such as La Défense where the main CBD of Paris is located. 
Urban strategies and regulations	The supplementary guidance for London set regulations that protected strategic views in 1991. The 1994 Unitary Development Plan defined the historical areas and regarded the review of the boundaries of conservation areas as the city's duty. In 2000, the Greater London Authority was established. In the updated plan of 2009, the mayor of London described his vision and objectives to conserve historical areas and to ensure that London is a leading global city.	Haussmann set urban regulations in central Paris that were imposed on building façades and heights. He set a decree that buildings should not be more than five storeys high and roofs should have a 45-degree pitch to allow daylight to reach the sidewalks. In 1976, The City Council set a height limit of 37 metres (121 feet) for new buildings within the city limits. In 2010, it raised the height limit to 50 metres (160 feet) in certain central areas and 180 metres (590 feet) in the city's outer areas.

5 CONCLUSION

WMCs have transformed to today's global cities under the impact of the globalisation process. We live in an era of globalisation where there is socio-economic and cultural competition among the world's global cities. The cities that meet the mandatory urban requirements of globalisation are facing a serious challenge about the possibility of achieving a balance between conserving their local urban identity and the new globalised urban identity. This challenge is not a problem in the case of global cities that have no significant historical areas, such as Dubai; however, it is more complicated in the case of historical global cities. Generally, there is a dominant global urban identity that is commonly shared among the global cities.

The analytical comparative study of the cases of London and Paris clarified urban lessons about the issues of conserving historical areas through the roles of urban identity in today's global cities as follows:

- The two cases showed clearly that the conservation of historical areas is essential to obtain a significant urban identity that reflects the local urban heritage, notably in the era of globalisation.
- The conservation process is not limited to its direct concrete meaning, which concentrates on the preservation of historical buildings and the whole urban context. It also includes the protection of these areas to ensure the formation of a unique skyline, as clarified in the case of Paris, through urban strategies that aim to offer an integrated vision of the conservation process. This requires some restrictive policies such as a restriction on the height of new buildings and to offer designated areas for high-rise buildings; these areas have no negative impact on the skyline of the historical area, as was clear in the case of Paris through the establishment of the CBD, La Défense, out of the historical central area.
- In London's case, the GLA managed to conserve historical areas; however, this conservation was only to preserve the physical case of buildings and urban context and not to offer complete protection for the skyline of historical vistas, even under the 1991 supplementary guidance for London on the protection of strategic views. London competes to have a skyline that reflects globalisation (through high-rise buildings). This vision in the historical urban context means a city skyline of great complexity and diversity. It is an embodiment of the conflict between global urban identity and local urban identity.
- The urban identity of cities is derived mainly from their unique urban features. This means that there is a strong and direct nexus between urban identity roles and the conservation of historical areas, as those areas are the main physical components that form a significant urban identity. The urban identity of Paris is well known, even to non-professionals, through its unique skyline that is characterised by iconic historical buildings such as the Eiffel Tower, which is still almost the tallest building in central Paris.

It is obvious that the protection of urban identity is the responsibility of urban policymakers. Cities that have a significant urban identity also have significant conserved historical areas. The cases of London and Paris illustrate how the roles of urban identity of WMCs can be used to conserve these historical areas.

REFERENCES

Blowers, A. & Evans, B. (1997). *Town planning into the 21st century* (p. 71). London, UK: Routledge.

Charnock, G. (2013). Global city. *Encyclopaedia Britannica*. Retrieved from https://www.britannica.com/topic/global-city.

Ehrlich, B., et al. (2016). Paris. *Encyclopaedia Britannica*. Retrieved from https://www.britannica.com/place/Paris.

English Heritage. (2016). Retrieved from http://www.english-heritage.org.uk/.

Enright, T. (2016). *The making of Grand Paris: Metropolitan urbanism in the twenty-first century.* Cambridge, MA: MIT Press.

Ghavampour, E., Rabiee, Z., Norouzi, H. & Mansoori, S.A. (2008). Identifying effective elements in the landscape of historical districts (Typical sample: Oudlaajaan neighborhood in Tehran). In *2nd International Conference on Built Environment in Developing Countries* (pp. 1693–1705).

Giap, T., Thye, W. & Aw, G. (2014). A new approach to measuring the liveability of cities: The Global Liveable Cities Index. *World Review of Science, Technology and Sustainable Development*, *11*(2), 176–196.

Girouard, M. (1985). *Cities and people: A social and architectural history* (1st ed., p. 285). London, UK: Yale University Press.

Hague, C. & Jenkins, P. (Eds.). (2005). *Place identity, planning and participation*. London, UK: Routledge.

Hergül, O. (2014). Globalization: Effects to urban identity and relation with slow city movement. Retrieved from http://www.inter-disciplinary.net/critical-issues/wp-content/uploads/2014/04/CandanCengiz-up4dpaper.pdf.

James, P. & Steger, M. (2014). A genealogy of globalization: The career of a concept. *Globalizations*, *11*(4), 417–434. doi:10.1080/14747731.2014.951186.

Karmelek, M. (2015). Will skyscrapers ruin Paris? *Europe Newsweek*. Retrieved from http://europe.newsweek.com/will-skyscrapers-ruin-paris-330683?rm=eu.

Kearney, A.T. (2016). *Global cities 2016*. Retrieved from https://www.atkearney.com/documents/10192/8178456/Global+Cities+2016.pdf.

Keil, R. & Brenner, N. (2006). *The global cities reader*. London, UK: Routledge.

Kim, J. (2000). Understanding elements of local identity of place: Physical vs. personal-social attributes. In Wells-Bowie, L. (Ed.), *88th ACSA Annual Meeting, Heterotopolis* (pp. 451–456). Retrieved from http://apps.acsa-arch.org/resources/proceedings/uploads/streamfile.aspx?path=ACSA.AM.88&name=ACSA.AM.88.79.pdf.

Lang, J. (2005). *Urban design: A typology of procedures and products* (pp. 219–225). London, UK: Architectural Press.

Lean, G. (2015). Does our history have a future in the hands of the English Heritage Trust? *The Telegraph*. Retrieved from http://www.telegraph.co.uk/news/earth/environment/conservation/11441254/Does-our-history-have-a-future-in-the-hands-of-the-English-Heritage-Trust.html.

Lynch, K. (1984). *Good city form*. Cambridge, MA: MIT Press.

Oktay, D. (2002). The quest for urban identity in the changing context of the city: Northern Cyprus. *Cities*, *19*, 261–271.

Proshansky, H.M., Fabian, A.K. & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, *3*, 57–83.

Roumpani, F. & Hudson, P. (2014). The evolution of London: The city's near-2,000 year history mapped. *The Guardian*. Retrieved from https://www.theguardian.com/cities/2014/may/15/the-evolution-of-london-the-citys-near-2000-year-history-mapped.

Sassen, S. (1991). *The global city: New York, London, Tokyo* (1st ed.). Princeton, NJ: Princeton University Press.

Sassen, S. (2005). The global city: Introducing a concept. *Brown Journal of World Affairs*, *11*(2), 27–43.

Sepe, M. (2006). Sustainable walkability and place identity. *International Journal of Architectural and Environmental Engineering*, *1*(4), 50–55.

Tavakoli, N. (2010). The role of physical identity of city in urban sustainability (the case study: Yazd Iran). 14th International Planning History Society Conference. Retrieved from http://www.iphs2010.com/abs/ID216.pdf.

Torabi, Z. & Sima, Y. (2013). Urban identity in the entrance of city. *International Journal of Architecture and Urban Development*, *3*(4), 47–54.

United Nations. (2014). *World urbanization prospects: The 2014 revision*, *Highlights*. ST/ESA/SER.A/352. New York: Department of Economic and Social Affairs, Population Division.

Watson, G.B. & Bentley, I. (2007). *Identity by design*. Oxford, UK: Elsevier.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Entrance gateway of Kerala temples: Assessing the form of a Kerala temple gopuram through material and construction

M. Yamuna Vijayan
MARG Institute of Design and Architecture, Swarnabhoomi, Tamil Nadu, India

ABSTRACT: Every style of building construction reflects a clearly distinctive principle that represents a particular culture and era. In India, the temple and its associated structures evolved with time and the most identifiable difference is in their structure. Specifically in Kerala, a southern state of India, temple architecture is different from that in neighbouring states due to the obvious reason of its geography and various other factors. Gopurams (entrance gateways) are the principal structure of any temple complex. This led to the investigation of the difference in the form of a gopuram in terms of its material and construction. The topic demands a literature study of Dravidian and Kerala gopurams, followed by case studies of different types to support the investigation. In this research, the major reason behind the differences was found to lie in the geography of the state, which itself can be categorised into three different regions within the state such as Malabar, Kochi and Travancore. In addition, an analysis is done on the proportions of the gopurams. This is done by taking into account the dimensions of the temple as well as the structural elements of the gopuram. The conclusion summarises the principles of planning, differences in form, and the scope for future studies.

Keywords: Dravidian; Kerala; temple architecture; gopurams; proportions

1 INTRODUCTION

Symbolically, the gopuram or the entrance to a temple represents the feet of a deity. A devotee bows at the feet of the Lord at the entrance as one steps into the temple and proceeds towards the sanctum. Compared with the gopurams in the neighbouring state of Tamil Nadu the gopurams of Kerala are insignificant in height and dimensions (Sarkar, 1978). The purpose of this research is to investigate the origin of its form for an academic audience from the field of art and architecture either across the world or from the state of Kerala.

Study of the morphological differences in temple gopurams helps in understanding the underlying logic of their materials and construction. The research aims to give an insight into the practices of Dravidian architecture. The four questions that guide this work are as follows:

1. How did the form of the Kerala temple gopuram evolve in terms of its material and construction?
2. What are the types of temple gopurams seen across Kerala?
3. What are the materials and system of construction used in temple gopurams?
4. What are the rules and systems of proportion of temple gopuram construction?

The scope of the research analysis of morphological differences and studies the form of temple gopurams in relation to their materials and construction methods. Given limitations of time, specific case studies were chosen accordingly, avoiding the iconographic study of space and the details of craft in the structure. The study is limited to the typical architectural style and the importance of temples in the region. The investigation is purely based on the

observations of the sites and the existing literature. Any renovations to the structures maybe a threat to the validity of the study.

2 METHODOLOGY

The research was done in three phases: a literature study, data collection with case studies, and data analysis. The methodology adopted was a combination of desk, field and case studies. Primary data were collected through the study of the literature in the form of published books, mainly classical texts on temple construction and other books relevant to the topic. Secondary data were collected through scheduled interviews with experts in temple construction. Site visits were carried out to various temples as part of the case studies, which helped to reveal the visible peculiarities of various temple gopurams. The study was conducted on the temple gopurams of Travancore, Kochi and Malabar in Kerala.

3 BACKGROUND STUDY

The 'gopuram' is a Sanskrit word meaning a town gate or the gateway to a temple. Its etymology is uncertain and prominent scholars such as acharya, harle have suggested that, in early times, it referred only to the superstructure above the gateway. These structures are generally raised upon one or more of the cardinal axes of a temple. Gopurams provide a means of access through the outer walls that delimit successive enclosures. After their evolution in the 12th century, gopurams had larger significance in the Dravidian region. The smallest and simplest form of the gopuram is no more than a doorway pierced through a wall, whereas the largest can have a measurement of 150 feet or more on one side and a height of 300 feet (Brown, 1959).

3.1 *Characteristics of Dravidian gopurams*

The characteristic feature of agopuram is the entrance passageway at the centre. This entrance reaches up to its cornice, dividing the portion below into two equal and separate portions.

In most gopurams, the entrance consists of doorways. Two identical rooms on either side open into the central portion of the entrance. Termed the *garbhagriha*, the holy of holies in a shrine, according to Harle (1995), these are vestibules. They are very deep recesses rather than rooms. The vestibules of larger gopurams are divided into two storeys of the same height. The floor of the upper vestibules is frequently supported by columns. A staircase usually permits one to mount one of the upper vestibules and to the upper storeys. The floor of the lower vestibules is commonly raised as much as 4 feet above the level of the entrance.

An interior circumambulatory/semi-circumambulatory corridor runs around each vestibule. In all later South Indian temples, the upper storeys of gopurams are made of brick, plaster and stucco, whereas the lower portions are stone or faced with stone. The upper storeys form a pylon-shaped tower; these are surmounted by oblong-shaped pavilion with barrel-shaped roofs. Every storey has a large opening on either side above the entrance. It has been noted in practice that gopurams usually have an uneven number of storeys (Harle, 1995). The sides of the tower have a decreasing batter as the number of storeys increases.

The number of gopurams in a temple roughly depends on the number of enclosures. The earliest temple in South India had a single enclosing wall (Brown, 1959).

3.2 *Keralan gopurams*

Compared with the gopurams in Tamil Nadu, the gopurams of Kerala are insignificant in height and dimensions. Yet, they are endowed with grace and nobility, and the architects of Kerala have never allowed them to outshine the temple. Like the temples, they are also built of laterite and wood. Roofs are made of tile and rise to a maximum height of three storeys.

The evolution of the gopuram in Kerala temple architecture cannot be traced as the evidence is minimal, but a study on its similarity with the architecture of the temple was done. Even though the temple architecture of Kerala is within the mainstream of the Indian temple-building tradition, it has always followed its own indigenous method (Panikkar, n.d.).

3.3 *Characteristics of Kerala temple gopurams*

The characteristic feature of a gopuram in a Kerala temple is the form itself, because it is different from the rest of the region's temple gopurams. Like other Dravidian gopurams, this also has a passage that allows one to enter into the temple complex. This passage consists of a doorway that has a height twice its width and reaches up to the ceiling in certain cases. What is different is the location of the doorway: it is not in the middle of the gopuram, but placed towards the outside, in line with the compound wall. The entrance with the doorway reaches its cornice, dividing the area below into two equal and separate portions.

The entrance divides the gopuram into two identical spaces, as there is no room in the case of Kerala gopurams. This space on either side opens into the central portion of the entrance. The vestibules are deeper than the entrance and sometimes wider too. The vestibules are supported by columns over the plinth that normally reach a height of more than 3 feet in the Kerala temple gopuram. A stairway from the ground permits one to mount the plinth.

The upper storeys of Kerala temple gopurams are made of laterite, wood and, sometimes, granite, whereas the lower plinth is granite. For the walls, wood as well as granite is used. The roof, which rests on wall plates, is made of a roof frame consisting of a ridge beam, collar beam rafter, and purlins and tiles laid on top of it. India's second tile factory was started in Calicut (Kozhikode) in the year 1873 (Mani, 1990). Before that the gopurams had thatched roofs. In Kerala, the gopurams are always seen as a two-storeyed building. The side of the upper storeys is always recessed from the ground and the rest of the space is covered with sloping eaves. Consequently, gopurams have survived from earlier than the 7th or 8th century AD. A background study of both Dravidian and Kerala temple gopurams was done to trace the evolution of the structure (Figure 1).

Figure 1. Evolution of Dravidian and Kerala temple gopurams.

4 PRINCIPLES OF GOPURAM PLANNING

4.1 *Dimension of gateways*

The *panchaprakaras* (five enclosures) are sometimes built as five solid walls. In such cases, entry gate structures (gopurams) are provided in each enclosure and are named *dwarasobha*, *dwarasala*, *dwaraprasada*, *dwaraharmyam*, and *dwaragopura* from the innermost to the outermost walls. The dimensions of these gopurams as well as the number of storeys, increases as one proceeds outwards (Prabhu & Achyuthan, 1996).

The width of the *dwarasobha*, gateway of the first enclosure, is six-sevenths that of the main temple; those of the gateways of the second, third and fourth enclosures are, respectively, seven-eighths, eight-ninths and nine-tenths. The width of the fifth enclosure, the gopuram, is ten-elevenths that of the main temple. This applies when the temple is small or very small (Dagens, 2007). The length of the gopuram is double the width for the fifth enclosure (Namboothiripad, 2013). The projection of the gateway is a quarter and two-fifths that of the outside of the enclosure walls in the third enclosure (Figures 2 and 3).

Heights calculated from their widths should be ten-sevenths, six-quarters, nine-fifths, and double. The height of the gateway is calculated as follows: the height of the base is three-quarters, four-fifths, five-sixths, six-sevenths, seven-eighths, eight-ninths, nine-tenths, ten-elevenths or eleven-thirteenths that of the base of the main temple.

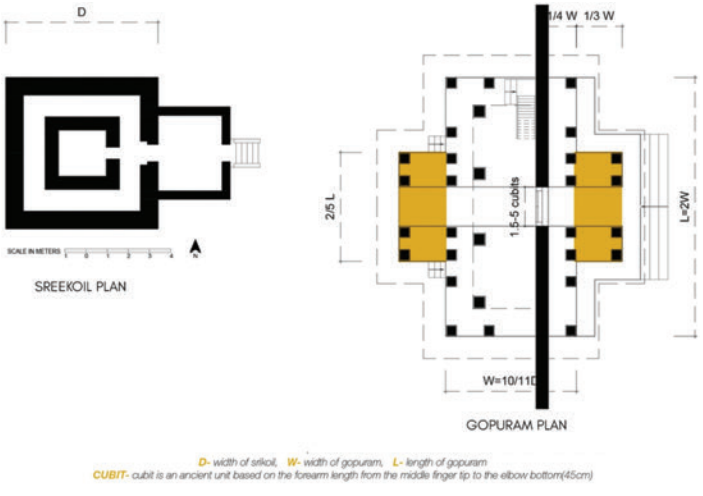

Figure 2. Proportion of the gopuram in relation to the temple plan (Source of base drawing: Kasturba, 2014).

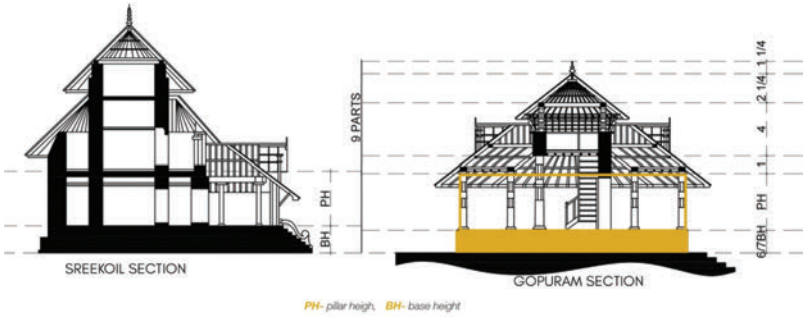

Figure 3. Proportion of the gopuram in relation to the temple section.

The height of the gateway pillars is the same as that of the main building or may be seven-eighths, eight-ninths, or nine-tenths of it; the pillars are sunk into the base at the bottom right down to the regulating course.

5 CASE STUDY

5.1 *Types of gopuram across Kerala*

There are three types of gopurams in Keralan temples, namely, open-type, closed-type and combination-type gopurams, depending on the form (Figure 4).

With study criteria including the form, material and construction of this region and the availability of adequate documentation, the following three temple gopurams were chosen for the case studies: 1) Tali temple of Calicut; 2) Vadakkumnathan temple of Thrissur; 3) Kaviyoor Mahadeva temple of Pathanamthitta (Figure 5).

5.2 *Tali temple gopuram, Calicut*

The Tali temple is a Siva temple situated in the northern part of the state of Kerala. Its gopuram form can be classified as the combination type, as we have an open ground floor and a closed upper floor with brackets and reapers.

The plinth and the pillars of the Tali temple are made of granite. The enclosure wall is made of laterite. The wall plate and the secondary wall plate above the pillars are made of timber. The framework for the ground-floor porch roof forming the gable is also made of timber. On the first floor, the walls are made of laterite and the pillars above it are granite covered with timber brackets and reapers. The first-floor roof structure is also made of timber with Mangalore tiles laid over it.

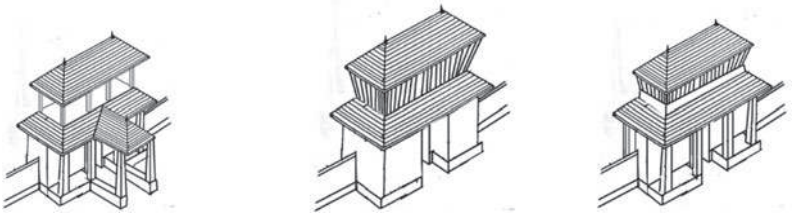

Figure 4. Types of gopuram: (from left) open type, closed type and combination type.

Figure 5. Case studies: (from *left*) Tali temple of Calicut, Vadakkumnathan temple of Thrissur, and Kaviyoor Mahadeva temple of Pathanamthitta.

5.3 *Vadakkumnathan temple gopuram, Thrissur*

The Vadakkumnathan temple, situated in central Kerala, is the first Siva temple believed to be created by Lord Parasurama. Its gopuram form can be classified as the closed type, as all three floors are closed with thick walls.

The plinth that forms the base structure is made of granite. The enclosure wall is made of laterite. The wall plate and the secondary wall plate that comes above the wall are made of granite and wood. The eaves of the ground floor are made of timber with Mangalore tiles laid over it. The framework for the ground-floor ceiling is also made of timber. On the first floor, the walls are made of laterite and the pillars on both sides are made of granite. This is the arrangement on the exterior wall. The first-floor eaves have the same timber framework with Mangalore tiles. The first-floor ceiling is also made of timber. The same materials are repeated on the second floor and the main roof frame is made of timber alone.

5.4 *Kaviyoor Mahadeva temple gopuram, Pathanamthitta*

The Kaviyoor Mahadeva temple is one of the important Siva temples, located in Kaviyoor, Pathanamthitta District in southern Kerala. Its gopuram form can be classified as the combination type, as there is an open ground floor with pillars and a closed upper floor with brackets and reapers.

The plinth and the pillars, which form the base structure, are made of granite and timber, respectively. The wall plate and the secondary wall plate that comes above are made of timber. This continues to its eaves as well. The framework for the ground-floor porch roof forming the gable, the pillar above the wall with the brackets and reapers, and the first-floor roof structure are all made out of timber.

6 ANALYSIS

6.1 *Analysis of proportions*

The height of the three temple gopurams varies dramatically from north to south, especially the one from central Kerala. This is because of the temple it belongs to. The gopuram takes its plinth and pillar height from its *garbhagriha* (innermost sanctum).

The height of the gateway pillars is the same as or in proportion to that of the main building; the pillars are sunk into the base at the bottom, right down to the regulating course. The door rises to the architrave and has a width half its height.

The gopuram of the Vadakkumnathan temple has the largest size compared with those of the Tali and the Kaviyoor Mahadeva temples.

The width of the fifth enclosure, the gopuram, is ten-elevenths that of the main temple. This applies when the temple is small or very small. In the three case studies, the gopurams of all three temples have a proportion of ten-elevenths that of the main temple.

Once the width of the gopuram is finalised, the rest of the dimensions are determined from the width of the gopuram; for example, the length is twice the width of the gopuram. The length should be two and two-thirds of the width of the gopuram as prescribed by Mayamatam, and double as prescribed by Tantrasamuchaya.

6.2 *Analysis of materials*

The materials used for gopuram construction were similar to those of the main temple. In the case of temple gopurams in northern Kerala, this is evident because of the availability of granite. The temple gopurams in southern Kerala largely used wood for the *garbhagriha*. The roofs are always in wood covered with Mangalore tiles.

The roof is the most important element in any traditional structure and that is what distinguishes it from region to region. Local variations in the arrangement of the rafters and the ridge beam are seen. These should be indigenously developed. In earlier methods, all the rafters were slanting towards the ridge. The measurement and joinery details should be

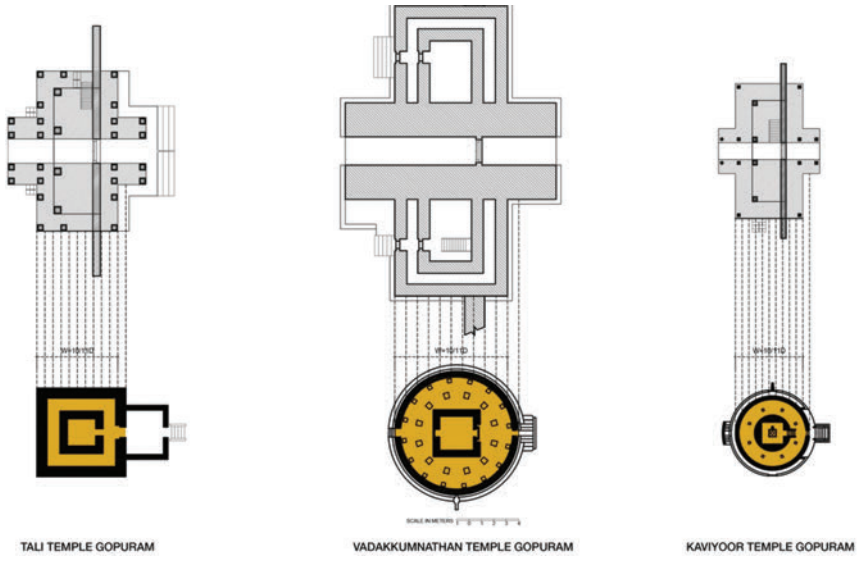

Figure 6. Temple gopurams in relation to their respective *garbagrihas*: (from *left*) Tali, Vadakkumnathan, and Kaviyoor Mahadeva temples.

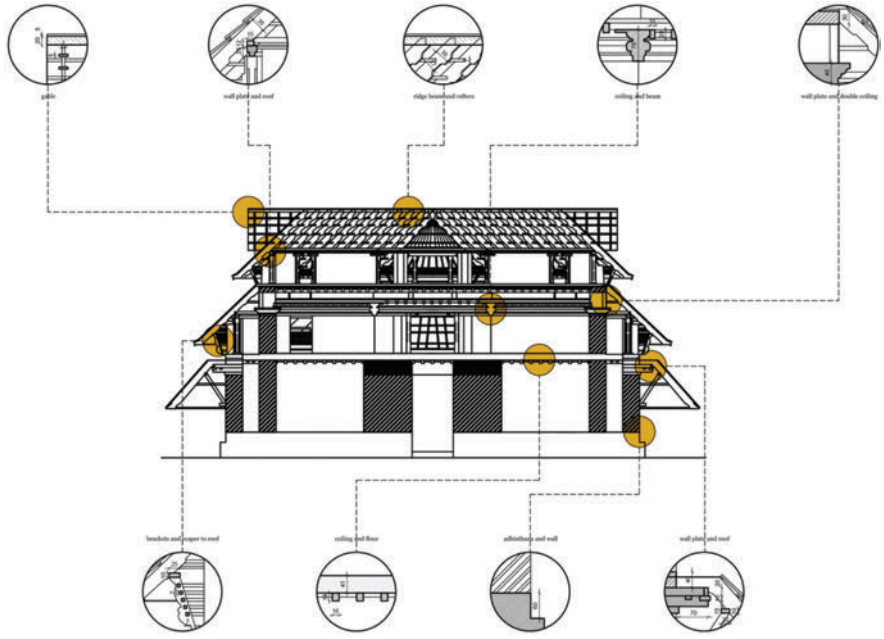

Figure 7. Construction and building material details of the Vadakkumnathan temple gopuram (Source of base drawing: Archeological Survey of India, Thrissur).

worked out independently for each rafter. This is seen in the Tali temple gopuram and the Vadakkumnathan temple gopuram. The last stage of roof development avoided the slanting roof system; here, the rafters were perpendicular to the ridge beam. This is seen in the Kaviyoor Mahadeva temple gopuram. Even though all three had different systems, their appearance is the same except that the Kaviyoor Mahadeva temple does not have the gable (Figure 7).

Generally, temples in Kerala use wood as a building material, mostly in the superstructure; blocks of laterite are used for constructing walls, and granite and wood are used for pillars. The widespread use of laterite as a building material in South Indian architecture is by no means a distinctive trait of Kerala temples. In fact, laterite is available in areas of heavy rainfall, and as an abundant raw material it inevitably finds its way into traditional architecture.

A concentration of wooden temples is also found in the districts of Kottayam and Alleppey in Kerala. In such temples, even the walls are made of timber, bearing beautifully carved panels devoted to themes from various epics. However, plinths are invariably built of granite mouldings. The roofs are made of timber.

6.3 *Analysis of construction*

The dimensions of the gopurams follow the principles of proportion, until the width of the wall in the case of the Vadakkumnathan temple and until the width of the column in the case of both the Kaviyoor Mahadeva and Tali temples. These proportions are not followed in the case of the outer columns that form the verandah space. This could be because of the eaves that they support, as in the case of the inside columns that need to support all of the upper storeys.

As far as roof construction is concerned, the members of the roof system take their dimension from the width of the columns. This is not visible in the three different cases of temple gopurams studied here, which have the same roof structure. The dimensions of members are decided by the carpenters building the roof. The dimension given to them is the perimeter, according to which they build the roof frame.

The roof members of any gopurams are made beforehand and assembly is carried out on site. What make the Kerala gopurams different from the Dravidian ones are the portico and the roof. The portico of temple gopurams, as prescribed by the architect, is one-third of the width of the temple gopuram. This could be an influence of residential structures of the region, where importance is given to the sit-out or verandah that greets guests (Figure 8).

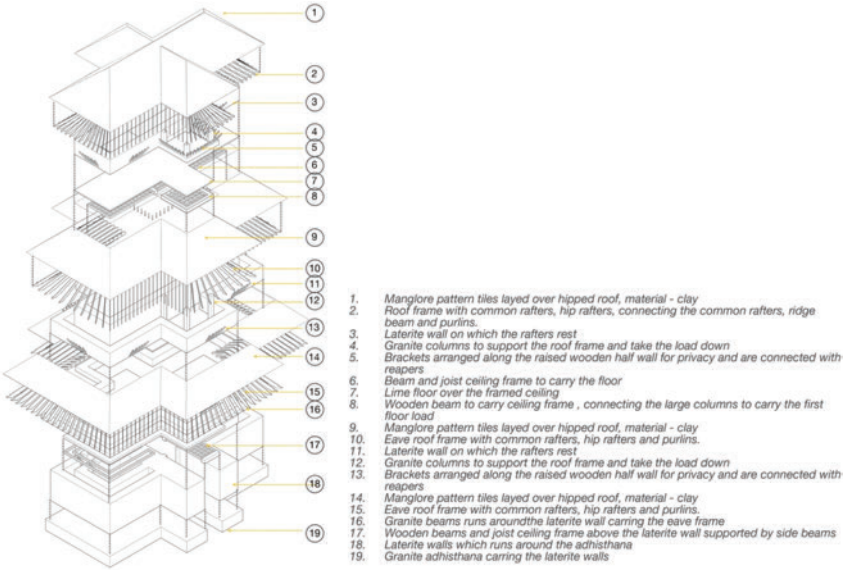

Figure 8. Exploded model of the Vadakkumnathan temple.

7 CONCLUSION

Temples were built in Kerala before the Christian era. The built form of the *garbhagriha* of Kerala has undergone evolution through centuries, as have the temple gopurams following their introduction in the 13th century, which is clearly evident from the three cases studied here. Keralan temple gopurams differ from those in other Dravidian regions in several ways.

7.1 *Principles of planning*

The principles and canons are strict in the planning, design and construction of temple gopurams, yet have flexibility for adaptation. There is an evident lack of proportion in the roof system or first-floor elements such as the *jalis* (latticed screens) of temple gopurams, which have not been mentioned in any temple architecture literature.

The main differences of Kerala temple gopurams from other regular Dravidian gopurams are the plan shape and interior and exterior spaces. There are differences in aspect ratio, axes of symmetry, and degree of difficulty in the construction.

7.2 *Differences in form*

The environmental factors prevalent in a region play a major role in determining the structures of a building, as seen in all the three case studies. The terrain, available materials and microclimate of these regions vary considerably and these variations are seen in the buildings. The choice of material has been gradually rationalised to suit their availability, structural strength, and economy. The upper floor of the Kerala gopuram became the significant space, which was different from the general principle of gopuram planning. This theory excludes the outer dimension of the gopuram being strictly followed as per the rules set in the classical books of Tantrasamuchaya and Mayamatam.

7.3 *Scope of future studies*

This study, arguably a pioneering effort, has its own uniqueness, fresh outlook, and innovative ideas. The study should be helpful to those who want to do research in this or similar topics, such as architecture students, teachers, engineers and architects. It contributes to the body of knowledge of structural spaces and forms of temple gopurams. The study may be taken as the beginning of a fresh approach to the study of Keralan temple gopurams with respect to their structural spaces and forms. It is evident that further studies are required on such topics.

REFERENCES

Acharya, P.K. (1946). *An encyclopaedia of Hindu architecture*. London, UK: Oxford University Press.

Acharya, P.K. (1980). *Architecture of Manasara: Illustrations of architectural and sculptural objects with a synopsis*. New Delhi, India: New Delhi Oriental Books Reprint Corp.

Begley, W.E. (1964). *Book review of Temple gateways in South India. The architecture and iconography of the Chidambaram gopurams* by J.C. Harle. *Journal of the American Oriental Society*, 477–480.

Brown, P. (1959). *Indian architecture: Buddhist and Hindu periods*. Bombay, India: D.B. Taraporevala Sons & Co.

Coomaraswamy, A.K. (1931). *Early Indian architecture. Eastern art*.

Creswell, J.W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches*. Los Angeles, CA: Sage Publications.

Dagens, B.E. (1994). *Mayamatam: Treatise of housing, architecture and iconography* (Vols. 1 and 2, 1st ed.). New Delhi, India: Indira Gandhi National Centre for the Arts.

Dagens, B. (2007). *Mayamatam: Treatise of housing architecture and iconography* (Indira Gandhi National Centre for the Arts) (Vols. 1 and 2, 2nd ed.). New Delhi, India: Motilal Banarsidass

Publishers. Fischer, K. (1955). Some discoveries in Indian art. *Transactions of the Archaeological Society of South India*.
Hardy, A. (2007). *The temple architecture of India*. Chichester, UK: John Wiley & Sons.
Harle, J.C. (1995). *Temple gateways in South India. The architecture and iconography of the Chidambaram gopurams*. New Delhi, India: Munshiram Manoharlal Publishers.
Jouveau-Dubreuil, G. (1914). *Archéologie du sud de l'Inde* [Archaeology of South India]. Paris, France: Paul Geuthner.
Kasturba, A.K. (2014). *Architecture of Kozhikode Tali temple*. Kozhikode, India: Vastuvidya-pratisthanam.
K.P., D.S. (2013). Timber temples of Kerala: Ettumanoor temple. *Journal of the Indian Institute of Architects*, 21–25.
Kramrisch, S. (1976). *The Hindu temple*. New Delhi, India: Motilal Banarsidass Publishers.
Mani, K.P. (1990). *Tile industry in Kerala: Economics, problems and prospects*. Cochin, India: Cochin University of Science and Technology.
Mathew, E. (2014). *Space making elements as reflection of religion and culture in traditional houses of Kerala*. Ahmedabad, India: CEPT University.
Michell, G. (2001). *Encyclopaedia of Indian temple architecture: South India Dravidadesa: Later phase, C.A.D. 1289–1798*. New Delhi: American Institute of Indian Studies.
Namboothiripad, C.N. (2013). *Tantrasamucayamshilpabhagam*. Thrissur, India: Panchangam Press.
Nayar, V.S. (1998). *Vadakkumnathan temple complex*. Mumbai, India: Manan Prakashan.
Panikkar, S. (n.d.). *Temple tradition in Kerala*. Thiruvananthapuram, India: Kerala Council for Historical Research.
Pichard, P. (2002). *Tanjavur Brhadisvara: An architectural study*. New Delhi, India: Aryan Books International.
Prabhu, B.T. (2003). Preface to Manusyalayacandrika. *Sthapati*, *5*(4), 50–52.
Prabhu, B.T.S. & Achyuthan, A. (1996). *A textbook of vastuvidya*. Kozhikode, India: Vastuvidya-pratisthanam.
Rao, P.R. (1956). *The art of Nagarjunikonda*. Madras, India: Rachana.
Sarkar, H. (1978). *Architectural survey of temples of Kerala*. New Delhi, India: Archaeological Survey of India.
Thampuran, A. (2001). *Traditional architecture forms of Malabar Coast*. Kozhikode, India: Vastuvidya-pratisthanam Academic Centre.
Thampuran, A. (2002). Methodology for conservation of ancient temple structures in Kerala. *Sthapati*, *4*(2), 28–29.

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Expression of cultural identity in the contemporary urban built form of Kathmandu

Brinda Shrestha
Independent Architect/Urban Planner, Nepal

ABSTRACT: The paper is aimed at studying the contemporary urban built form and the present contemporary scenario of Kathmandu Valley. A descriptive study, through site observations and literature studies, has been used as a research method to understand culture, identity and built forms as well as support its significance. The paper then proceeds with discussing the historical urbanism of Kathmandu and its attempt at showing the collective identity and discussing further the changing contemporary environment in Kathmandu. Moreover, it discusses the symbolic message of identity and all that it resonates. The research then reviews some of the issues and challenges faced by contemporary Kathmandu. However, it attempts to emphasise that traditional institutions, which gave meaning to the city, are not yet obsolete. The paper then concludes that the expression of cultural identity in developing historical and cultural cities like Kathmandu is challenging. It undermines its ancient forms to participate in modernism and questions its legitimisation, especially when contemporary changes are set within the already existing built forms.

Keywords: contemporary urban built form; historical urbanism; collective identity; cultural identity

1 INTRODUCTION

Kathmandu Valley is the historical and cultural centre of Nepal. Being the capital city, Kathmandu is also the economic and administrative hub of the country. In the case of Kathmandu Valley, urbanisation is the outcome of autonomous growth (Shrestha, 2013) that occurred as a result of the pressures caused by increasing population, given that Kathmandu Valley alone has a population of more than 2 million people with an average population growth of 4 per cent per annum (Shrestha, 2013; World Bank, 2013). Studies indicate that the homogeneity of the city has been much affected due to various pull factors (Thapa et al., 2008; Subba, 2003; Shrestha, 2013), while the challenges of the urban built form of Kathmandu lie in finding a balance between modernism and the essence of the city. Amidst its significant historical urban settings (Tiwari, 1999), Kathmandu today stands as a city struggling to balance its past and present needs.

1.1 *Significance*

The issue of cultural identity (Frampton, 1983; Zhang, 2010; Gospodini, 2002; Maghub, 2006) is becoming a universal concern in contemporary urban societies. The clash of traditional notions of urban built forms with modernism has made it essential that social notions be changed in terms of urban space. Thus, the issue of establishing identity in contemporary development becomes critical in dealing with the urban built form in a developing city like Kathmandu, which has witnessed the ancient history of city planning through cultural and religious manifestations.

2 THEORETICAL BACKGROUND

Culture is defined as a set of values and beliefs that bond people and associate humans with time; culture also shapes people's relationship with their natural environment and governs their daily lives. In simpler language, culture has been explained as the summation of our everyday practices and the way we live our everyday lives, our behaviours, beliefs, ideologies, or the institutional frame of social interactions. The process of city formation, therefore, revolves around these values and beliefs that help shape the habitat and tailor it according to the needs of its inhabitants. Culture also sets the unique attitude of a city that has been created as a result of history and the people's interaction with space.

Identity, however, is sense of belonging to a place; it is the means by which people establish themselves as members of communities or groups and it influences how they define their place in society. The shared collective values associated with culture affect the forms of buildings and places and this distinguishes one urban form from another. The identity of a city includes the physiological construction of identity that is driven by the common features of its community, which shapes the city form.

2.1 *Identity and the built form*

Mumford (1938) states that the city is a product of time with its tangible and intangible forms layering the past times through cultural and social activities, while humans play the role of actors in setting cities as the stage to showcase dramas related to human life. In this regard, Correa (1983) defines identity as a process and not as a fixed object. However, because architecture is a tangible and static concept, it does not change with the intangible moments of cultural change in accordance with time. Hays (2016) believes that the act of creating architecture is an imaginative process that produces memories as well as a possible future and also suggests dynamism of cities. Frampton (1983), with his theory on critical regionalism, argues that architecture is about mediation between modern architecture and values associated with the place and its geography, although the thought has been criticised by visionary architects and those who argue for more high-tech economic advancement. These definitions raise complex questions of identity and the relevance of the city with time dimensions. Identity is relatively an abstract visualisation rather than a tangible concept. The identity of a city is embedded within the layers of sentiments and meanings derived from various symbolic sources within the city, such as the built form, culture, history and the meaningful association of all these. Finding the identity of developing cities is challenging, as on the one hand there has to be a link with roots of the city and its people, and on the other hand, the changes in the city should coincide with newer concepts. Thus, highlighting a city's cultural identity is considered a major defensive tool in re-establishing its lost identity.

The built form (Gehl, 2001; Low & Lawrence, 1990; Lynch, 1960; Zhang, 2010) is an abstract concept that describes the physical building activities carried out by humans while taking into consideration their utilitarian needs and also mediating human relations with the natural environment. Through the built form, humans establish both tangible and intangible relationships with nature allowing them to create spaces for living. Tangible entities mostly include buildings, walls, or roads while the intangible relationship with built forms is the human association with these forms and the application of their cultural beliefs.

Hence, the built form is not only what is visible or can be touched, but it also represents the society, the community and the beliefs of people. Therefore, every built form has two dynamics of approach. First, it is built for the utilitarian purpose of the individual; second, it associates with the collective purpose of the community or group. While socio-cultural needs, defensive needs and ornamental needs were the primary purpose of the collective identity of the built form in the past, the purpose of today's city is continuously discussed between various professional groups or among various stakeholders.

3 HISTORICAL URBANISM OF KATHMANDU

Kathmandu witnessed a prolonged history of urban development and city planning, which led to the urban development in the valley that was able to sustain itself over a period of more than a millennium (Tiwari, 1999). The history of urbanisation in Kathmandu dates back to as early as the 6th century with four major civilisations, namely, Kirat, Lichhavi (100 BC–AD 1000), Mallas (AD 1257–1768) and Ranas, that contributed to various aspects of urban planning. Historical records state that settlements existed in Kathmandu in the Kirat dynasty. Settlements later existed in the Licchavi, Malla, Rana and Shah periods, respectively, which witnessed the transformation of the city coinciding with the development of modernism (Thapa et al., 2008).

The historic urban form, especially in the Malla period, is one of the significant urban forms that gave the city its identity. The compact built form, the mixed-use concept and uniformity in design gave the traditional urban form its well-defined identity. Residential buildings established around courtyards or in open spaces aligned sunlight and gave people a common space for interaction, which enhanced the strong feeling of unity within the community. The mixed-use concept, with mostly interactive ground-floor space for shops in prime axial roads, gave the built form a visually interactive space for people to walk and wander with inquisitiveness. Elevations of buildings were inspired by the symmetrical design concept, the ornamental approach through the use of bricks and wood, and the uniformity of design in the neighbourhood. Most building structures were created on a regular human scale for human use; however, other monuments like palace buildings were built on a much larger scale so that they could visually stand out. In the traditional urban form, streets were lively with strategic integration of social, religious and cultural activities within the physical construction of streets and street landscapes. The ratio of the width to height was generally 1:1.5 (Shrestha, 2011a), which made the streets seem livelier with a sense of openness. The legitimacy of the built form was understood in terms of elements of the city like edges, landmarks and nodes. The city expressed a collective identity rather than an individual one and was driven by social and cultural needs rather than individual needs (Lynch, 1960) (Figure 1).

Scholars reveal that one of the many reasons that the traditional urban neighbourhoods have remained and were sustained, is the application of socio-cultural practices in the development and continuity of society. The integration of intangible philosophies of culture and

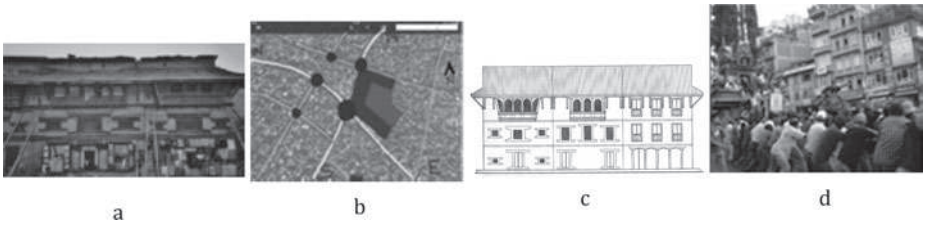

Figure 1. (a) Temple-/palace-centric ancient settlement concept; (b), (c) Traditional Malla residential house form; (d) Age-old chariot festival of Malla period, still practised as a communal festival in the urban core of Kathmandu Valley (Sources: (a) Google Maps 2016, modified; (b) Site visit; (c) Korn (1977); (d) Photographer Prashant Shrestha, retrieved from http://bit.ly/2ofDd7o).

Figure 2. Mix of western neoclassical architecture and Malla architecture of the valley, as observed in Durbar Square of Kathmandu (Source: Site visit).

socio-religious beliefs (which are continuously being practised by local inhabitants, even today) with physical settings, through various communal festivals and rituals of life, is what made these urban forms survive until today. The historical traditional cities (Malla cities and towns) had major objectives of forming a collective identity by creating built forms for socio-cultural, defensive and ornamental needs. Their phenomenal town planning norms, which were based on the social and ritual planning system, mostly conformed to the history of urban planning in these eras. However, in the later period of history during the Rana regime, the importation of the Western neoclassical form interacted with the local identity. This period of urban form basically contributed to the grandness of buildings, large Rana palaces, and open-fronted gardens. There were also wide roads axially connected to the palace buildings (Wright, 1990). However, this did not comprehensively affect any of the urban practices; it only added neoclassical architectural vocabulary to medieval buildings (Figure 2).

4 CONTEMPORARY KATHMANDU

In the contemporary history of Kathmandu Valley, the years 1950 and 1990 mark the important phases. The process of urbanisation beyond the historical urban form started after 1950 with the end of the autocratic Rana regime and the start of the democratic movement (Thapa et al., 2008). However, with the absence of local architects and professionals, many buildings established during that time were significant contributions from renowned foreign architects, including Carl Pruscha, Tadao Ando, Louis I. Khan and Robert Weise (Shah, 2014) (Figure 3). Nevertheless, during that time, modernism mainly flourished through governmental and international projects financed by foreign aid and technical assistance; this did not greatly affect the local civic context. The decade-long political conflict after the 1990s contributed to the rapid and autonomous urban growth of Kathmandu with significant pressure from the migratory influx (Shrestha, 2011b). Today, the contemporary urban form of Kathmandu, is characterised as the chaotic urban growth in the central core with an increasing urban sprawl in its peripheral land, with no new modern planned form.

For this study, broadly contemporary changes are studied as transformations in residential, commercial and government-owned buildings through site observations and literatures studies.

4.1 *Transformation in residential built forms*

Residential neighbourhoods constitute the major urban built form of the city. Broadly, these can be categorised as residential forms in the core of the city, haphazard organic sprawls, and planned residential developments.

In the urban core, the transformation of residential built forms can be observed through interventions made with added floors in brick concrete works, replacement of sloped roofs with flat terraces, and vertical division of houses due to property division. Floor storeys mostly changed from three storeys to five or more, either by replacing sloped roofs with additional floors or by new construction, while floor height changed from the traditional height of 7 feet to a height of 9 feet. This resulted in the change of the skyline of the urban core,

Figure 3. Contribution of foreign architects in construction of modern buildings in Kathmandu: (*left*) Taragaon Hotel, architect Carl Pruscha; (*right*) Ministry of Health, architect Louis I. Khan (Sources: (*left*) www.taragaonmuseum.com ; (*right*) Retrieved from www.landolia.com).

which intervened with traditional physical forms. Other aspects of change can be observed through the adoption of reinforced concrete as a technique for structural construction. This allowed for increased flexibility in height and the use of large glass openings that replaced the traditional wall structure system that used bricks and wood. Significant changes can also be observed in finishing materials where most new constructions have plaster finishes, as opposed to the traditional urban form that involved bricks. The adhoc vertical and horizontal division of houses, among their legal heirs, have further expressed the conflicting nature of built forms. To meet the demand of the migratory population, the functional dynamics of houses have changed to multiple rental households instead of individual family households.

Growing residential developments in the valley's suburban agricultural land, which is mostly self-desired and self-developed by individual residents, follow traditional practices of owner-built developments (Shrestha, 2010). Unplanned sites and infrastructure development are characteristics of residential built forms in Kathmandu Valley. Another form is the planned residential development. According to a research study conducted by Shrestha (2013), these planned residential developments clearly lacked the features of a 'residential neighbourhood' in terms of the poor sense of place, low opportunity for socialisation, poor community coherence and ineffective physical planning, as they fail to address local aspiration. For example, they lack community interaction, functional open space and a cohesive sense of identity influenced by religious and social manifestations.

Thus, residential built forms take on various architectural forms and design vocabularies. As Castells (2010) describes, these residential developments reflect 'individual identity' driven by the choice and decision of the owner.

4.2 *Transformation in commercial built forms*

Commercial built forms constitute an important part of the urban city. They are mostly observed in two distinct forms: first, as the continuity of the open-market conceptualisation of traditional market squares; and second, as emerging commercial complexes of modern days, intermingling within the old planning concept of the city.

Even today, traditional market squares are occupied by people who are shopping for daily needs. According to Gehl's (2001) concept of public place, these squares, to some extent, execute the concept of place with interactive ground-floor activities, open roofs, sense of belonging, community coherence and diverse pedestrian activities. These public built forms are still viable today. In the contemporary environment where commercial complexes are emerging to participate in modernisation, the viability of these commercial concepts give different dimensions to the city's identity. (Figure 5 a, b)

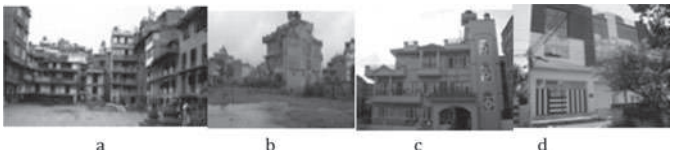

Figure 4. Changing residential forms in Kathmandu: (a) inside urban core; (b) in government-intervened land development site; (c), (d) different individual architectural forms in new developments (Sources: Site visits).

Figure 5. (a), (b) Ancient concepts of commercial markets; (c), (d) Stretch of old commercial buildings transformed to new forms through various modern interventions (Sources: Site visits).

In modern times, there is a growing trend of developing commercial built forms as indoor commercial complexes and multiplexes as per the need and demand of time. Broadly, these can be categorised as commercial built forms in the core and new commercial complexes, synchronising with autonomous development patterns. In the urban core, commercial built forms are set within the available vacant land or are established by transforming old buildings to new ones. The transformation of old buildings to new ones can be observed through various interventions such as changing the functional dynamics of the old mixed-use concept to new commercial use, changing the skyline of the old uniform row housing, and replacing traditional building materials with new ones. As a consequence, these built forms reflect the degree of complexity and variance in visual perceptions (Figure 5 c, d).

In new commercial buildings, one can visually perceive various architectural designs and concepts. Individually, these built forms are driven by the utilitarian need of economic transitions and they are set within the old comprehensive urban settings, which include the existing roads that were developed after the 1950s. These commercial complexes lack the abstract relationship with their urban environment. However, due to the crucial challenge of availability of land, their height is mostly limited to five or six storeys. Functionally, the attempt to transform open commercial activities to indoor economic functions, mediated by modern facilities and services, has made these buildings reflect the change in the lifestyle of new generations in society. Individually, most of these buildings coincide with the perceptions of modernism when it comes to style, form and materials used, but less so with regard to the concept of place, as very few of the recently emerging commercial complexes are attempting to contemplate the intangible relationships with the local urban environment.

4.3 *Transformation in government-owned buildings*

According to Spanish sociologist Castells (2010), government buildings assume the role of creating a nation-centred identity through the legitimisation process. In the case of Kathmandu, most government-owned buildings in the contemporary environment function inside the historical Rana and Malla palaces. Using the adaptive reuse principle, these built forms mediate between modern interior functions and historic forms of the past. The reuse of historic palaces for contemporary institutional purposes reflects the recognition of the need to re-establish old built forms to establish the local identity in the contemporary environment. Courtyard planning, passive building technology and open spaces in buildings maintain the interactive urban environment against the conflicting modern identity of the city. Open spaces like courtyards, gardens and water fountains of neoclassical Rana buildings have provided breathing space in government-owned buildings, which otherwise would have lacked the open spaces that are required by people.

On the other hand, most newly constructed government buildings have a blended architectural identity that is usually inspired by traditional elements, shapes and principles. Visually, these buildings seem to contribute to the symbolic representations of significant traditional concepts, trying to reassert local identity in new built forms (Figure 7).

4.4 *Ambiguity of contemporary changes in Kathmandu*

In the absence of modern planning implementations, or with plans limited to paper, the contemporary changes in Kathmandu can be visually perceived as self-driven, problem-solving

Figure 6. New commercial built forms in the major commercial hub of Kathmandu (Sources: (*left*, *middle*) Site visits; (*right*) Retrieved from www.labimmall.blogspot.com).

Figure 7. Government-owned buildings: (*left*) Central administrative office of the prime minister; (*middle*) Nepal Tourism Board; (*right*) Newly constructed presidential office (Sources: (*left*) Retrieved from www.bit.ly/2p589Eh; (*middle*) *The Himalayan Times*, 12 February 2016; (*right*) Roshan Shrestha, Architect/Urban planner, Nepal Government).

activities given the people's desire for change. In the inner core of the city, treating the age-old buildings merely as property has generated ad hoc divisions, structural changes, and a degree of complexity that mostly caused the changes in form. In new constructions, there seems to be a trend of being externally influenced and generating individual built forms, creating a mixture in the vocabulary of both style and design. Intermingling with already existing built forms, these new urban forms produce a mixture of variance and diversity. In the lack of holistic vision, contemporary urban forms express the identity of autonomous changes. The existing patterns of changes suggest that contemporary built forms lack shared collective associations and intangible relationships with the place. However, emerging changes in the skyline, adoption of new material technology and the demand for a new concept of commercial space all indicate the readiness of Kathmandu to implement modern changes and look for new future possibilities.

Even though there has been an attempt to reflect the local identity that has been inspired by the symbolic use of traditional elements and architectural properties, there is a trend of treating buildings as fragmented units and not as part of a holistic urban form. This has further contributed to the ambiguity generated by contemporary built forms in Kathmandu.

5 INSTITUTIONAL WEAKNESS

At the national level, Nepal has experienced continuous instability since 1990 (Maoist revolution), with remarkable changes brought about by the conflict and a complete restructuring of the nation from a constitutional monarchy to a federal system. At the state level, urban development is not a prioritised goal (Shrestha, 2011b). The establishment of the Nepal Engineering Council and the Society of Nepalese Architects in the 1990s does prove that engineers have been recognised as professionals for years; however, these engineers are struggling to be socially recognised and accepted by the people. The physical development plan of Kathmandu Valley prepared in 1969 is the only comprehensive planning document that used a rational approach to address urban development in Kathmandu Valley (Nepal Government, 2003); however, the implementation of this plan has not been successful. At the local level, building bylaws and the Nepal National Building Code are the only documents that guide and control the development process, but these documents were not enough to address the contemporary change in the holistic approach. The National Urban Policy of 2007 (Nepal Government, 2007) does try to revive recommendations of the physical development plan of 1969, but it suffers from implementation and coordination challenges among various stakeholders. The establishment of the Ministry of Urban Development in 2013/14 clearly suggests that a rational planning approach through plans and policies for the contemporary building process is new and is just starting to emerge.

6 ISSUES AND CHALLENGES

The contemporary urban built form in Kathmandu is observed as the outcome of the pressure of the people's demand as opposed to the outcome of modern planning efforts.

The major challenge of the contemporary urban built form in Kathmandu is that it is implemented either on already existing buildings or on spaces of green-field development that have already been produced, hence creating dissociations in built forms. The recent recognition of modern urban development as a holistic and comprehensive process by the government shows how untimely the established institutions are in intervening in the urbanisation process, even though the city itself continued to grow on its own long before any intervention occurred. Ongoing capital-centric development with no new planned city outside the valley has further accelerated the fragmented build activities rather than the holistic approach.

The sustenance of the ancient urban form, even today, indicates that although Kathmandu is undergoing a process of autonomous modernisation, the social and cultural values embedded within the local inhabitants of the place have remained. Hence, ancient forms cannot be simply neglected because of the influence of external forces that add to the pre-existing challenges of expression of identity by the contemporary built form. There has to be a link between tangible and intangible philosophies of the traditional form with relevant modern changes for its legitimisation process. Although some architects and planners have tried to reassert the local identity in the architectural expression of buildings, they were placed against the backdrop of the chaotic modern environment. This certainly intensifies the challenges faced by contemporary built forms in taking their place in creating a unique identity in this competitive environment.

7 CONCLUSION

The fact that contemporary changes are inevitable, in modern urbanisation, does not seem unusual, even in a historic city like Kathmandu. Sweeping modernism, in Kathmandu has brought about transitional changes to the valley's architectural and urban forms, where valley's urban built form varies between two imaginations: one is linked with traditional urban built forms that are interdependent on the social urban sphere, and the other is the modern urban landscape that conceptualises urbanisation with time dimension, representing heterogeneous, ambiguous and transitional identity of change. Thus, the expression of cultural identity in developing historical and cultural cities like Kathmandu is challenging, as undermining its ancient form in order to conform to modernism will disturb its legitimacy, especially when contemporary changes are set within already existing built forms.

REFERENCES

Bennett, T. & Frow, J. (Eds.). (2008). *The SAGE handbook of cultural analysis, culture and identity* (Chapter 24). London, UK: SAGE Publications.

Castells, M. (2010). *The power of identity, The information age: Economy, society and culture* (Vol. II, 2nd ed.). Chichester, UK: John Wiley & Sons.

Chitrakar, R.M., Baker, D. & Guaralda, M. (2014). Urban growth in the Kathmandu Valley: The transformation of public space. *International Conference on Art, Architecture and Urban Design, Bologna, Italy, 25–27 June.*

Corcoran, P.M. (2002). Place attachment and community sentiment in marginalised neighbourhoods: A European case study. *Canadian Journal of Urban Research*, *11*(1), 47–68.

Correa, C. (1983). Quest for Identity. In Architecture and Identity, edited by Robert Powell. Singapore: Concept Media/Aga Khan Award for Architecture.pp-10–13.

Frampton, K. (1983). Towards a critical regionalism: Six points for architecture of resistance. In H. Foster (Ed.), *The anti-aesthetic: Essays on postmodern culture*. Port Townsend, WA: Bay Press.

Gehl, J. (2001). *Life between buildings: Using public space* (4th ed., Trans. J. Koch). Copenhagen, Denmark: The Danish Architectural Press.

Girard, F.L. (2013). Toward a smart sustainable development of port cities/areas: The role of the 'historic urban landscape' approach. *Sustainability*, *5*(10), 4329–4348.

Gospodini, A. (2002). European cities and place-identity. *Discussion Paper Series*, *8*(2), 19–36.

Guardiola-Saenz, L. & Yamada, F.M. (2009). Culture and identity: Culture and Identity: Recasting the Bible for the 21st Century—Workshop at the Book Festival 2009 – STM, February 7, 2009 Chapter 1, pp. 4–5.
Hays, K.M. (2016). Architecture's appearance and the practices of imagination. *Log*, *37*, 205–213.
Korn, W. (1977). *The traditional architecture of Kathmandu Valley*. Kathmandu, Nepal: Ratna Pustak Bhandar.
Mumford, L. (1938). The Culture Of Cities. A Harvest Book/HBJ Book. Harcourt Brace Jovanovich, Inc.
Low, M.S. & Lawrence, L.D. (1990). Built environment and spatial form. *Annual Review of Anthropology*, *19*, 453–505.
Lynch, A.K. (1960). *The image of the city*. Cambridge, MA: MIT Press.
Maghub, Y. (2006). Architecture and expression of cultural identity in Kuwait. People in place in people. *1st International Symposium on Environment, Behavior and Society, University of Sydney*.
Mercer, C. (2006). Cultural planning for urban development and creative cities. Retrieved from www.Kulturplan-Oresund.Dk/Pdf/Shanghai_Cultural_Planning_Paper.Pdf.
Nepal Government. (2003). *Kathmandu Valley long-term development plan*. Kathmandu, Nepal: Department of Urban Development & Building Construction (DUDBC).
Nepal Government. (2007). *National urban policy* (pp. 9–16). Kathmandu, Nepal: Ministry of Physical Planning and Works.
Nepal Government. (2009). *Building byelaws for constructing activities within municipalities and urbanizing villages of Kathmandu Valley* (Chapter 2, p. 21; Chapter 7, maps). Kathmandu, Nepal.
Rai, R. (2008). *Threats to the spirit of the place. Urban space and squares, historic city core, Kathmandu*. Cologne, Germany: Institute for Technology in the Tropics and Subtropics. Retrieved from https://www.icomos.org/quebec2008/cd/toindex/80_pdf/80-FAsv-73.pdf.
Shah, B. (2014). The architecture of foreign architects in Nepal. *Spaces Magazine*, Nepal.Vol.10.No.07.
Shrestha, B.K. (2010). Housing provision in the Kathmandu Valley: Public agency and private sector initiation. *Urbani Izziv*, *21*(2), 85–95.
Shrestha, B.K. (2011a). *Land use changes in urban fringes of Kathmandu: Looking through food security perspective* (Master's Thesis, Tribhuvan University, Nepal).
Shrestha, B.K. (2011b). Street typology in Kathmandu and street transformation. *Urbani Izziv*, *22*(2), 107–121.
Shrestha, B.K. (2013). Residential neighbourhoods in Kathmandu: Key design guidelines. *Urbani Izziv*, *24*(1), 125–143.
Subba, M. (2003). *Urban containment policy: Does it present a hope to manage an impending urban crisis of the Kathmandu Valley?* (Doctoral thesis, Norwegian University of Science and Technology, Trondheim, Norway).
Thapa, R., Murayama, Y. & Ale, S. (2008). City profile: Kathmandu. *Cities*, *25*(1), 45–57.
Tiwari, S.R. (1999). Kathmandu Valley urban capital region and historical urbanism. Paper prepared for presentation to 13th Biennial Conference of Association of Development Research and Training Institutes of Asia and the Pacific (ADIPA), on the theme of 'Managing Asia-Pacific mega cities: Policies to promote sustainable urban development in the 21st century', 29 November–1 December.
Tiwari, S.R. (2016). Learning from traditional towns: Spaces and networks for sustainable multicultural urbanism. Retrieved from http://www.kailashkut.com/wp-content/uploads/2016/05/martinchaptertiwari.pdf.
Tiwari, S.R. (2016). Characters and challenges of public spaces of Kathmandu Valley towns: A sociocultural perspective. Retrieved from http://www.kailashkut.com/wp-content/uploads/2016/05/publicspacesofkathmandu.pdf.
World Bank. (2013). *Urban growth and spatial transition in Nepal: An initial assessment*. Washington, DC: World Bank.
Wright, D. (1990) [1877]. *History of Nepal. With an introductory sketch of the country and people of Nepal* (Reprint). New Delhi, India: Asian Education Services.
Zhang, L. (2010). *Preserving cultural identity through a morphological approach* (Master's thesis, College of Environmental Science and Forestry, State University of New York, Syracuse, NY).


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Reimagining city identity through safe and sustainable public environments

Deniz Deniz
Izmir University of Economics, Izmir, Turkey

ABSTRACT: Cities have their own characteristics and identities, which may be affected by various dynamics or subject to change through the years. However, these changes could be positive or negative. The unique nature of each city is revealed through its social, ecological and environmental form and reflects the cultural and visual characteristics of the city. Safety and security are essential for successful sustainable communities and cities. Thus, improving safety through environmental design and creating sustainable cities have become increasingly important all over the world. Places where people experience crime and fear of crime affect the image of the city in a negative way and diminish people's quality of life. In public areas where opportunities for crime or fear of crime is high, all fields of design have a crucial role to play in reducing opportunities for crime and improving safety in urban spaces, from environmental planning to the design of products. Reimagining cities and public spaces in a positive way, it is crucial to consider that cities as living organisms need to be safe and sustainable to live and work in. Although crime prevention through concepts of design is complex and hard to deal, with it is vital for designing safe and sustainable city images. In this respect, to achieve better solutions for communities as well as successful city images, public and environmental regulations have to be considered carefully. Planners and designers must be aware of obstacles and deficiencies in terms of crime prevention, and they need to understand the basic relationship to develop design and applications in a better way. In this respect, designers, planners, politicians and decision makers must be able to assess which design solutions are better for the city and its image.

Keywords: city identity; city image; safety; sustainability; quality of life

1 IMPROVING CITY IDENTITY BY SAFETY THROUGH ENVIRONMENTAL DESIGN

Sustainable communities have to be fulfilled by requirements of the environmental, social and economic needs of the future. Since they are defined as well-designed places where people feel secure and fear of crime does not undermine quality of life, environmental safety and security are essential issues for sustainable and liveable communities. In addition, sustainable public environments are considered well-designed and attractive environments to live in, where freedom from crime and fear of crime adds positive value to the city identity.

In urban environments, people experience feelings of insecurity in various formats that reduce their quality of life (Gertsakis, 2001). However, sustainable urban spaces need to improve people's quality of life by providing safe and healthy environments to live and work in; well-designed and well-used public spaces also encourage 'a sense of place'. Sustainable communities embody the principles of sustainable development by integrating social, economic and environmental components of their community and meet the needs of existing and future generations (Colquhoun, 2004). Sustainable communities also need to develop the city image by improving perceived safety, which requires working with the police and wider local community to tackle crimes, such as street crimes (Wekerle & Whitzman, 1995).

Safety and security issues need to be considered for creating sustainable and safe communities because it is obvious that design of the built environment in a safe way has a great effect on improving the city image.

Sustainable cities must include safe and well-planned communities and should offer equality of opportunity for all (ODPM, 2005). These requirements are also essential for better public image and city identity. Such places are not only well-designed and attractive environments to live and work in, but they are also where freedom from crime and the fear of crime improves the quality of life. It is crucial to understand how the city image can be affected through the fear of crime and public environment for creating a better city image (Loewen et al., 1993). To do that, at first, the components of the sustainable communities need to be considered carefully. Crime prevention through the concept of environmental design is an approach combining psychology and behavioural and learning theories, and focuses attention on the physical environment as well as on fear of crime in public places. It also advocates effective use of design for developing a built environment to decrease crime and fear of crime for improving the quality of life (Herzog & Smith, 1988).

Community ownership is fundamental for creating a better city image because places that feel owned and cared for are likely to be used and revisited; thus, a safe public space sends positive signals to the community (Parente, 2015). Community members are more likely to be protective of places with which they feel some connection. Effective design, planning and space management help to stimulate natural improvement (Riger & Gordon, 1981). In addition, people feel safe in public areas when they can see and interact with others, particularly when they connect with that space. Criminals often hesitate from committing crime in places that are well supervised (Clarke & Mayhew, 1980).

Natural surveillance can be achieved by creating effective sightlines between public and private spaces, which include access ways and meeting places. Matching types of lighting with crime risk and using attractive landscaping are also crucial (Nasar, 1982). Space management is linked to the principle of territorial reinforcement. It ensures that space is well used and maintained. Strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, and the refurbishment of decayed physical elements (McCamley, 2001). Thus, sustainable communities should be fair for everyone and cohesive, with a strong local culture as well as other shared community activities. They should offer a sense of community identity and belonging, which can be developed by low levels of crime and anti-social behaviour with visible, effective and community-friendly policing (Warr, 1984).

Sustainable communities also enable inclusive, active and effective participation by individuals and organisations and a sense of civic values. Sustainable communities actively seek to protect the environment in accordance with good applications that make efficient use of natural resources, enable a lifestyle that minimises negative environmental impact, and create a safe and successful city image. Sustainable communities offer a sense of place. They are user-friendly public spaces with appropriate design and layout that complement the distinctive local character of a community; they also promote health and are designed to reduce crime and make people feel safe. These communities recognise an individual's rights and responsibilities to be sustainable and have due regard for the needs of future generations in current decisions and actions. Considering these features, it is possible to say that creating safe and liveable public spaces is crucial for creating sustainable communities. Thus, safety issues should be considered carefully from the planning to the design stage of public spaces.

2 FUNDAMENTALS OF SUSTAINABLE COMMUNITIES FOR IMPROVING PUBLIC IMAGE AND CITY IDENTITY

Public spaces play an essential role in the life of cities and residents. Built environments and urban public spaces are often the signature spaces that constitute a city's distinctive identity because they are the settings of everyday life, including streets, parks and transfer stations, where the city's diverse communities interact with each other and where there are spaces for the practice of citizenship. Public spaces and streets, as well as urban furniture and other

Figure 1. Discussions of the relationships between safety, quality of life and city identity (first session).

Figure 2. Presentations on components of cities and fundamentals of city image.

Figure 3. Discussions of the relationships between safety, quality of life and city identity (second session).

components, make up the image of a city. The quality of design and organisation of these components directly impacts the safety, perception and experience of a place because the design of the built realm plays an important role in the way people live in and experience the city.

If cities and public spaces are designed well and also connect people to amenities, residents are more likely to feel safe and secure; this affects the image of the city in a positive way. In urban environments, people experience crime or fear of crime in public places that diminishes their quality of life. Today, there are increasing rates of street crime and violence against persons in every major city. Unfortunately, every person who lives in the city is a potential victim for any crime incident. Therefore, fear of crime can be reduced by better design and maintenance of the built environment. In areas where opportunities for crime and fear of crime are high, environmental design plays a crucial role in reducing opportunities for crime and improving perceived safety.

To develop the dynamics of cities and also to discuss how perceived safety and sense of ownership affect the image of a city, a day-long workshop was conducted with the volunteers who have been educated as environmental designers (Figure 1).

As key actors, designers should be aware of their roles to improve city identity via design decisions, including environments, buildings and products. In this case, it is difficult to be aware of all possibilities that surround design decisions and create negative effects on sustainable improvement of the city image.

Through the first half of the workshop session, designers shared presentations on the components of cities and city image (Figure 2). Because cities have characteristics that may be affected by various dynamics or subject to change through the years, understanding these components was crucial to having a wider perspective (Figure 3).

Although each city has its unique nature according to its social, ecological and environmental form, the impacts of perceived safety and security varies through the cultural and visual characteristics of cities. Thus, improving safety through environmental design and creating sustainable cities have become increasingly important all over the world. Places where people experience fear of crime affects the image of the city in a negative way by diminishing quality of life.

3 CONCLUSION

Since the concept of urban transformation through the physical environment and its components became popular, the relationships between safety, sustainable community and urban

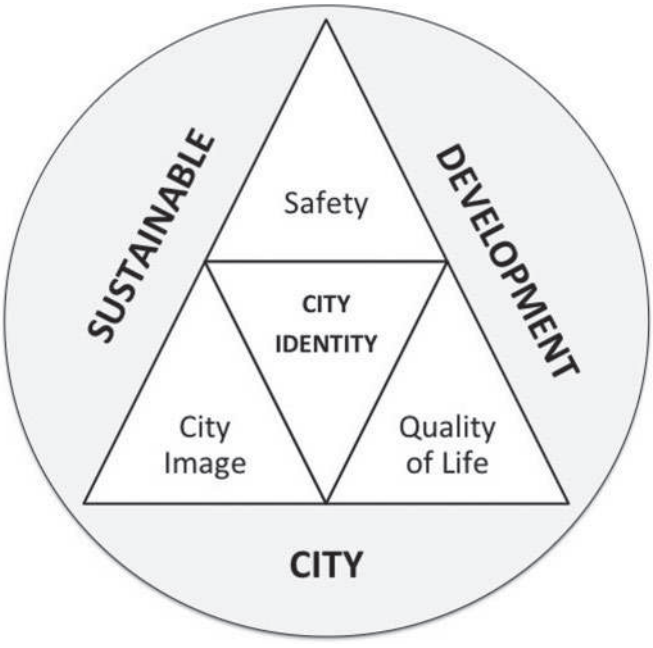

Figure 4. The importance and components of city identity for sustainable city development.

identity have become crucial aspects that need to be discussed. In this particular study, attention has been drawn to the fact that sustainable urban implementation in today's cities is urgent, and decisions made for transforming urban areas could destroy a city's social, economic and cultural values.

Through the study, it is also noted that loss of urban identity brings monotony. To sustain urban identity, characteristics of the city should be preserved and continued in a better way. In this context, identical past, present and future features of a city should be questioned and the features of its identity should be preserved and maintained in more sustainable and safe ways. In public areas where opportunities for feelings of insecurity or fear of crime are high, all fields of design have crucial roles to play, reducing opportunities for crime and improving safety in urban spaces from environmental planning to the design of products.

Reimagining cities and public spaces in a better way, it is crucial to consider that cities as living organisms need to be safe and sustainable to live in. In this respect, although crime prevention through the concept of design is complex and hard to deal with, it is vital for designing safe and sustainable cities to achieve better solutions for communities as well as successful city images. In addition to that, public and environmental regulations also need to be considered carefully in wider perspectives for achieving sustainable solutions (Figure 4).

Environmental designers must be aware of these obstacles in terms of city image to understand the basic relationships for developing safer solutions and applications. In this respect, designers, planners and decision makers must be able to assess which design solutions are better for safe cities and improved city images. Although creating safe and secure cities is a complex issue, it is possible to make a significant difference by considering the key principles crucial for improving quality of life for better and improved city images. In addition, studies should also consider how this concept needs to be combined with all fields of design discipline, given the specific obstacles, national and local conditions, and characteristics of cities.

This study has tried to develop a better understanding of how to deal with this particular issue. The analysis of the local situation and defining the real problems in a better way is crucial for achieving successful solutions for people and cities as their habitat. In order to do that, every aspect of planning and design decisions must be made in full consultation with

all partners through powerful collaborations, as working together from the beginning of the process is essential. Furthermore, the whole process from decision-making to the application must be controlled and supported by feedback for a great achievement. Therefore, it is possible to create and improve city images that help to create safe and sustainable communities. As a result, adaptable design solutions, particularly when coordinated with other measures, can make a significant contribution to safety and improved quality-of-life issues.

REFERENCES

Clarke, R.V. & Mayhew, P. (1980). *Designing out crime*. London, UK: HMSO.

Colquhoun, I. (2004). *Design out crime: Creating safe and sustainable communities*. London, UK: Architectural Press.

Dougherty, D. (2006). *Embodying the city: Identity and use in urban public space* (Master's thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA).

Gertsakis J et all, Linking Innovation, Design and Sustainability—Learning from Real World, EcoDesign Projects, Centre for Design at RMIT University and EcoRecycle Victoria, 2001. p. 11–15.

Herzog, T.R. & Smith, G.A. (1988). Danger, mystery and environmental preference. *Environment and Behavior*, *20*(3), 320–344.

Loewen, L.J., Steel, G.D. & Suedfeld, P. (1993). Perceived safety from crime in the urban environment. *Journal of Environmental Psychology*, *13*, 323–331.

McCamley, P. (2001). Crime, design and urban planning: From theory to practice. *The Royal Australian Planning Institute Magazine*, New Planner, June.

Nasar, J.L. (1982). A model relating visual attributes in the residential environment to fear of crime. *Journal of Environmental Systems*, *11*(3), 247–255.

ODPM. (2005). *Sustainable communities: People, places and prosperity. A Five-year plan from the Office of the Deputy Prime Minister (ODPM)*. London, UK: ODPM.

Parente, M. (2015). Designing the city identity: Strategic and product design for new experiential ways of living, enabling, and interacting with the urban context. *Design Management Journal*, *10*(1), 62–71.

Riger, S. & Gordon, M.T. (1981). The fear of rape: A social control. *Journal of Social Issues*, *37*(4), 71–92.

Warr, M. (1984). Fear of victimization: Why are women and the elderly more afraid? *Social Science Quarterly*, 65, 681–702.

Wekerle, G.R. & Whitzman, C. (1995). *Safe cities: Guidelines for planning, design and management*. New York, NY: Van Nostrand Reinhold.

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Smart grids, smart cities, interior spaces and human behaviour: An interactive development process

Adnan Mohamed Elhalwagy
Assistant Lecturer, Interior Architecture Department, Faculty of Fine Arts, Helwan University, Cairo, Egypt

ABSTRACT: Architecture starts from internal spaces; as the nearest component to the human, the interior architecture space plays the linking role between direct human needs, buildings and cities. Interior architecture space features are changing as a result of the digital revolution, that is, the age of Information and Communication Technologies (ICT) and the expected growth of connected objects as part of the Internet of Things (IoT)

This research aims to shed light on these changes, especially those related to interior space features and the evolution of human behaviour, by reviewing the main benefits of these changes on data, communication, cyber spaces, and energy efficiency. Moreover, it reveals the new control features of these developments in interior space.

Keywords: smart city; smart grid; IoT; intelligent buildings; smart homes; interior space; human behaviour

1 INTRODUCTION

Cities are large and permanent human settlements where civilisations are incubated; buildings are considered the most substantial components of the city, reflecting its public identity, in addition to containing the functional spaces that enable humans to live effectively and securely.

The smart grids and smart buildings of cities illustrate the quintessential changes that occur through the interactive development process of the successive concepts of interior space, then buildings, and, ultimately, a city.

This progression comprises a developing level of cultural, social and service aspects of society, changing human behaviour and the features of the interior space from many perspectives, starting from functional requirements, dimensions, data and communications tools, and ending in energy and performance efficiency.

Information and Communication Technologies (ICT) and the growth of the Internet of Things (IoT) have changed the way that physical space is created to meet functional purpose in the face of the new data and facilities available, as well as the way humans interact with each other. The anticipated expansion of connected objects as a part of the IoT will have a substantial impact on our global and urban design, and will influence all industries in the next few decades [1].

In addition, this will be the core of a successful smart cities concept, and buildings that will change human behaviour and thinking, because everything will become connected in a network, starting with personal things and ending with equipment and central services areas.

The current research is presented as follows. Following this introduction, Section 2 explains the concept of the smart grid and the link between the smart grid and the buildings of the city. Section 3 illustrates the concept of IoT, data gathering and analysis, monitoring, controlling methods and services. New spaces dimensions and types have been clarified in section 4. The optimization of performance, energy efficiency are presented and discussed in Section 5. Section 6 describes the possible effects on the social and communication aspects

of human behaviour, and a set of similar applications are incorporated in each application. Section 7 explores the idea of *Mama Home* as a possible application for a services facility in relation to IoT technology. Finally, the conclusions are summarised in Section 8.

2 SMART GRIDS, CITIES AND BUILDINGS

A **smart grid** is an electrical grid which includes an assortment of operational and energy measures. It comprises smart meters and appliances, renewable energy and energy-efficient resources, electronic power conditioning and the production and distribution of electricity control [2], as well as communication and wireless smart sensor networks and controllers, amongst other things [3].

Smart grids use computer-based remote control and automation. These systems rely on two-way digital communication technology between devices in the field and the computer processing of the utility's network operations centre.

All of this provides many advantages to utility providers and consumers, most predominantly in large enhancements to energy efficiency in the electricity grid and in the energy users' homes and office spaces. Each device on the network can be equipped with sensors to gather data (power meters, voltage sensors, fault detectors, etc.). Automation technology represents the key feature of a smart grid because it supports the utility provider in adjusting and controlling each individual device or, indeed, millions of devices from a central location [4].

The generated data in the smart grid is noticeably larger than the ones done in the traditional grid. This could be interpreted due to the continuous two-way communication between the utility provider and the smart meter in the customer's building. It is also a hurdle the expansion of the smart grid, especially where the infrastructure is not in its capacity for such communication. Here, IoT technology plays a remarkable role; it can help streamline the transfer of high volumes of data via the Internet [5]. In addition, a smart grid combines different technologies that support the existence of smart cities, in terms of cyber and physical systems [6].

A smart grid typically consists of three networks: the first one is Home Area Networks (HANs) that connect the devices in the individual home or building and connect smart meters, and distributed renewable energy sources. The second one is Neighborhood Area Networks (NANs) that connect a variety of HANs and convey the collected information to a network gateway. However, the third one is Wide Area Networks (WANs) that function as a communication pillar supporting the process. In fact, the new technologies of communication play a cardinal role in successful smart grid operation (see Figure 1) [7]. They are adoptable in the sense of using it according to the certain features required by the HANs,

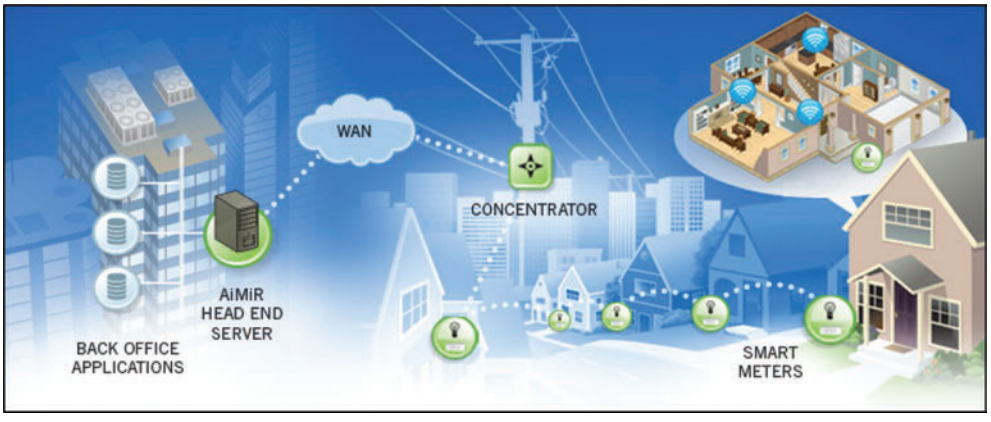

Figure 1. The connection between single devices, buildings, and a city's smart grid.

NANs and WANs. It is worthy to mention that either the wireless or the wired technologies of communication could be easily used in a smart grid. As for controlling the transmission lines or even monitoring it, distributing the facilities or generating the energy plants, along with the video monitoring of consumer premises, could be conducted through the use of wireless sensor networks [8]. The envisioned smart grid provides social, environmental, ethical and economic benefits.

Smart cities: The language of urbanisation policy has incorporated the terms "smart" and "intelligent" to refer to the advanced use of IT to enhance the productivity of a city's substantial infrastructure and services, as well as reducing CO_2 outputs as well as the inputs of energy in order to reduce the impact on global climate change. In the 21st century, there has been a shift from sustainability assessment to smart city goals. Thus, everything becomes connected and smart, and a smart city is a new model for the city, based on the use of ICT, with the aim of improving its economic, social and environmental sustainability, characterised by smart power grids that will be capable of creating a better balance between electricity demand and supply. This will start with buildings that detect occupants' energy needs, integrate vehicle batteries into their energy forecasts, respond to changing weather conditions, and automatically change their sittings to optimize the performance of the building equipment [9]. In addition, digital city strategies create the infrastructure and services that enable the city to function and also create an environment within which digital society initiatives can flourish [10].

Smart buildings: Smart buildings limits were exceeded the typical range of the normal building equipment. They are responsive and connected to the smart power grid and simultaneously interact with the building operators and occupants to empower them with extra levels of visibility and actionable information [11]. In addition, smart buildings provide beneficial services for their occupants, such as space illumination, thermal comfort, air quality, physical security, and sanitation, at the minimum possible cost and lowest environmental impact over the building's lifecycle. Realising this vision necessitates the incorporation of intelligence from the beginning of the design phase through to the end of the building's useful life. Smart buildings depend on the use of information technology during operations to connect an assortment of subsystems, which typically operate independently but can share data to optimise the total performance of the building.

Most new commercial buildings include a growing number of sensors, controls and other devices as standard equipment. In addition, modern buildings have built-in control systems, assigned as Building Management Systems (BMS) or Building Automation Systems (BAS), allowing building engineers and facilities and real estate managers to control their infrastructure. Most buildings have some level of intelligence built in, whether it is Heating, Ventilation and Air-Conditioning (HVAC), lighting, or fire safety, and competitive management and automation services can provide best-in-class climate control, energy savings, and maintenance [12]. So, today, it's possible to obtain more from building data and, ultimately, make better decisions as a result.

3 INTERNET OF THINGS (IOT)

IoT is a new technology that provides a network connection between things, that is, devices and vehicles, equipment and smart devices, buildings and other items. These connected things have more advanced electronic pieced embedded in it or sensors. It might also have software's actuators to facilitate network connectivity between them and to enable them to gather and exchange data [13–14]. IoT-GSI[1], proclaim the IoT description as "the infrastructure of the information society" [15]. Where objects can be remotely sensed or controlled through existing network infrastructure, this can provide opportunities for additional direct integration of the tangible physical world into computer-based software systems, which leads

1. Internet of Things Global Standards Initiative.

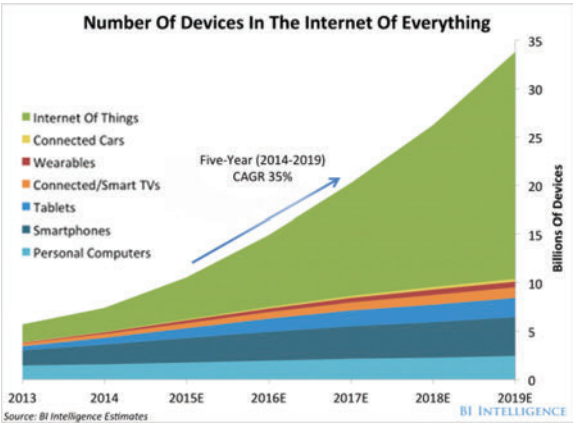

Figure 2. Estimated numbers of objects in the internet of things.

to enhanced efficiency, reliability and economic benefit, in addition to reducing the need for human intervention [16]. When IoT is boosted with sensors and actuators, this technology becomes a basis for wider system integration of cyber and physical systems, which also encompasses technologies such as smart grids, smart homes, intelligent transportation and smart cities. In IoT, each thing is individually distinguishable as a unique object through its embedded computing system but is, at the same time, able to interoperate within the existing Internet infrastructure. Experts estimate that IoT will involve nearly 50 billion items by 2020 (see Figure 2) [17–18].

Radio-frequency identification (RFID) tags are the major way used to connect things and embed sensor and actuator nodes; RFID is considered to have been a vital breakthrough in the realm of merged communications, empowering the design of microchips for wireless data communication.

They help in the automated recognition of anything they are attached to, as well as providing an electronic barcode [15–16]. RFID tags are powered passively as they do not have an internal power source; it is done by extracting the signal of the interrogation from the RFID reader which is utilized again through send their ID to the readers. RFID-enabled applications that can be found embedded in doors to recognise the movement of things, as well as in transportation, like registering the stickers or replacing the tickets or even controlling the accessed applications. Active RFID readers include a battery supply and can initiate the communication of the various applications.

Active objects in IoT are enabled to communicate and cooperate between themselves and the environment in a certain method via exchanging the sensed data revealing the environmental conditions. They can react independently to incidents in the physical world. They can also influence it by embarking on a processes which automatically initiate the action and create the service. IoT makes use of cloud computing as well as artificial intelligence.

4 THE NEW SPACES

ICT and IoT considerations have changed the traditional features of interior space; starting with the reduction of functional areas in some spaces, through to the merging or elimination of other spaces. This is because information and digital solutions have either replaced or compensated for some functional requirements, leading to the spread of virtual and cyber spaces, interactive spaces, and hybrid spaces, in addition to the increasing trends for e-commerce, e-tourism, e-health, technology parks and e-government.

Internal spaces have changed from being static to being dynamic, and from having three-dimensional axes to having five-dimensional (X, Y, Z, T, E) coordinates through the addition

of time and energy factors. Furthermore, new spaces can offer the flexibility to avoid various construction and material restrictions that opened the mind for more creative designs for spaces.

The new generation of internal space has combined physical material with information technology, changing the entire standard criteria of traditional space, which becomes totally free in terms of dimensions, and adaptation to motion and function.

The integrated and connected technology in the building and the internal space facilitate data gathering and monitoring and adapt or save resources and equipment. In addition, it became possible to analyse and control the whole internal environment to provide the optimum service in relation to the resources available. Thus, spaces become smaller, smarter, more aware and better connected.

5 PERFORMANCE OPTIMISATION AND ENERGY EFFICIENCY

Globally, buildings consume 38 to 40% of entire energy usage and CO2 emissions [19]. Reducing the consumption of energy either new on existing buildings is considered as a the major important aspect for all stakeholders, namely, developers of buildings, owners governments, and users or operators to guarantee the protection of environment sustainability and highlight the increasing expense of energy. Thus, The ROI, or return on investment, is very significant in the case of energy-friendly buildings. For instance, the largest element of energy consumption by commercial buildings is expended on lighting (26%), followed by heating and cooling (13% and 14%, respectively). Investment in low-energy-consumption light bulbs and insulation materials can anticipate short payback periods. Furthermore, simple automation and control, such as of window shading, demonstrates obvious reductions in energy demand for cooling and lighting [20].

Wireless sensors can be used to run devices in coordination with periods of reduced grid load. In addition, IoT can assure that the communication among various devices and also the communication between the technological and human dimensions, like residents, are functioning properly. The grid is able to share different types of data with the user—including the real time one—where the user can distantly control the devices. Accordingly, sensors are to be utilized in smart buildings in order to monitor the different parameters of the place, like the solar gain, humidity, carbon dioxide level, etc. It is also to improve them if needed by controlling the HVAC systems [21]. For example, given that the electricity supply can have shortfalls at some times and surpluses at others, depending on electricity demands and peak hours, the personal and home IoT can produce electricity usage data for the house and inform the electricity company, which can, in turn, optimise the supply and demand through the utility's IoT. In more detail, efficient energy consumption can be accomplished by constantly monitoring every electricity point within a house and using this data to modify the way electricity is consumed. At the city scale, this data can be used to maintain the overall load balance within the smart grid, guaranteeing a high quality of service [22]. Thus, the Internet facilitates data sharing between different service providers in a seamless manner, creating multiple business opportunities [23].

6 SOCIAL AND COMMUNICATION ASPECTS OF HUMAN BEHAVIOUR

The integration of smart technology in the surrounding environment with humans will lead consumers to become involved in the IoT revolution just as they have been in the Internet revolution [24–25]. Social networking is expected to sustain another shift, with billions of interconnected objects [26–27]; a substantial development will be using a Twitter-like concept where separate 'things' in the house can periodically tweet their readings, which can be simply followed from anywhere by creating a Tweet. Although this provides a virtual framework using the cloud for data access, a new security system will be required for this to be entirely fulfilled [28]. Within a work environment, we refer to the 'Network of Things' as an enter-

prise-based application. The owners solely utilize the collected data from these networks, and the date is to be selectively released.

Developments in how we communicate have changed the very nature of how we behave – from the emergence of the electric telegraph in the 16th century to the public Internet used at the end of the 20th century, and the advent of Wi-Fi at the start of the 21st century.

Wi-Fi was a tremendous step change in human interconnectedness and behaviour – people are now creating, consuming and sharing data 24 hours a day, 365 days a year, in many languages, covering millions of topics. The rapid adoption and development of wireless technologies has led to 'Internet of Things' as one of the major technology trends of the past ten years [29].

Social and communication aspects of human behaviour have been affected by wireless technology. For example, people have become more eager to catch the available mass of information that rapidly developed and emerges throughout every day, reducing traditional social contact and replacing it with social media websites and visual distant communication. In addition, such contact caused work and education to become more international in scope, at the same time requiring special skills and equipment to address this mass of information and the associated communication opportunities. Such type of communication caused a weakness in direct human contacts that needs a special social activities to compensate this missed habit that balances human social life.

To be compatible with the newly available facilities, smart spaces need smart occupants, able to use these facilities to save resources, time and life stress at the same time as increasing knowledge, productivity, creativity, and communication opportunities. In addition, Smart solutions are minimizing needed function spaces, providing and managing information that supports decision-making and impacts on the efficiency and productivity of human life.

7 MAMA HOME

With the advent of IoT technology, *Mama Home* is one suggested application for a services facility. This home is like a mother for its baby. It provides a comfortable internal environment for all aspects, physical (e.g. thermal, acoustic, visual) and psychological, contingent upon the identification of its occupants and data about their comfort repeated word. Thus, it is an interactive home system that aims to provide entire care for each individual separately, or for all interior space users simultaneously.

In addition, *Mama Home* is able to facilitate healthcare services through utilising IoT technology that gives a perfect platform to health follow-ups by using body area sensors and an IoT back-end to transfer the data to remote servers [30]. For instance, a connected smart mirror is able to scan and check facial features, such as eyes and colouring, and send a report to the hospital or family physician about the user's health condition. Similarly, urine analysis tools can be embedded in the equipment of the internal space equipment. Furthermore, an expansion of this personal body area network might be a development of a home monitoring system for the care of patients and the elderly. By using such methods as a smart mattress that monitors weight, movement and heart rate, allowing a physician to monitor them in their homes, and accordingly reducing the expenses of hospitalisation through the early intervention and treatment of the problem. All of these facilities and more can provide continuous medical care and advice according to health status and reports. This is providing health welfare and increasing performance and productivity.

Mama Home is also able to contact the marketplace to order necessary goods. For example, a smart refrigerator can contact the grocery store and place an order according to a programmed list, as well as knowing the product expiry dates and other data, and notifying the user if there is any relevant product advice in the meantime. Likewise, a car's program can make contact with the maintenance centre and obtain or arrange a fix through the Internet, connecting without human intervention.

In addition, *Mama Home* is able to save energy and conserve the environment through controlling all home appliances and equipment, like fridges, air conditioners, and washing

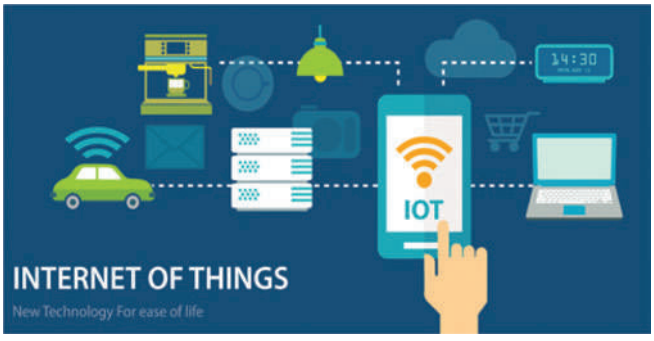

Figure 3. IoT-enabled control and monitoring.

machines, providing better management of the home and better energy performance (Figure 3) [31]. Moreover, utility providers can remotely control some equipment in the building through the Internet in order to alleviate grid loads.

Environmental observation is the initial common application that is carried out to adapt the internal environmental conditions and control or manage the inside-building utilities (e.g. HVAC, lighting), contingent upon occupant location.

Sensors have always been an essential part of the programming system for applications such as security and automated climate control. These will ultimately be substituted by a wireless system, allowing the flexibility to make changes to the programmed system whenever required. An entire IoT subnet might be dedicated to factory maintenance.

The entire *Mama Home* system is enabled by the user and they can control it through their smartphone, communicating via protocols such as Bluetooth to interface with sensors measuring physiological parameters. At time of writing, there are already several applications available for smartphone operating systems such as Apple iOS, Google Android and Windows Phone that measure different parameters.

8 CONCLUSIONS

The Integration between smart grid, city, building spaces and skilled human and society will lead to the most efficient performance of the process for things to provide better life for human.

Information technology future trend lie beyond traditional desktop devices. In the Internet of Things paradigm [29], the majority of the objects that surround us will be on the network in one form or another. Radio-frequency identification, sensor network technologies and Cloud computing will rise to meet this new challenge, these shift of technologies has affected our social and practical life in addition to city, building, space concept. Which need more ideas and activities to meet these changes and to achieve life balance in addition to be compatible with the new coming lifestyle.

REFERENCES

[1] Lauren Moores. "The IoT Impact on Human Behavior", article, cioreview may2016, http://media-entertainment.cioreview.com/cxoinsight/the-iot-impact-on-human-behavior-nid-14822-cid-6.html.

[2] Federal Energy Regulatory Commission, "Assessment of Demand Response and Advanced Metering", Staff Report, December 2008, https://www.ferc.gov/legal/staff-reports/12–08-demand-response.pdf.

[3] Subhadip Mahalanabish, Anindya Pradhan, Aniruddha Mukherjee White paper, "Smart Grid and the Internet of Things" https://www.tcs.com/content/dam/tcs/pdf/Industries/energy_resources_and_utilities/Smart%20Grid%20&%20the%20internet%20of%20Things.pdf.

[4] Office of Electricity Delivery & Energy Reliability, "Grid Modernization and the Smart Grid" https://energy.gov/oe/services/technology-development/smart-grid.
[5] Subhadip Mahalanabish, Anindya Pradhan, Aniruddha Mukherjee White paper, "Smart Grid and the Internet of Things".
[6] Rehmani, M.H., Kantarci, M.E., Rachedi, A., Radenkovic, M. & Reisslein, M. (2015). Smart grids: A hub of interdisciplinary research. *IEEE Access*, *3*, 3114–3118.
[7] http://www.nuritelecom.com/solutions/graphics/solutions-AMI-diagram.jpg.
[8] Office of Electricity Delivery & Energy Reliability, "Grid Modernization and the Smart Grid".
[9] Picture of the Future "Heading for Urban Energy Internets" https://www.siemens.com/innovation/en/home/pictures-of-the-future/infrastructure-and-finance/smart-cities-smart-buildings.html.
[10] Steve Hodgkinson, (2011) "Is Your City Smart Enough?", analyst insight, https://pdfs.semanticscholar.org/e5c0/ee5ef760206c64ecdf112b37cbaf5200d337.pdf.
[11] Building Effeciency Initiative, (2011), "What is a Smart Building? "Article, http://www.buildingefficiencyinitiative.org/articles/what-smart-building.
[12] Casey Talon, Noha Goldstein, (2015), "smart offices: How Intelligent Building Solutions Change Occupant Comfort." http://www.intel.com/content/www/us/en/smart-buildings/smart-building-scenarios/overview.html.
[13] Brown, E. (2016, September 20). 21 Open Source Projects for IoT. *Linux.com*. Retrieved from https://www.linux.com/NEWS/21-OPEN-SOURCE-PROJECTS-IOT.
[14] ITU. (2015). Internet of Things Global Standards Initiative. Geneva, Switzerland: International Telecommunication Union. Retrieved from http://www.itu.int/en/ITU-T/gsi/iot/Pages/default.aspx.
[15] Harvard Business Review. (2014). Internet of Things: Science Fiction or Business Fact? Retrieved from https://hbr.org/resources/pdfs/comm/verizon/18980_HBR_Verizon_IoT_Nov_14.pdf.
[16] Vermesan, O. & Friess, P. (2013). *Internet of Things: Converging technologies for smart environments and integrated ecosystems*. Aalborg, Denmark: River Publishers.
[17] Evans, D. (2011). The Internet of Things: How the Next Evolution of the Internet Is Changing Everything (White paper). San Jose, CA: Cisco Systems. Retrieved from https://www.cisco.com/c/dam/en_us/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf.
[18] http://www.ironpaper.com/webintel/articles/internet-things-market-statistics-2015/.
[19] USGBC, " building and climate change", report, http://www.eesi.org/files/climate.pdf.
[20] Chen, H., Chou, P., Duri, S., Lei, H. & Reason, J. (2009). The design and implementation of a smart building control system. In Proceedings ICEBE 2009: IEEE International Conference on e-Business Engineering, 21–23 *October 2009, Macau, China* (pp. 255–262). Los Alamitos, CA: IEEE Computer Society.
[21] Subhadip Mahalanabish, Anindya Pradhan, Aniruddha Mukherjee White paper, "Smart Grid and the Internet of Things".
[22] Chen, Han, et al. "The design and implementation of a smart building control system." e-Business Engineering, 2009. ICEBE'09.
[23] Gubbi, J., Buyya, R., Marusic, S. & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future Generation Computer Systems, 29*(7), 1645–1660.
[24] Alkar, A. & Buhur, U. (2005). An Internet based wireless home automation system for multifunctional devices. *IEEE Transactions on Consumer Electronics, 51*, 1169–1174.
[25] Darianian, M. & Michael, M.P. (2008). Smart home mobile RFID-based Internet-of-Things systems and services. In *Proceedings ICACTE 2008: International Conference on Advanced Computer Theory and Engineering, 20–22 December 2008, Phuket, Thailand* (pp. 116–120). Los Alamitos, CA: IEEE Computer Society.
[26] Ning, H.S. & Wang, Z.O. (2011). Future Internet of Things architecture: Like mankind neural system or social organization framework? *IEEE Communications Letters, 15*, 461–463.
[27] Atzori, L., Iera, A. & Morabito, G. (2011). SIoT: Giving a social structure to the Internet of Things. *IEEE Communications Letters, 15*, 1193–1195.
[28] Li, X., Lu, R.X., Liang, X.H., Shen, X.M., Chen, J.M. & Lin, X.D. (2011). Smart community: An Internet of Things application. *IEEE Communications Magazine, 49*, 68–75.
[29] Guy Strafford, (2014) "The Internet of Things—challenging human behavior", http://www.proximagroup.com/catalytic-thinking/internet-things-challenging-human-behaviour.
[29a] Gubbi, Jayavardhana, et al. "Internet of Things (IoT): A vision, architectural elements, and future directions." Future generation computer systems 29.7 (2013): 1645–1660. http://www.sciencedirect.com/science/article/pii/S0167739X13000241.
[30] Atzori, L., Iera, A. & Morabito, G. (2010). The Internet of Things: A survey. *Computer Networks, 54*, 2787–2805.
[31] http://blog.ourcrowd.com/bigger-better-try-smarter-investing-in-the-internet-of-things-infographic/.

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Identity in transformation of rural Egyptian villages

Francesca Giangrande
Sapienza University of Rome, Italy

Luciano De Bonis
University of Molise, Italy

ABSTRACT: This research analyses how spatial planning is changing in the village of Kafr Kela al-Bab (Gharbiyya, Egypt), from which many people have migrated to Rome (Italy). The experiences acquired by transmigrants feed the local imagination about the transformation of the rural environment and, together with the flows of remittances, are leading to an abandonment of traditional building production (the *fellah* houses) in favour of new villas and apartments that are spreading all over the agricultural land, transforming it into a form of "rurban" milieu. If identity is an evolutionary process it is crucial to understand the outcomes arising from the interaction between the vernacular and the new. And it is up to the planner to identify those practices and policies able to produce long-term balance between natural, built and human environments, taking into account the important role that "translocal identities" could play in such a new rurban context.

Keywords: spatial planning; Kafr Kela al-Bab; rural environment; fellah houses; translocal identities; rurban

1 INTRODUCTION

This paper focuses on identity changes (cultural, social and spatial) that are taking place in rural villages in the Nile Delta region. This reflection is part of recent PhD research in Urban Planning, conducted by one of the authors, under the supervision of the co-author, of this paper. The hypothesis is that the historical contrast between rural and urban settlements is gradually vanishing, to allow new forms of settlement that incorporate the features either of cities or of villages, and that the ongoing transformation is the result of the impact of regional trends and global cultures on traditional communities, who acquire a new "rurban" identity.

Throughout the ages, rural areas have received little attention and few national resources and this has created a huge gap between the development of "backward" villages and "advanced" urban centres. But if a typological rural settlement has survived thousands of years of history without being completely overwhelmed by globalisation, might it make sense to observe and learn from those "spurious outcomes" that occur today in such an environment?

The subject of this research involves the use of a "translocal" (Brickell & Datta, 2011) lens that allows investigation of the interaction and the interconnectivity among the places where migration generates a stream of actors, resources, information, ideas and identities (Levitt, 2001; Pries, 1999; Portes, 1997). Migrants, exercising their agency, are "located and dislocated" subjects, acting as translocal placemakers, subjected to tensions and conflicts arising from their multi-positioning. Robin Cohen (1997) defines them as "transmigrants", who develop an identity that connects them to two or more nation states. They never leave the homeland, but circulate between territories of origin and arrival, as though aiming at a "hybrid" way of life.

If we consider identity in terms of an evolutionary process in which environmental, urban, social and cultural aspects interact, it is crucial to pay attention to the mix of modernisation and preservation that creates tension in rural areas, also making any interpretation questionable but nevertheless necessary to understand this new identity. The research involved six months (in 2015) of fieldwork in Egypt, mainly in Kafr Kela al-Bab (hereinafter 'Kafr'). Specifically, it has seen the development of a specific ethnographical programme and subsequent spatial interpretation. In particular, a multi-site approach has been adopted for the interviews and participant observation, based on "*follow the people; follow the thing; follow the metaphor; follow the plot, story, or allegory; follow the life or biography; and follow the conflict*" (Marcus, 1995).

The ethnographic survey highlighted the capacity of migrants to live and organise themselves between geographically dispersed areas by implementing socio-spatial practices (from housing to places of worship, of socialisation and so on), either in the context of origin or arrival. In Kafr, the migration has created a new way of life, characterised by an emerging "translocal" identity of places, generated by "co-production, hybrid, cosmopolitan experiences" (Clifford, 1991).

2 RURAL EXODUS AND URBAN ENCROACHMENT IN THE NILE DELTA

In Egypt, the agricultural sector employs 34% of the workforce and accounts for 12.5% of national GDP (World Bank data[1]). Agriculture had been present in ancient Egypt since the Neolithic Age and farmers contributed to the creation of the first settlements, concentrated mainly in the Nile basin.

Rising sea levels and rapid urbanisation, especially the informal development after 2011, have made the Nile Delta a highly vulnerable region, where pollution, desertification and population growth combine to define a state of emergency for the land (Redeker & Kantoush, 2014). In the Gharbiyya Governorate, where Kafr is located, the arable land area is decreasing by an average of about 3,200 km^2 per year (Zaghloul & Elwan, 2011).

Kafr is a village of about 25,000 inhabitants, 80 km north of Cairo and 150 km southeast of Alexandria, at the core of the Nile Delta. According to its strategic plan of 2007, the total area of Kafr is 3,183 ha, of which 2,710 ha is agricultural land, accounting for 85.3% of the total area. Private property prevails over public. The plan complained that urban expansion threatened to overwhelm the agricultural land. This expansion is helped by the fact that the associated legislation is contentious; Agrarian Law criminalises the construction of buildings on agricultural land yet the Constitutional Court does not condemn it. This and other problems have done nothing but encourage deregulation and a random urban sprawl.

The agricultural world in Egypt changed because of market liberalisation policies that had a great impact on the rights of farmers, causing the deterioration of rural livelihoods, increases in rates of poverty, marginalisation and social immobility.

In the 1970s, under Anwar el-Sadat, a policy of opening to the West and economic liberalisation (*Infitah*), aimed primarily at attracting foreign investment, was pursued in Egypt. In 1971, Article 52 of the Egyptian Constitution authorised emigration: the first flows of temporary workers went to the countries of the Arabian Gulf, the Middle East and North Africa (MENA) countries (mainly Libya), and to the West (USA, Canada, Australia and Italy). After the 1973 Yom Kippur War, there was a phase of expansion and immigrant flows that have become a priority on Egyptian governmental agendas.

It is not surprising that, due to the mass of reforms aimed at the modernisation of the country, the four metropolitan areas of Cairo, Alexandria, Suez and Port Said became attractive to a large proportion of migrants, coming mainly from Menufiya, Sohag, Asyut and Sharqia.

1. See the link https://goo.gl/nXFzgN.

During the 1990s, a great exodus from the countryside started, especially towards the northern shores of the Mediterranean, mainly to Italy and France. In the Egyptian context, remittances sent home from abroad are especially important; in fact, they contribute greatly to national development. In 2008, they accounted for 5.3% of national GDP (IOM, 2010) and, in 2009, Egypt placed seventh in the world among countries with high flows of remittances, amounting to 7.8 billion dollars (which could be an underestimation because there is also an unregistered flow of money, sent through informal channels and not through banks).

In Egypt in the late 1980s, various economic and sociological studies of the impact of remittances were conducted. Adams (1989) highlighted a worsening of rural income distribution because remittances flowed mainly to those villagers with high existing incomes. Research in Kafr confirmed similar trends; remittances create dependency upon Italy, causing massive growth in the building sector but few other productive investments. At the same time, they generate higher demand for goods and services and the inflationary pressure on local economies increases. However, the longer the history of migration in a village, the more it lowers costs and opens up new opportunities for the most disadvantaged classes.

In other words, the returning migrants are potentially carriers of both financial and human capital, technology and entrepreneurship, and remittances are the new development mantra, considered as "the development panacea" (Kapur, 2003). All of these factors can contribute to economic development but can also affect social inequality if they are not well regulated. Furthermore, migration, domestic and transnational, combined with population increase and poor governance in rural areas, has led to a decrease in arable land and its conversion to more profitable non-agricultural uses. To date, Egypt has lost about 10% of its agricultural land due to the ongoing urban sprawl (Wahdan, 2013).

3 *FELLAHIN*: FROM RURAL TO "RURBAN"

The traditional planning of a village (following the Islamic conquest) started with an hill (*al-koum*) at whose core was positioned a mosque surrounded by a very dense road network, a Koranic school (*kuttab*) located among the housing, and a ring road to the edge of the hill, chosen to avoid seasonal flooding of the Nile. The cemetery, the grain silos and the market were positioned on the outskirts of the residential area (Mahgoub, 2001).

At the beginning of the nineteenth century, Egypt's Governor, Muhamad Ali, carried out some interventions for the control of the hydrological regime of the Nile that had a great impact on the morphology of such villages. In the resulting absence of constraints imposed by flooding, the *al-koum* expanded in the agricultural land below, and new estate villages (*'ezbah*) were built on the plains along the canals and branches of the Nile. The introduction of the car in the early 20th century and its intensive use during World War II by British troops also had a great impact on the development of Egyptian villages (Mahgoub, 2001). Following the 1952 Egyptian revolution, peasants were allowed—for the first time in Egypt's history—to own agricultural land: this stimulated landowners to build new homes on their land, imitating the typical informal construction methods of areas around Cairo and other cities. All these events have contributed over time to the transformation of the village system (Figure 1), which has dramatically changed the quality of life of traditional settlements: giving rise to overcrowding, water pollution from waste, inadequate sanitary and sewer systems, air pollution, inadequate lighting systems and ventilation of houses, and so on.

Kafr experienced all of the transformation processes described above. It seems to be an "urban village" (which is distinct from a "peri-urban" settlement, that is, the meeting between urban and rural, building up gradually through ever denser metropolitan fringes). More specifically, according to unstructured interviews with some inhabitants of the village (especially a pharmacist and a butcher), the Sheikh Mahroos (who is celebrated with a local *Mawlid* or birthday celebration) and other families were the first to buy and build on those lands, then divided them among multiple owners. Traditionally, the social status and position in society

Figure 1. *Fellahin* in Kafr Kela al-Bab, 2015 (Photo: F. Giangrande).

of the *fellah* (farmer or agricultural labourer) were determined by land ownership and the position occupied in the system of his extended family.

With the expansion of the school system in the village and the increase in education levels at the beginning of the 1970s, a different hierarchy of power was established, no longer dependent on the land and the "Sheikhs al-Balad" (community heads), but with the highest role occupied by "doctors", the educated men of the village. In fact, during the interview, the pharmacist stated: "This is called the village of scientists, because we have many educated people at the University of Tanta who are important in their expertise!" Many doctors contributed to the social development of the village, providing money for projects, services and infrastructure. During the 1990s, with the collapse of the education system and rampant social immobility, the peasants and the young graduates have preferred to look beyond the village for the resources to empower themselves. Thus, economic liberalisation and cross-border migration have become the cornerstone of a new individualism, and of private initiative in rural society. We believe that in Kafr we can speak of a "rurban" environment as the most appropriate description of what has been observed:

> *The term 'rurbanisation' was coined in the 1960s, meaning the 'settlement in the rural municipalities of people coming from cities, where they often continue to work and … thus … become, in fact, commuters' (JB Charrier, quoting G Bauer and JM Roux, "La Rurbanisation ou la ville éparpillée", Editions du Seuil, 1976).* (Perrella, 2007)

The rurban consist not only of commuters from Cairo, but also of returning transmigrants (re-exodus), bourgeoisified in Italy or elsewhere, who would like to apply a post-modern urban style to the village to which they now have a sense of belonging.

From numerous interviews and observations, it appeared that transmigrants never question their duty, inherent to the migration project, to transfer money to the village, which has significant consequences for the population:

> *One of the most important consequences of the migrants' remittances and their pattern of investment is the great rise in the land prices in the village of Mit Badr Halawa. Another aspect of change that is more readily visible is the presence of a large number of huge multi-storey houses whose architecture is extremely decorative and very lavish-looking […] On the one hand, Badrawis generally talk of the changes in the village, especially the "new architecture" in positive terms and regard this as a sign of progress. Others who are not from Mit Badr, however, particularly those who come from an older generation of migrants and who were generally more educated are very contemptuous and cynical about such changes […] and see in their new architecture blind and distorted imitation of what they saw in France.* (Saad, 2005 p.13)

The village environment is changing very fast, both in physical appearance and in its socio-economic conditions. The new houses in Kafr (Figure 2) would seem to be a visible sign of

Figure 2. Villa of a successful transmigrant, Kafr Kela al-Bab, 2015 (Photo: F. Giangrande).

a more abstract, invisible process of creation of translocal class and identity. The lifestyle is increasingly influenced by urban examples, yet the proliferation of new homes does not necessarily imply that the living conditions are improved for everyone in the village. These individual (or family) house builders are increasingly a new class of people, who could be called the "new rurban bourgeoisie" of the villages, who have benefited from remittances invested in real estate and the construction industry or in cash-cropping. Although the urban/rural boundaries are fading, the emergence of this "rurban space" is not necessarily synonymous with dispersed urbanity:

> *In large part, these agglomerations are still dominated by agricultural activities, a feature which defines them, in the words of some experts, as "agro-towns" and, although diversity is growing, it is still limited. Conventional urban services (such as paved roads, piped water, garbage collection and sewer systems) are largely absent and the illiteracy rate, especially among women, is quite high. However, it must be noted that urbanisation of the countryside should be seen not as a uniform spread of urbanity in the hinterland but, rather, as a new trend of polarisation at the level of small cities and large villages, or urban villages.* (Bayat & Denis, 2000, p. 195)

4 TOWARDS A NEW IDENTITY: THE NILE DELTA AS A MESOPOLIS

In Kafr, translocality has multiple effects: the village is transformed into a place for consuming imported goods and for the creation of a workforce to be exported, instead of a place of agricultural production. Widening this analysis, this situation is present in other Delta villages too. The owners of land had the power to transform the best agricultural soils into a bigger, residential "rurbanity", where huge villas remind poorer residents of the village of the success obtainable through remittances. Translocal contexts thus represent the places of opportunity and limit that the migrant faces, and the modalities of their connections through migrations are important elements in understanding his agency in improving the spatial environment.

In her book *Villes du delta du Nil: Identités citadines et émergence d'une région urbaine: Tanta, Mahalla et Mansura*, the researcher Delphine Pagès-El Karoui (2002) draws a comparison between the region of the Nile Delta and the region of Emilia Romagna in the centre of Italy, which has been defined by Franco Farinelli (2003) as a "mesopolis".

According to this interpretation, the Delta could be an Egyptian "mesopolis", an urban system where none of the cities (Tanta, Mahalla or Mansoura) is dominant, so that their populations are almost equal, as occurs in the area of the:

Figure 3. Rurban Kafr, 2015: Slow encroachment into the countryside (Photo: F. Giangrande).

> *…Appennino, almost in a straight line from Rimini to Piacenza. Taken together, they form a conurbation, in the sense [of] Patrick Geddes, who invented the term in 1915: not a seamless urbanisation but a "galaxy of cities", a natural "city alliance". In short, a "city-region".* (Farinelli, 2003)

Similarly, the Nile Delta can be understood as an area defined as "mesopolitan", where the rural and urban areas do not have a distinct identity anymore, although their environmental differences are still present in the Egyptian memory (Pagès-El Karoui, 2002).

Thus, there are two entities that are still conceived in public opinion as separate: the agricultural land and its system of irrigation, and the urban pattern with its cities and one thousand villages with their roads. Given the lack of integrated management, these two patterns are in opposition to each other. The urban pattern of the Delta is continuously expanding, consuming fertile land and creating a dangerous conurbation with all the risks that this transition implies:

> *In this widespread mesopolis, two types of transformations are occurring: the completely spontaneous micro-urbanisation of villages and the polarisation of cities that drain all functions. Both these are threatening the rural space, which for Egypt is a subsistence space.* (Maldina & Tonnarelli, 2013, p. 53)

Nevertheless, despite the risks, some potential can also be identified: the Nile Delta region can, in fact, become a place in which to experiment with new forms of urban management that aim at strengthening middle-sized cities, decongesting the large metropolises like Cairo and Alexandria, and implementing a system of connections to establish the cultural value of anthropic and natural landscapes, create a better quality of life ((Maldina & Tonnarelli, 2013), and confront real urban sprawl (Figure 3).

5 CONCLUSIONS: HYBRID IDENTITY, TRANSLOCAL SPACE AND SELF-SUSTAINING DEVELOPMENT

In conclusion, due to the pressure of modernisation and globalisation, the transformation of the traditional environment of the Egyptian countryside conveys an important lesson: it is necessary to include the aspirations of the people who live in poverty, and to solve their housing problems. Moreover, it is needed to look at the impact of migrations in these contexts not only for their negative impact on the environment, but also as a result of the will to change the identity of a place. Perhaps it is the lack of networking among that single local

identities, due to the incapacity of government, that produces a legal framework that is fitting more urban contexts than rural ones, while not considering forms of mobilisation that aim to provide better living conditions and that do not take into consideration the fragile nature of the Nile Delta region.

In our opinion, the transformative potential of migration activity should be taken into account. Some hope for improving the evolution of the region comes from the fact that there is a form of emulation between the villages in promoting what has been gained elsewhere in terms of better living conditions. This process has produced some effects that may not have been intentional, but have resulted from the ability of the residents to "muddling through" (Lindblom, 1959) in the absence of any governance capable of attracting capital in support of more sustainable local development. Thus, it is necessary to identify practices and territorial policies that are not only rooted in the culture of the residents of that context, but that are capable of strengthening some form of virtuous hybrid development.

Globalisation and "mesopolisation" do not erase everything, including a division which is not spatial but mental; the descendants of the *fellahin* that nowadays live in the cities or in urbanised villages that are no longer engaged in economic activities that are agricultural, remain *fellahin*, and their territories remain rural to the eyes of the urban residents. From the time of the famous novel by al-Hakim, 'Diary of a Country Prosecutor', to 'The Yacoubian Building' by Al-Aswany , the perception of rural areas does not seem to have changed much. Perhaps this is a good thing. And by this we do not mean to reinforce the stereotypical image of the countryside, but that it is interesting to notice how some traditions remain in the form of a hybridisation process that includes the rapid changes of the "translocal countryside".

We need a strategy that leaves room for changes of identity of a place and the empowerment of migrants (more generally, of the entire population) that gives strength to those who live in and create the territory, promoting in them a new culture of "self-sustaining local development", where the term "local" highlights the enhancement of local resources and the identity of a place, and "self-sustaining" refers to the importance of seeking settlement, economic and social policy rules for producing long-term balance between the natural, the built and the human environments, through "*the activation of 'Lilliputian' strategies, weaving non-hierarchical networks (South-South, South-North, between cities and regions), in a dense network that can counter the major networks, highly centralised, of economic globalisation*" (Magnaghi, 2000, p. 91). The dense network to which Magnaghi refers can also be found in the "translocal space" that is produced by migrants and their "globalisation from below" (Ambrosini, 2008; Portes, 1997).

REFERENCES

Adams, R. (1989). Worker remittances and inequality in rural Egypt. *Economic Development and Cultural Change*, *38*(1), 45–71.

Ambrosini, M. (2008). *Un'altra globalizzazione: Il transnazionalismo economico dei migranti*. Working paper 5/08. Milan, Italy: Department of Social and Political Studies, Faculty of Political Science, University of Milan.

Azzam, O.A. (1960). *The development of urban and rural housing in Egypt* (Doctoral thesis, Swiss Federal Institute of Technology, Zürich, Switzerland). doi:10.3929/ethz-a-000097781

Bayat, A. & Denis, E. (2000). Who is afraid of ashwaiyyat? Urban change and politics in Egypt. *Environment & Urbanization*, *12*(2), 185–199.

Brickell, K. & Datta, A. (2011). *Translocal geographies: Spaces, places, connections.* Burlington, MA: Ashgate.

Clifford, J. (1991). Traveling cultures. In L. Grossberg, C. Nelson & P. Treichler (Eds.), *Cultural studies* (pp. 96–116). New York, NY: Routledge.

Cohen, R. (1997). Global diasporas. An introduction, London; New York: Routledge.

Farinelli, F. (2003). *Geografia: Un'introduzione ai modelli del mondo.* Turin, Italy: Giulio Einaudi.

IOM (2010), A Study on Remittances and Investment Opportunities for Egyptian Migrants, Cairo, IOM.

Kapur, D. (2003). Remittances: The New Development Mantra? *G-24 Discussion Paper Series*.

Levitt, P. (2001). *The transnational villagers*, University of California, Berkeley.
Lindblom, C.E. (1959). The science of "Muddling Through". *Public Administration Review*, *19*(2), 79–88.
Magnaghi, A. (2000). *Il progetto locale.* Turin, Italy: Bollati Boringhieri.
Mahgoub, Y. (2001). The transformation of traditional rural settlements in Egypt, Second International Symposium TRADITIONAL ENVIRONMENTS IN A NEW MILLENNIUM: Defining Principles and Professional Practice Amasya—Turkey, 20–23 June 2001.
Maldina, S. & Tonnarelli, F. (2013). *Frozen Cairo* (Master's thesis, University of Ferrara, Italy).
Marcus, G.E. (1995). Ethnography through Thick and Thin. Princeton: Princeton University Press.
Pagès-El Karoui, D. (2002). *Villes du delta du Nil: Identités citadines et emergence d'une région urbaine: Tanta, Mahalla et Mansura*. Paris, France: CEDEJ-IISMM-Karthala.
Perrella, D. (2007). *Abitare il paesaggio agricolo periurbano. Esperienze a confronto* (Doctoral thesis, Department of Urban Design and Planning, Federico II University of Naples, Italy).
Portes, A. (1997). *Globalization from below: The rise of transnational communities*. ESRC Transnational Communities Programme, Working Paper Series, WPTC-98–01. New York, NY: Princeton University.
Pries, L. (2001). New Transnational Social Spaces. International Migration and Transnational Companies, London; New York: Routledge.
Redeker, C. & Kantoush, S.A. (2014). The Nile Delta: Urbanizing on diminishing resources. *Built Environment*, *40*(2), 201–212.
Saad, R. (2005). Egyptian Workers in Paris: Pilot Ethnography. Development Research Centre on Migration, Globalisation and Poverty.
Wahdan, D. (2013). Planning Egypt's new settlements: The politics of spatial inequities. *Cairo Papers in Social Science*, *32*(1).
Zaghloul, S.S. & Elwan, H. (2011). Water quality deterioration of middle Nile Delta due to urbanizations expansion, Egypt. In *Proceedings Fifteenth International Water Technology Conference, IWTC-15 2011, Alexandria, Egypt.* Retrieved from http://iwtc.info/wp-content/uploads/2011/07/G40.pdf.

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Metaphysics and identity in architecture: Peter Eisenman's Wexner Center for the Arts as case study

Houssameldeen Bahgat El Refeie
Al Shrouk Academy, Cairo, Egypt

ABSTRACT: The aim of this paper is to discuss the impact of metaphysical content in the formation of architecture, which subsequently confers identity within the urban context of the city. This metaphysical content includes the visions and perceptions that seek to explain the existence of God (absolute) and the universe, as well as the content of metaphysics and religious beliefs in the formulation of the identity of architecture. Thus, through critical analysis of artefacts of contemporary architecture, the impact and manifestations of metaphysics in the formation of architectural features and notation can be studied. This research selects Peter Eisenman's Wexner Centre for the Arts, Columbus, Ohio, USA, as an example with which to study the relationship between the representation of metaphysical factors and architectural identity in the modern era. The research follows an analytical methodology to study the terminology and build on the knowledge of semiology, which basically depends on the translation of forms and physical symbols. The research also depends on the philosophy of interpretation and explanation to extrapolate the impact of metaphysical reflection in all elements of design such as horizontal projections and three-dimensional design, as well as details and vocabulary that have left their impact on the drafting process and configuration. The main purpose of the research is to analyse the relationship between the metaphysical religious content and the identity of contemporary architecture.

Keywords: metaphysics; deconstruction; symbols; icons

1 INTRODUCTION

This paper fosters a hypothesis that metaphysics has been the only motive in the formation of ideals and visions throughout history. Religions, beliefs and myths provided answers to the questions of existence, the universe and the absolute. Those metaphysical beliefs were significant in the formation of architecture. These metaphysical beliefs have left their influences on different types of architecture in different civilisations at different times. That is, they occur consciously through the influences on humans being of education and tradition, and unconsciously through collective memory. Thus, metaphysical beliefs are responsible for the continuity and the accumulation of visions and expertise.

1.1 *Identification of metaphysics*

Metaphysics is the branch of philosophy that concerns itself with the nature of existence, natural phenomena, types of entities, and the formation of the universe. Alexander Gottlieb Baumgarten identifies metaphysics as "the science which studies the first principles of human knowledge; these principles are ontological (notion of existence), cosmological (notion of cosmos), psychological and theological" (Ghaly, 2003).

Metaphysics leaves its influences on adherents through consecutive generations. It passes regulating sociocultural principles from one generation to the next through collective memory.

1.2 *Branches of metaphysics*

The word "metaphysics" comes from the Greek words *meta*, which means 'what follows', and *phusika*, which refers to the physical and natural researches of Aristotle in ancient times. Originally, it referred to the sequence of Aristotle's works in which he discussed those things that transcend the physical and natural, although he did not apply the term 'metaphysics' to his work. Thus, metaphysics does not refer to the text's classification but to the arrangement (Baumer, 1977).

Besides small elements of natural science, Aristotle considered metaphysics to involve three essential branches: the ontological, the cosmological, and the theological. Mankind got all this knowledge from religion, myths and traditions, which interpret natural phenomena and establish the perceptions of God, existence and the cosmos.

2 METHODOLOGY

From previous research, we understand that man's perception depends on religion and myths told in different ways and in different languages. In fact, all such mental activities depend on the language that expresses beliefs and feelings (Augros & Stanciu, 1984). We think, communicate and express ourselves through language and words. Language works on a basis of understanding and interpretation through signs, and hence is able to transfer thoughts from one person's mind to another (Kemmer, 2009). Semiology focuses on linguistic analysis, especially the meaning of signs and words.

Not only does semiology focus on language, but also on all forms of communication activities in life, such as habits, social traditions, architecture and poetry. There are two branches of semiology; one of them depends on language interpretation (hermeneutics) and the other depends on the interpretation of form and physical icons. These branches are, in fact, inseparable, but each branch has its own methodology and identity.

2.1 *Hermeneutics*

Hermeneutics is a branch of philosophy that concerns itself with the interpretation of texts, originally that of scripture or religious texts. As such, its application depends on the intentions of the critics and authors and the points of view of those reading and interpreting the text.

2.2 *Semiology*

Semiology is the study of symbols, which focuses on meanings, signs and icons. It aims to establish a better understanding of text and language. Because signs can convey meanings spontaneously, people can derive meanings and perceptions through signs.

There are different approaches to understanding and analysing semiology. In this paper, we depend on Ferdinand de Saussure's interpretation as a basis for reading and interpreting signs in architecture. Saussure called semiology a "theory of signs". What he meant by the word signs was anything that refers to something indirectly or is a reminder of it. This could be through readings of text, gestures, forms, photos or buildings: a "sign is something, anything, which stands for or reminds us of something else" (Hoffmann, 2001).

Saussure discusses the differences between language and speech in the use of words, grammar and linguistic expression. He discusses how meanings and conversation define man's culture and identity. Saussure goes further and explores how language and words that refer to meanings and linguistic expression depend on syntax and the arrangement of words and phrases to create a specific meaning. For example, the word architect reminds us of architecture, building, construction and structure. Roman architect Vitruvius stated that, "In all matters, but particularly architecture, there are these two points: the thing signified and that which gives it significance" (McEwen, 2003).

2.3 *Signifier and Signified*

Saussure argued that a concept has two components: the signifier and the signified. They are connected and entwined together to form the "sign", which acts as a reminder of something else. Saussure claimed that the signifier is the physical thing which transfers the meaning or concept (drawing, picture, building, etc.). The signified is the subjective thing which completes the big picture. Thus, the signifier and the signified are the main elements of any concept. Saussure also claimed that the relationship between them is arbitrary (Glover, 2013). Additionally, he distinguished between synchronic studies, concerned with signs in a specific time and specific location, and diachronic studies, concerned with studying signs and their evolution across time (Glover, 2013). Diachronic studies depend on a collection of descriptive chronicle studies that compare old signs to new ones, meaning that the chronicle is changing with time (Russell, 1984).

3 WEXNER CENTER FOR THE ARTS CASE STUDY

The Wexner Center for the Arts in, Columbus, Ohio, was constructed between 1983 and 1989 (Figure 1). It was designed by Peter Eisenman and has become an iconic buildings, which incorporates many signs and a unique vocabulary that gives it a distinctive form, using three-dimensional modules in its design of indoor and outdoor spaces, especially its corridors and paths (Jencks, 1988). The building provides a distinctive features not only to the site but also to the whole urban context. Eisenman embraces his own theories about identity, community, culture and globalisation. He is one of the pioneers of the deconstructivist movement of postmodern architecture, and has his own thoughts about traditional buildings and fragments working together according to the dynamic system of the cosmos (Kolb, 1998).

Eisenman used a multigrid system to express the interaction between domestic and international streams (Figure 2). He interpreted his thoughts in the form of mysterious interlocking grids (Corbo, 2015). Eisenman was inspired by the physical dynamics of planets and used this on multiple levels and multiple layers, where he sought a utopia in architecture through the aesthetic values of forms and their alignment in symphony that matches the movement of the planets and their orbits (Jencks, 1988).

Eisenman was influenced by the deconstructivist philosophy of the French philosopher Jacques Derrida, who frequently argued that western philosophy has uncritically allowed metaphorical depth models to govern its conception of language and consciousness. He saw these unacknowledged assumptions as part of the "metaphysics of presence" to which

Figure 1. Wexner Center for the Arts, Columbus, Ohio designed by, Peter Eisenman (Source: http://fitnessnyc.files.wordpress.com/2009/06/wexner-center05.jpg).

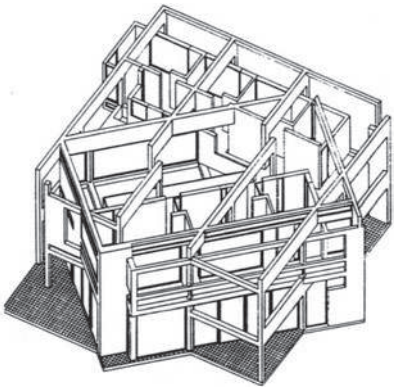

Figure 2. Peter Eisenman using grids in three dimensions (Source: http://www.dkolb.org/ht/ou-dk.html).

philosophy binds itself. This "logo centrism", Derrida argued, creates "marked" or hierarchised binary oppositions that have an effect on everything, from the conception of speech's relationship to writing, to the understanding of racial differences. Deconstruction is an attempt to expose and undermine such metaphysics. This is reflected in Eisenman's handling of forms and architecture using a double code (Jencks, 1988). Eisenman's study of ideologies and beliefs induced him to explore the users and their ideologies, beliefs and background (historical, religious, political and social) before starting the design process (Jencks, 1988).

He interprets these factors on different layers using multiple grids in the design process. From his point of view, history has the ability to "trace memory", dig into the past and search in history. Building upwards represents the future, while the site itself represents the present. All his designs are inspired by this philosophy (Jencks, 1988).

3.1 *Metaphysical influences in Peter Eisenman's Wexner Center for the Arts*

In the following subsections, I trace the metaphysical influences on the features and vocabulary of architecture and how they shape the distinctive form of the Wexner Center for the Arts.

3.1.1 *Theological influences*

Eisenman applies his philosophy "Symbolic Digging in Site", where he explores the prevailing beliefs in his community. He finds that Christianity is the major religion; thus, he formulates the essence of Christian beliefs in new symbolic architecture features (Corbo, 2015). This appears through his engagement with the tragic "Crucifixion" scenario. In addition, he announces his passion by the artistic paints addressing crucifying Jesus, especially "Crucifixion" by the painter Matthias Grünewald (see Figure 3).

This image of the torture of Christ inspired Eisenman to present a combination of geometric forms and offset grids to create incomplete representations. The clearest example is the main entrance which symbolises the anthropomorphic three dimensions of the crucified Christ; Eisenman split the entrance into two halves (see Figure 3), with a warm red colour to represent the blood of Christ (Corbo, 2015).

3.1.2 *Cosmological influences*

Eisenman was influenced by Christianity and the creation of the universe. In the light of these beliefs and thoughts, Eisenman was inspired by religious icons and converted them into architecture through a number of deliberately awkward and discordant moments, complicating the intersection of built space with human occupation (Andonian, 2012). In its concept

Figure 3. The main entrance symbolises an anthropomorphic representation of the crucified Christ (Sources: http://www.galinsky.com/buildings/wexner/wexner1.jpg; http://www.i-youniverse.net/wp-content/uploads/2009/04/crucifixion.jpg).

Figure 4. A number of deliberately awkward and discordant moments complicate the intersection of built space with its human occupation (Sources: http://prelectur.stanford.edu/lecturers/eisenman/projects.html; http://www.bluffton.edu/~sullivanm/ohio/columbus/wexner/eisenman.html).

and process, the Wexner Center is an exemplary illustration of Eisenman's unique approach to architecture.

Eisenman assigns divinity to the major grid and gives it dominance over all other architectural vocabulary and features, allowing it to rule all the indoor and outdoor spaces (see Figure 4), and using white colouring to refer to light, transparency and the shining of God (Rogers, 1998).

3.1.3 *Ontological influences*

Eisenman was influenced by Christian belief and the biblical creation narrative from the book of Genesis in which God breathes life into Adam, the first man. Eisenman announces his influencing by the painting by Michelangelo, which forms part of the Sistine Chapel, in which the image of the "near-touching hands" of God and Adam has become iconic to humanity (see Figure 5). This painting is part of a complex iconographic scheme and is chronologically fourth in the series of panels depicting episodes from Genesis (Rizzatti, 1967).

Eisenman magnifies structural elements and creates a strong grid system that dominates the formal language of the building (Figure 5). The urban grids of the city of Columbus and of the university, slightly off-kilter from one another, overlap within this project. The 12.5° of variation between the two results in an axial rotation within the museum, with corresponding

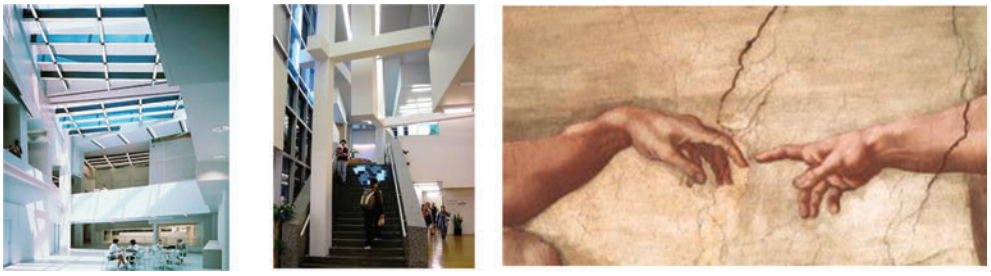

Figure 5. Magnifying structural elements giving the major grid dominance (and representative divinity) over all other vocabulary; the "near touching hands" of God and Adam have become iconic of humanity (Sources: http://www.architetturaamica.it/Biblioteca/recens/Eisenman.html; http://images.worldgallery.co.uk/i/prints/rw/lg/7/1/Michelangelo-The-Creation-of-Adam-7157.jpg).

tectonic elements creating jarring moments of intersection as the two systems compete for primacy (Ansari, 2013).

4 CONCLUSIONS

- Metaphysics leave their impact on architecture, and it is one of the major factors in forming and shaping architectural vocabulary.
- Eisenman was inspired by the scenario of the torture of Christ and presented a combination of geometric forms and offset grids to formulate incomplete representations of them.
- Eisenman interpreted the essence of Christianity using different factors on different layers using multiple grids in the design process, which gives the building a distinctive architectural features.
- Eisenman was inspired by metaphysical religious icons and turned it into architecture through a number of deliberately awkward and discordant moments that complicate the intersection of built space with its human occupation.
- The Wexner Center acquires its distinctive features through interpretation of the metaphysical content of the Christian religion, which gives a unique identity not only to the site but also to the whole urban context.
- Eisenman embraces his own theories about identity, community, culture, and globalisation, and turns them into architecture.
- In architecture, translating metaphysical content through signs and icons is used to give a deeper dimension to the building scenario, which subsequently reflects on urban context.
- Eisenman was influenced by the deconstructivist philosophy of the French philosopher Jacques Derrida, who frequently argues that western philosophy has uncritically allowed metaphorical models to govern the concepts of language and consciousness.

REFERENCES

Andonian, D.G. (2012). Book review: Derrida and Legal Philosophy. Edited by Peter Goodrich, Florian Hoffmann, Michael Rosenfeld, and Cornelia Vismann. *The European Legacy, 17*(3), 399–400. Retrieved from http://www.tandfonline.com/doi/full/10.1080/10848770.2012.673337.

Ansari, I. (2013, September 23). Eisenman's evolution: Architecture, syntax, and new subjectivity. *ArchDaily*. Retrieved from http://www.archdaily.com/429925/eisenman-s-evolution-architecture-syntax-and-new-subjectivity.

Augros, R.M. & Stanciu, G.N. (1984). *The new story of science* (pp. 11–15). Washington, DC: Regnery.

Baumer, F.L. (1977). *Modern European thought, continuity and change in ideas, 1600–1950* (p. 365). London, UK: Macmillan.

Corbo, S. (2015, January 25). From Formalism to Weak Form: The Architecture and Philosophy of Peter Eisenman. *ArchDaily*. Retrieved from http://www.archdaily.com/591214/from-formalism-to-weak-form-the-architecture-and-philosophy-of-peter-eisenman.

Ghaly, W. (2003). *The end of philosophy* (p. 40). The Public Egyptian Institution for Books.

Glover, R. (2013, March 8). Signs. Retrieved from https://ryanglover92.wordpress.com/2013/03/08/signs.

Hoffmann, M.H.G. (2001). *Digital encyclopedia of Charles S. Peirce: The 1903 classification of triadic sign-relations*. Retrieved from http://www.digitalpeirce.fee.unicamp.br/hoffmann/p-sighof.htm.

Jencks, C. (1988). *Architecture today* (Rev. ed., p. 265), York, NY: Harry N. Abrams.

Kemmer, S. (2009). Guided commentary on de Saussure's Course in Modern Linguistics. Retrieved from http://www.ruf.rice.edu/~kemmer/Found/saussureessay.html.

Kolb, D. (1998, August 20). Collisions and Interactions: A Philosophical Perspective on CATAC 98. Retrieved from http://www.dkolb.org/arch.urb/catac-dk.html.

McEwen, I.K. (2003). *Vitruvius: Writing the body of architecture* (pp. 17, 65). Cambridge, MA: MIT Press.

Rizzatti, M.L. (1967). *The life & times of Michelangelo* (p. 16). Verona, Italy: Hamlyn.

Rogers, C. (1998). Wexner Center for the Arts, Columbus. *Galinsky*. Retrieved from http://www.galinsky.com/buildings/wexner/index.htm.

Russell, F. (Ed.). (1984). *Mies van der Rohe: European works* (p. 20). New York, NY: St. Martin's Press.


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Immersing the landscape in its music: The case of iso-polyphony in South Albania

Michele Porsia & Luciano De Bonis
University of Molise, Italy

ABSTRACT: This article reflects on cities and landscape as a complex interweaving of processes that it is not possible to control absolutely. However, it is possible to stimulate the generation of processes that could help an area to develop a sustainable economy, for instance, by highlighting its cultural heritage. In this paper, a project is used as a 'tool for research': it helps to explain how to deal with the fragile, but significant, intangible heritage of a specific place. The case study is the iso-polyphonic traditional music of South Albania, recognised by UNESCO, with a core area around Qeparo village. The paper proposes one project (among many possible ones) that is a process itself and that tries to elaborate a *reductio ad unum* of the mutual relations between landscape research, education, creativity and praxis.

Keywords: cultural heritage, intangible heritage, iso-polyphonic traditional music, reductio ad unum

1 INTRODUCTION

1.1 *Discovering a hidden heritage*

If landscape is, as defined in the European Landscape Convention (Council of Europe, 2000), an area as perceived by people, it is important to consider that the view is just one *door of perception* among the many senses that are involved in a synaesthetic experience. Perception of landscape involves a complex relationship between data processing, cultural filters and subjectivities, where human presence is essential. When we speak about cultural landscapes we often think about particular features, depending on artefacts that represent the relations between a specific cultural community and its space. Included within these is the 'intangible cultural heritage' defined by UNESCO (Francioni, 2001).

The opportunity to take part in the Riviera Lab—a September 2016 workshop on "Art, Architecture and Landscaping as tools for boosting improvement of life and social economic growth", organised by Polis University of Tirana—offered the chance to review the role of cultural heritage in the landscape quality assessment of the South Albania coast (known as the Albanian Riviera) and the village of Qeparo. A traditional Albanian folk music, iso-polyphony, is in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity (UNESCO, 2008).

2 BETWEEN THEORETICAL FRAMEWORK AND SURVEYS

2.1 *Project as a method*

Consideration of the intangible cultural heritage of a landscape helps to focus on a more general issue that underlines how landscape should be considered as a space-time process, where human beings participate in the same way as other animate and inanimate elements. Just like a nice view, music is not a noumenon: it is a phenomenon (enjoyable for some humans)

of an extremely complex overlapping of processes. Given this complexity, it is a means that would generate constructive thoughts for major projects. The project aims could define one way (among many) of approaching and interacting with the processes of landscape. So we could say that here a project is used as a methodological research tool to understand why it is necessary and how it is possible to interact with such a labyrinthine issue.

Different skills are needed in order to approach any project properly. As landscape is a matter of perception, it is a process of the human mind, where the projection is a common aspect—even when it is perceived implicitly—for all human beings. We can call this continuous activity '*mind image* generation' (Lynch, 2016). The *mind images* that we build lead our action. A plan or a project is, in this sense, an image (De Bonis, 2001). A project, like a piece of art, can interact with the *mind images* to shift perception into a different *mind area*. A project can definitely be a tool to discover and to show an idea improving the perception skills of people. The planner often plays a subtle role in changing landscape and, solely through a common project, a community could learn how to learn. A project can deconstruct images and stimulate the creation of new ones (De Bonis, 1998).

In this sense, a project should be self-generated from the place and the planner has an intermediator: as a good teacher, who does not impose ideas, but uses them to establish a peer-based dialogue with their students, being ready to learn as well (Dewey, 2012).

It is inadequate to imagine, as some classical planning methods have suggested the maintenance of certain features belonging to the a system of restrictions. Research, planning practice and education could enrich each other with their mutual relationships by treating the project, or plan, as a medium for communication (De Bonis, 2001). So, to deal with a complex process, a catalyst is required that can, for example, potentially speed up some of the simpler processes, slow down others, and trigger new processes. Indeed, the relevant features of a landscape are just a side effect of the processes that permeate it, and the only way to retain some aesthetic features is to try an interaction with those implicit processes and to monitor the ongoing results.

Returning to Albanian iso-polyphonic music, we could consider that some sounds and some music are deeply linked to, for instance, economic processes: farmers' and shepherds' songs are an example of this. Some sounds are even able to establish communication among species: a cry, a whistle or a scream is a *medium* between human beings and animals. Music is often linked to rituals, performed in special times and places that are associated with myths and legends, including the creation of the world (Schneider, 2007). Music is part of a complex pattern in which cutting just one thread could cause consequences for the handing on of cultural heritage.

The idea of the developed project is a long process that could merge the cultural heritage of iso-polyphony with creativity and innovation in order to enrich artistic heritage.

2.2 *A few notes about the place*

At first sight, the relationship between the sea coast and the hinterland of Southern Albania is a peculiar feature: the landscape is characterised by a huge altitude differential within a short distance, which is also the reason for an equally huge biodiversity of flora and fauna. A road following the coast reveals panoramic views.

This area also reflects critical issues associated with recent history. The territory was regarded as strategic for the military control of the country and for this reason entry was barred even for its former inhabitants. We have to mention that only after the end of the civil war in 2007 could this region breathe again after several years of trial. A war-based envisioning of the territory means looking through a strategic filter where, for example, a hill represents a check point, and a bay represents a port to constantly monitor the enemy. Several villages were abandoned during the civil war and are actually in ruins, being too far from the main road, with not enough people living there to sustain viable communities. This is the case for Qeparo, which is a village 450 metres above sea level, on the western slopes of Mount Gjivlash. The name of the village probably comes from the Greek word *kipos*, which means 'garden'. In ancient times, the entire region (Himara) was inhabited by Greeks and a mix of Albanian and Greek cultures is still noticeably present.

Terraced hills with olive groves, dry stone walls, and flocks of sheep, goats, cows and donkeys are all remnants of a culture of constant dialogue between human beings and their environment; a relationship with the place lasting longer than any war. The history left attractive and powerful agro-pastoral features that are a potential basis for future sustainable development. However, there are several military bunkers sprawled on the coast.

It could be interesting to avoid the tendency towards forms of economy that bring benefits for only a few stakeholders. 'Old-fashioned' mass tourism, for instance, could destroy some of the qualities of the Riviera, as has already happened in many stretches of the Adriatic coast. Given that we are speaking of music, it would be more interesting to try singing a different song.

The challenge could be to develop new ideas for tourism, directly connected with cultural heritage. Could the high value of artistic artefacts, including iso-polyphonic music, assure a better use of resources? Perhaps the altitude differential could be addressed with rack or escalator systems to enhance the connection between the beaches and the historic villages that could be used for accommodation. Sometimes, what appears as a weakness can become a strength. The critical point is that depopulation means no communities of inhabitants and, for this reason, the future probabilities cannot be met, but at the same time, if there are no favourable conditions, people will not come back to live in this place. Certainly, it is important to focus on infrastructure, but also on reconstruction of a sense of belonging in the people for the place.

2.3 *The issue of intangible heritage*

The project *Safeguarding Albanian Folk Iso-polyphony* started in 2006 and ran until 2010 when a second project was funded, called *Inventory of Albanian Folk Iso-polyphony.* The aim was to preserve Albanian iso-polyphonic music, which is a peculiar form of choral singing, performed mostly by men, often without any instrumental support (Tole, 2014).

It is notable that despite two well-conducted international projects, a visit to the Albanian Riviera does not easily reveal its precious musical heritage. Only by researching was it possible to learn about Albanian iso-polyphony, first proclaimed as Humanity Heritage in 2005 and then incorporated on the Representative List of the Intangible Cultural Heritage of Humanity in 2008.

Music could act as a hub to rebuild attachment for the place, rediscovering its agro-pastoral culture. It could definitely act as a powerful attractor for inhabitants to reconstruct the community, as well as for a new generation of experiential tourism.

3 THE PROJECT

3.1 *Ideas for an iso-polyphonic roots hub*

The first goal of any project for Qeparo could aim to link Albanian iso-polyphonic music, as an example of the Intangible Cultural Heritage of Humanity, with the rural culture that persists. During surveys, olive trees appeared as silent witnesses of history. Dendrochronology shows how hundreds of years of history are recorded in a tree. On the other hand, music played just by voices are to performed and produced by blue-collar jobs. It is interesting to consider that we routinely use expressions such as 'genealogical tree' or 'cultural roots' or 'rootedness' to express relationships. We could say that the tree is also a human symbol, crossing different cultures, representing a link between the ground and the sky. The symbolic value of the tree is exactly the same as the singing that has the power to connect the highest and the deepest parts of our world (Schneider, 2007). The typical square of a Riviera village—the place where people used to meet—has a tree (often an oak) at its centre. Riviera people need to form a community and, at the same time, the incorporeal heritage of iso-polyphonic music needs a 'body', which could represent the rural culture and rhythms.

Some suggestions come from a contemporary art background. For example, the artworks of Giuseppe Penone often involved a tree, sometimes a living one, sometimes a mould-formed metal one. Pinuccio Sciola also influenced our ideas, suggesting that, because stone usage is common in the Qeparo area, it might be possible to imagine some roads with stones

transmuted into musical instruments. In addition, the successful experience of the *morske orgulje* (sea organ) of Zadar, Croatia, designed by Nikola Bašić and opened to the public in 2005, has also inspired the project.

The project method clearly showed the need for a physical and symbolic space for the people to act as a community builder and heritage producer.

Is it possible to imagine that a technological device, an object with features that made it part of the Internet of Things (IoT), could help the generation of an immanent and permanent territorial polyphonic network?

3.2 *The question*

But how can an "intangible" (but perceptible) element of a cultural heritage be "territorialised" – made even more perceptible—in a manner neither reifying, fetishistic or static but, on the contrary, aimed at fostering the preservation of that heritage as well as at the creation of new heritage, both intangible and tangible, and at maintaining an active relationship with that specific environment?

This question was the starting point for the development of a territorial project, aimed at transforming the iso-polyphonic music into a local community builder, stimulating an increased population involvement in its creation and fruition, and developing a new kind of cultural and sustainable tourism.

3.3 *How the project works*

The project is called "From an Iso-Polyphonic Roots Hub to a Territorial Iso-Polyphonic Network" and it is organised in three phases. The physical intervention is a kind of hi-tech land art installation: reuse of an old house on the border of the town could be suitable to build a form of amphitheatre for a small choir, and it could be possible to dig a cistern to collect rainwater for agricultural use and to provide water for livestock. Having a good acoustic, the vacuum and the water in the ground could help to amplify the sound (see Figure 1). At the same time, the roof could be a kind of hi-tech sculpture in the form of a tree trunk with long stems ending in two lateral supports. In terms of the construction material, it is not specified: recycled plastic modelled with a huge 3D printer could be used, as well as a mixture of local materials and refuse using an assemblage technique, so that the result could look more 'handcrafted'. In this last case, one positive aspect is that the inhabitants could help to realise it. This place could have a name linking the music, the cultural roots, and agriculture: it could be something like "Iso-polyphonic Roots Hub", but it could be a good idea to involve the people and conduct brainstorming exercises. What is important, from the technological side, is that some sensors should be installed on the 'roots' with the ability to detect and record, on a device, singing voices (see Figure 2). A touchscreen could be used to collect the personal data of the 'user-singer' in order to connect him/her with a virtual, but nevertheless real, community. Other visitors could come and choose to sing the same song in the same or a different tone in order to specifically create a polyphonic music, or they could sing a different song.

3.4 *Three steps*

The aim of the first step of the project is to collect information about the informal network of locals interested in listening to and singing polyphonic music. A multimedia platform will help to engage young people, and older ones too, interested in their common 'roots', and to organise them into a web community. We cannot say in advance how long it could take to achieve a reasonable result.

The second step will be the formalisation of this informal network into a Non-Governmental Organisation (NGO) for iso-polyphonic music preservation and transmission. This association could find internal or external members for a real choir and start to collect sponsors to fund a polyphonic voice solo international festival in order to establish a network of similar heritages in other places (e.g. Sardinian 'cantores'). At this time, the device could

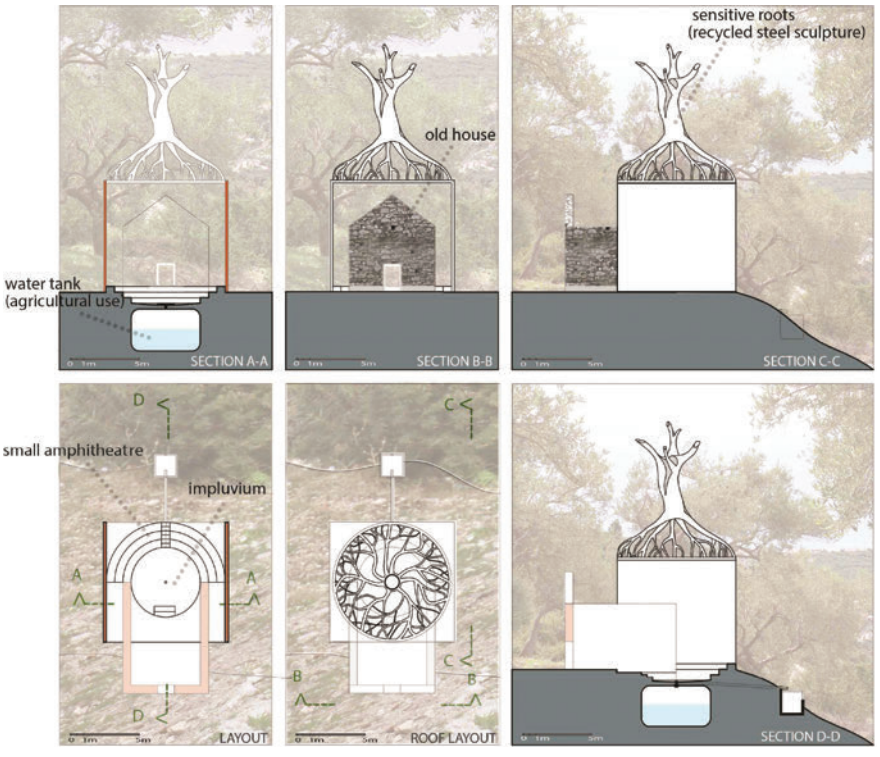

Figure 1. Hypothesis of intervention.

Figure 2. Territorial iso-polyphonic network.

collect materials as documents of the intangible heritage. Songs could be categorized into several themes. Some of which could be labelled as the relaxing one, where people listen to in order to alleviate their pains, other songs could be collected and the hub could continue

to attract and record people interested in this topic, as well as simply being a place to meet people. It could become a tourist attraction.

The third step will start when the device has collected enough edited songs and the choir is stable enough to perform. The choir could give live concerts all year round in the Iso-polyphonic Roots Hub and elsewhere. At the same time, long-distance sound relays could broadcast music in strategic places such as the old bunkers that exist on the coast. In this case, the spaces could help to amplify the sound. The association could identify the best places to install the long-distance relays, which should be provided with a proximity sensor and a solar panel to be energy-independent. During and after this step, it would be possible to build a territorial music network with the long-distance sound relays (see Figure 2).

3.5 *Conclusions as starting point*

Advertising of the Iso-polyphonic Roots Hub could bring tourists to visit Qeparo and activate the local economy. An international festival could be organised every year; the hub will continue its work of collecting and recording while the association could organise a Call for Composers in order to find musicians that could generate new songs and regenerate the tradition in respect of the re-established heritage.

The core of the project is an Internet of Things (IoT) device, also representing a symbolic object able to gather a community around its iso-polyphonic music, either in real or deferred time. It can, indeed, capture single voices, mixing and transforming them in a virtual polyphony over time, but it can periodically also transform itself into a hall for a live event, actually becoming polyphonic.

The long-distance sound relays, placed in the disused military bunkers and supported by proximity sensors (which activate when someone approaches), can spread the captured voices and the mixed polyphonies throughout the Riviera (along pathways and close to the seaside), discreetly transforming the entire territory into a landscape immersed in its own music.

It is possible to conclude that a symbolic physical object can valorise an item of intangible cultural heritage, becoming an emblem of identity for a city and for a landscape, giving 'identity' to the holistic sum of memberships in a community.

REFERENCES

Council of Europe. (2000). *European Landscape Convention* (Treaty No. 176). Strasbourg, France: Council of Europe. Retrieved from http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/176.

De Bonis, L. (1998). *Città e comunicazione. Dalla Pianificazione ordinativa alla pianificazione implicante* [Towns and communication. From Planning to ordinate involving planning] (Doctoral thesis, Department of Architecture and Urban Planning, Sapienza University of Rome, Italy).

De Bonis, L. (2001). Communication technologies and planning 'technologies'. *Plurimondi*, 5, 207–222.

Dewey, J. (2012). *Arte come esperienza* [*Art as experience*] (3rd ed., Original work published 1934). Palermo, Italy: Aesthetica.

Francioni, F. (2001). Intangible cultural heritage—Working definitions. Paris, France: UNESCO. Retrieved from https://ich.unesco.org/doc/src/05359-EN.pdf.

Lynch, K. (2016). *L'immagine della città* [*The image of the city*] (17th ed., Original work published 1960). Milan, Italy: Marsilio.

Schneider, M. (2007). *Il significato della musica* [*The meaning of music*] (Original work published 1970). Milan, Italy: SE.

Tole, V.S. (2014). *Enciklopedia e iso-polifonisë popullore shqiptare* [*Encyclopaedia of Albanian folk iso-polyphony*]. Tirana, Albania: Uegen.

UNESCO. (2008). Albanian folk iso-polyphony. Paris, France: UNESCO. Retrieved from https://ich.unesco.org/en/RL/albanian-folk-iso-polyphony-00155.

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The changing image of Istanbul through its monuments (1923–1973)

Elâ Güngören
Mimar Sinan Fine Arts University, Istanbul, Turkey

ABSTRACT: In this paper debates and recent discussions concerning the planning of public spaces/parks and squares will be presented to understand whether an identity for Istanbul had been sought to portray it via the design of its monuments. Blending the characteristics of a transitory non-lieu urban settlement as well as having peculiarities proper to its own culture, societal values, political, religious and economic dynamics, the city is long considered as an intricate set of components. Apart from questioning the persistence of the commonly received idea that the square is an unplanned leftover space from late Ottoman Empire till today in architectural historiography, mainly based on eurocentric and political interpretations of the public space, this paper aims to focus on the aesthetical values of monuments. While main artistic trends will be presented, we will try to explore the kind of modernism proper to their design in post republican era in Turkey.

Keywords: public spaces; city identity; architectural historiography; modernism

1 INTRODUCTION

The city of Istanbul has been subject to many poems, novels, films, strip cartoons, scientific articles and books. Poets such as Yahya Kemal Beyatlı (1884–1958), Ahmet Hamdi Tanpınar (1901–62), Orhan Veli Kanık (1914–50), novelists as Orhan Pamuk (b. 7 June 1952) or film makers as Joseph Pevney (1911–2008) or Ferzan Özpetek (b. 3 February 1959) have presented their own interpretations of the city. Whether used as a stage for fictional Hollywood films as for example in the film called Istanbul (1957) or considered as database for novels as for example Pierre Loti's semi autobiographic book Aziyade (1879), the city's image changed within time to being confined to its public squares and became an arena wherein struggles and massacres would take place, mainly after the Gezi upheavals which started in May 2013. While it was presented in both popular literature, marketing discourses or academic dissertations as being a bridge and meeting point between the East and the West, it has been observed that after the upheavals especially, emphasis was put on its dichotomic character via its urban components such as its public spaces and squares. The city in line with the political agenda was thus considered as being an arena wherein Muslim religion would conflict with secularism, or different ethnic groups or social layers would not meet but struggle in search of identity, for the right to citizenship or for political recognition. Whereas the city's public spaces and squares are mainly considered as products of hegemonic political relations, during these manifestations surprisingly, the very same spaces turned into arenas wherein political actions acquired an aesthetic dimension and content. Accordingly in this paper it is intended to focus on the aesthetical and semantic values of monuments and the design of its public spaces during the Cold War years. It is aimed to present these criteria concentrating mainly on the twenty monument-sculptures erected to celebrate the fiftieth anniversary of the Republic in 1973, in order to shed light on the artistic currents and themes that were at the root of their creation. While main artistic trends will be presented during the above mentioned years, we will try to explore the kind of modernism or modernisms proper to the

design of edifices, sculptures or installations defined as entities and products of common memory and identity.

2 THE PUBLIC SPACE IN TURKISH-OTTOMAN URBAN HISTORY

As it can be followed from architectural guides, Istanbul is presented as being geo-graphically divided into four areas namely the Historic Peninsula, Galata, Bosphorus and the Asian Side and the Modern and Contemporary City (Architectural Guide to Istanbul, March 2006, Istanbul: Chamber of Architects of Turkey). In books concerning its architectural and urban history the city is generally seen as a depository and generator of images. The titles of the books such as Çelik's *The Remaking of Istanbul: portrait of an Ottoman city*, dating to 1993 or Gül's *The Emergence of Modern Istanbul, transformation and modernization of a city*, dating to 2009 or Kuban's *Istanbul Yazıları*, dating 1998 all converge to the same idea that the city is an open air museum, a stage wherein buildings, streets, boulevards, squares are components and entities open to change under specific rules and decisions. These narratives changing according to the authors' background, political tendencies or age generally focus on different episodes and dynamics affecting the city's morphological aspect, tracing its peculiarities and its traits over time. These writings are completed by those on Ankara, appearing as an antithesis to Istanbul representing ideologies of the new Republic instaured in 1923 and tightly associated with the modernism of the early republican architecture. For example for Bozdoğan modernism is considered within the framework of a systematic modernization project program and it consists of an imported modernism. Moreover the author argues that Turkey's political and intellectual elite had engaged itself to build up a European, modern and laic nation-state from the ashes of the Ottoman Empire during the proclamation of the Republic in 1923 (Bozdoğan, 2012).

One of the major outcomes of these narratives is that generally the concept of westernisation goes hand in hand with modernization as does the concept of modernity. Architectural historian Kuban (b. 1926) for example situates this phenomenon around the reign of Mahmud I (2 August 1696, Edirne—13 December 1754), whereas for Çelik the years comprised between 1838–1908 are more significant (Çelik, 1993). For Kuban the concept of an inner city square existing in the Western world from the Greek agora onwards does not exist in Ottoman-Turkish urban history (Kuban, 1994) and social life takes place around the mosque situated next to forums which are remnants of the Byzantine city. He points out to morphological changes due to fires ravaging the city during the 18th c. (Cibali 1716, Balat Gate 1727, 1754–1757, 1774–89) as does Çelik who mainly presents projects and proposals emphasizing the urban physical changes due to legislative and administrative decisions. While she deals with the urban transformations the city undergoes basing them on the institutional reforms set in motion by the declaration of the Tanzimat Charter finding their extensions in the built forms-in the urban fabric on a larger scale and in architecture on a smaller scale, she states that the result was the metamorphosis of the classical Ottoman/Islamic urban image into a more cosmopolitan one, penetrated by forms and elements adopted from Western models (Çelik, 1993).

As to public urban spaces the large open areas around mosques or the construction of a covered bazaar can be interpreted as signs for the will to open the city to open air practices. In the Süleymaniye complex (1550–1557) for example, a third courtyard was added outside the inner and outer ones, more commercial, less connected to prayer. Although the public urban space had been of a major concern with the reshaping of former Byzantine squares and the construction of mosques, still the use of sculptures within the square was a missing feature compared to European cities' squares and to Rome specially. The lack of the sculpture as having representative qualities in comformity with the figure is believed to be related to the practices and beliefs of muslim religion. However iconoclastic attitudes have also been experienced during the Byzantine Empire. The absence of edifices from the city's squares is seen after the 8th c. onwards in the Byzantine capital.

3 THE PUBLIC SPACE FROM LATE OTTOMAN TO EARLY REPUBLICAN ERA

Çelik who is mainly interested in the nineteeth century because it opens a new era in the city's history, states that a concerted effort was made to transform the Ottoman capital of Istanbul into a Western-style capital in the effort to salvage the Ottoman Empire by reforming its traditional institutions. In the same book the author examines the transformations in the urban form of the Ottoman capital from 1838 to 1908 that is, from the Anglo-Turkish Commercial Treaty, which opened the Empire to foreign capital, to the Young Turk Revolution, which marked the end of Abdülhamit II's autocratic rule. The author believes that although culturally and physically exposed to impositions coming from Europe as many non-Western cities of the nineteenth and early twentieth century, its response to these external influences was unique, being shaped by a complex heritage and a noncolonial status (Çelik, 1993).

Yeşilkaya in line with this rhetoric developed around East/West or Islamic/secular dualities posits that in general apart from monumental architectural constructions the Ottoman urban space does not have sculptural monuments. While the appearance of the sculpture as an independant and indispensable feature within the urban context is said to cover the period from Baroque to the 19th c. among art historians, the appearance of fountains as isolated monumental sculptures and as focal points of a square start with the modernization of the Ottoman Empire considered to take place mainly in the 19th c. (Yeşilkaya, 2002). Examples are multiple for these public fountains within the city. Other components of the Ottoman city are clock towers and fire towers. The fire tower of Bayezid situated in the confines of the former Theodosian Forum is a magnified column and stands in the historic peninsula in the prolongation of the habit to erect obelisks although executed in 1828.

4 THE PUBLIC SPACE IN 1973

Art historians point out to the fact that the monument stripped from its ideological character as an aesthetic entity meeting the citizen within the city had a starting point. While Göktaş situates this around 1960s with the construction of the Manifaturacılar (small manufacturer) retail center (1959) by Doğan Tekeli, Sami Sisa and Metin Hepgüler (Göktaş, 1998), considered as the earliest shopping malls and an example of 'mat urbanism situated in Sultanhamam', for Pelvanoğlu the seminal date is 1973, the 50th aniversary of the proclamation of the kemalist Republic extanding till 1993 (url-1).

The retail center is composed of a series of lower-rise small blocks connected by outdoor galleries and courtyards. The courtyards open up to the Süleymaniye Mosque behind, establising urban pedestrian links in between. The site plan and section drawings testify to a respect for the historical silhouette and an intention of infusing the large complex into its environment with small and dynamic steps. This make the building and indisputable milestone marking the departure from the canonic prismatic block in favour of a more fragmented typology and a more public-orientated urban morphology (Bozdoğan, Akcan, 2012). Its inner courts are adorned by sculptural fountains and its blocks facades by mural in ceramic and mosaic. Kuzgun Acar (1928–76), Füreya Koral (1910–97), Bedri Rahmi Eyüpoğlu (1911–75), Yavuz Görey (1912–95), Ali Teoman Germaner (b. 1934), Sadi Diren (b. 1927) and Nedim Günsur (1924–94) are among the artists who have worked to build up the artistic quality of the retail center. It was in the 1950s (together with Turkey's transition into the multi-party political arena) that new stimuli arose in the fine arts with the formation of the group called the turkish Grup Espas in 1955 in the prolongation of the French Groupe Espace founded in 1949, although departing from the French group because of different conceptions concerning the spatial qualities of works of art, their coming together in an exhibition and interdisciplinarity. In the frame of the works executed by the above mentioned artists for at least the next thirty years, the plastic arts revived and reached new limits in both

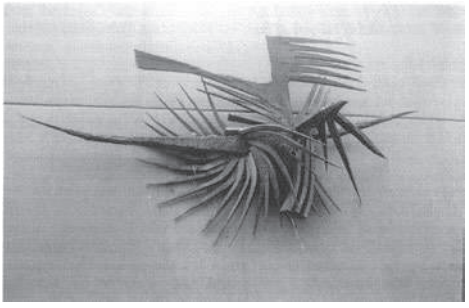

Figure 1. Kuzgun Acar, "Soyut Kompozisyon" (Abstract Composition), IMÇ, Unkapanı, 1967, 500 × 300 × 70 cm.

representative and abstract expression. Another complex having works of plastic arts under its roof was the Istanbul Trade Center (1963–71) designed by Orhan Şahinler (1928–2016).

A commission called the Board for the celebration of the 50th anniversary of the proclamation of the Turkish Republic having at its head the mayor of Istanbul at a meeting in 1972 decided to implement monuments to adorn the city. But out of fifty monuments only twenty could be erected because of financial problems. In fact this project was part of a broader project concerning other cities as well in the country. For example the memorial for Atatürk, his mother and womens' rights (1972–73) designed by the architect Erkal Güngören (1934–2002) and the sculptor Tamer Başoğlu (b. 1938) in Izmir-Karşıyaka or the park called Anıtpark (1972–73) realized partially in Izmit, covering a total area of 8.000 m^2 by the architect Erkal Güngören and the sculptor Ali Teoman Germaner were other examples for such an endeavor. These monuments were commissioned by way of foundations which were financially supported by the government and local municipalities. Although these monuments' names had ideological connotations emphasizing national pride, associated with Atatürk, his companions or his mother as it is the case in Izmir, their designs were done according to modernistic principles. Such was also the case for the monument to workers, in Edirne again by Güngören and Germaner, which can be considered as another early example for the implementation of Worringer's Einfühlung principle paving the way to installations if not landart in Krauss' terms (Krauss, 2002). Güngören and Germaner conceived this utopic park along socialist ideals, intending to spread artistic experience to people, the beholders of the edifice. The monument-installation in Edirne including a museum, coffee shops and reliefs could never see the light of day because of the Cyprus war in 1974.

As to the plastic principles which are at the basis of the design of edifices used for the adornment of the parks of Istanbul, in 1973 for the first time Atatürk or a political leader as representing the power of the state was not chosen as a key figure. Among the twenty sculptures Gürdal Duyar's (1935–2004) 'beautiful Istanbul' portrayed Istanbul as a naked woman. The sculptor had used symbols related to the city. For example the fig represented holiness, the honesuckle the city's fresh air, the bee its population density, its dynamism, and the pomegranate the symbol of the city's legends (Antmen, 2009).

As Ali Teoman Germaner and internationally reknowned sculptor Kuzgun Acar, Duyar had been Rudolph Belling's (1886–1972), Ali Hadi Bara's (1906–71) and Zühtü Müridoğlu's (1906–92) student while studying at the Fine Arts School in Istanbul. Ali Hadi Bara and Zühtü Müridoğlu were among second generation Turkish sculptors who had conceived the edifice (1942) to Barbarossa (1478–1546) across the türbe of the former pirate who became in time Kanuni Süleyman's (1494–1566) admiral in Beşiktaş, Istanbul. Ali Hadi Bara is known to be one of the founders of the Turkish Grup Espas. According to Pelvanoğlu this monument is one of the early monuments to have spatial qualities although not completely freed from its piedestal (url-1).

Another naked woman executed in the classical beaux-art style was the sculpture called 'Nü' (The Nude) by Kâmil Sonad (b. 1914) taking place in the park of Gülhane, the park

Figure 2. Muzaffer Ertoran, "Işçi" (Worker), Tophane, Karabaş Park, 1973, Concrete, $200 \times 80 \times 80$.

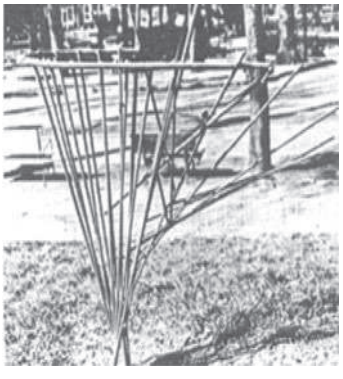

Figure 3. Kuzgun Acar, "Soyut Heykel" (Abstract Sculpture), Gülhane Park, 1973, Iron.

situated at the skirts of the Topkapı palace. Contrary to Duyar's expressionist touché, Sonad's is a well balanced figure standing upright as if devoid of feelings. Other sculptors who worked for this project were Muzaffer Ertoran who designed a figurative work called the 'Işçi' (The Worker) in Tophane, Nusret Suman (1905–78) who executed the architect Sinan (1489–1588), Namık Denizhan (1937–2015) who conceived a monument called 'Ikimiz' (The two of us). The city had also been portrayed via the usage of its tombstones. An example for this was Zühtü Müridoğlu's 'Dayanışma' (Solidarity), made out of concrete, installed in Fındıklı Park. The sculpture was a column having a height of 4 m with spiral abstract calligraphic reliefs on its main body, climbing up the column. This column refered to the former Byzantine capital's urban components such as obelisks as well as the Ottoman tombstone tradition.

Among the twenty monuments erected in different parts of the modern city some had figurative features and some had abstract qualities. Accordingly most of these installations had been called Abstract. An example was Haluk Tezonar's sculpture taking place in Maçka, another was Füsun Onur's (b. 1938) 'Soyut Kompozisyon' (Abstract composition) in Fındıklı park or Seyhun Topuz's (b. 1942) 'Soyut heykel' (Abstract sculpture) in the entrance of 4. Levent. Kuzgun Acar's 'Soyut Heykel' (Abstract sculpture) had taken its place in Gülhane Park. This piece made out of wrought iron was an assemblage and its structural features gained importance in the overall design in the prolongation of Acar's inclination to work with iron. Another sculpture again called 'Soyut heykel' (Abstract sculpture) in Bebek was Ali Teoman Germaner's. This sculpture done out of wood and copper had been executed according to the scale of the children because it was installed in a children's playground.

Germaner aimed at avoiding the imposing scale of the classical ideological edifices representing the hegemonic character of the political power in place.

5 CONCLUSION

The decade which had spanned from the seventies onwards coincided with syndical movements, political uprisings, the clash among radical groups having controversial political inclinations, repercussions of the petrol crisis on economy. The military coup d'Etat of 1980 followed and ended the period which had already started with the coup of May 1960. Most of the design of monuments and parks had to be interrupted although creative and innovative designs had been prepared. But at large the official monument representing political ideologies had left its place to a more various kind of design and subjects in line with the free will of the artists taking into consideration the human scale.

Some themes that conditioned the arts and architecture in general in the seventies through the implementation of monuments within the city were nationalism/internationalism in the arts, the search for a national culture, for folkloric traditions along with socialist and revolutionist art serving the people of the street and workers.

Multidisciplinarity achieved through competitions organized mainly by the state was another property akin to the conception of monuments and parks. In this decade instead of the art for art's sake, 'l'art pour tout le monde' principle had been sought and applied. Artists had the conviction that the citizen covering almost all social classes and the passerby had the right to experience the Einfühlung principle as the artist and the architect had done while designing. Furthermore, monumentality/scale relations or the architectural space in painting was another topic that was discussed. For example parallels between architecture, painting, and sculpture were discussed in Adnan Çoker's (b. 1927) paintings mainly.

A kind of a land art in the design of monument-parks had been sought but remained as paper architecture. Abstraction in painting and sculpture—abstract expressionism and geometric abstraction was experimented and as architects and sculptors worked and designed monuments together, the monument gained abstract features. Furthermore, if placelessness is a kind of modernism as Krauss mantains concerning landart (Krauss, 2002), it can be asserted that the displacement/migration of edifices from place to place within the city and especially in late modern Istanbul subdued to neglection, still undergoing major transformations in favour of rational solutions for traffic, housing and commerce, or their disappearance because of bad weather conditions can be considered as an unvoluntary, unconscious or better a spontaneous kind of modernism.

REFERENCES

Antmen, A. 2009. "The Body In Turkish Culture And The 'Beautiful Istanbul' Event". In Electronic Journal of Social Sciences, 367.

Architectural Guide to Istanbul, March 2006. İstanbul: Chamber of Architects of Turkey.

Bozdoğan, S. 2012. *Modernizm ve Ulusun İnşası*, Istanbul: Metis.

Bozdoğan, S. & Akcan, E. 2012. *Turkey, Modern Architectures in History*, London, UK: Reaktion.

Çelik, Z. 1993. *The Remaking of Istanbul: portrait of an Ottoman city*. Berkeley and Los Angeles, California: University of California Press, 15.

Germaner, S. 2008. "Türk Sanatının Modernleşme Süreci: 1950–1990". *In Modern ve Ötesi: 1950–2000*, Istanbul: Bilgi Üniversitesi, 1–19.

Göktaş, C. 1998. *Istanbul'da Çağdaş Kent Heykeli Uygulamaları, Master's thesis,* MSÜ, Istanbul.

Krauss, R. 2002. "Mekâna Yayılan Heykel". In YKY (ed.), sanatdünyamız, 82: 103–110.

Kuban, D., 1994. *Istanbul Ansiklopedisi*, vol. 5, 432.

Yeşilkaya, N. 2002. *Osmanlı'da ve Cumhuriyet'te anıt-heykeller ve kentsel mekân*. In YKY (ed.), sanatdünyamız, 82: 147–154.

Web resources: Pelvanoğlu, http://www.sanalmuze.org/sergiler/view.php?type=1&artid=569, 22.1.2017.

Figures resources: Göktaş, C. 1998. *Istanbul'da Çağdaş Kent Heykeli Uygulamaları*, *Master's thesis*, MSÜ, Istanbul, 26, 52, 44.

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The cumulative effect of an interdisciplinary project

Alexandros Christophinis
Architect—Engineer, Cyprus, Greece

ABSTRACT: This paper is the narration of the implementation process of the project called *Λεμεσός μετά την ανάπτυξη τι;* 'Limassol: The aftermath of development', and, the socio-economic and political framework that led to its development. The project initially aimed to offer insight to citizens around the field of architecture and its local heritage; to document the contemporary city's identity and to bond artists and architects during this project, as well as for future projects. Additionally, through the involvement of authorities and decision makers, it aimed to change the limited ways local society thinks, acts, and perceives its architecture landscape and urban fabric. This paper looks at the role of the architects and artists through the research and experiential practices of a visual social analysis of this specific city's contemporary identity.

Keywords: Limassol; architecture; heritage; contemporary city's identity; architecture landscape; urban fabric

1 INTRODUCTION

1.1 *The measure*

The project assessed that Limassol's population—or at least the decision makers—have a tendency to repeatedly aim towards an ultimate modernity. Consequently, the ideal Lacanian imaginary context of the word development, which is used as a symbolic gesture to transform the urban landscape, that is, our real space, is the model that includes only new structures. This might be the result of a late industrial revolution in Cyprus since the first steam machine arrived as late as 1871 to the city of Limassol (Sergides, 2012). Ultimately, the delay on development has fully come to equilibrium during the past quarter of this century. However, decision makers still have the idea that we are trying to catch up and that we must reach the "ultimate modernity". Consequently, there is a tendency to miss out once again. Although, due to the financial haircut of 2013 and the halting of the building industry, we presently have the opportunity to think things over.

1.2 *The contemporary architect*

According to an article published in the newspaper, Βήμα Ιδεών (Vima Ideon) by Yorgos Tzirtzilakis, nowadays the contemporary way to approach architecture is as a Bricoleur. Within the article, the author claims that the industrial model of an architect engineer, like the one of Oscar Niemeyer, which controls everything in the plan came to a cease. Subsequently, a post-industrial model followed, that of a Bricoleur, e.g. the 2017 Pritzker Architecture Prize winners Rafael Aranda, Carme Pigem & Ramón Vilalta, whose work is a combination of remnants, functions and fragments of the pre-existing urban fabric. It does not work in an Aristotelian manner any more but in a Collective one.

1.3 *Setting goals*

Having this in mind, the curatorial team believed that this background could only be transforming if we welcome the decision makers into an interdisciplinary project which would mainly try to enlighten the public on architectural matters. Eventually, every participating group would gain knowledge. Furthermore, attracted by the power of City Branding strategies, due to their power to guide the way we perceive the identity, form, content and meaning of a city through guided impressions (Karavatsis, 2008) we used it as a strategic toll.

2 THE PROJECT PROGRAM

2.1 *Organized crime*

Since architecture is a neglected art in Limassol, and Cyprus in general, we became inspired by the methodology of Edward Bernayz and the field of public relations (Curtis, 2002) and invited some of the most respected art and architecture institutions or affiliated Associations of the island to join forces with us, examples include: Limassol Municipality, Cyprus Architects Association, ICOMOS, Cyprus Architectural Heritage Organization, Visual Artists Association, Limassol Literature Society, and last but not least, the most prestigious cultural institution of the city, the Rialto Theatre. With such a dynamic team, the ministry of Education and Culture and a group of affiliate patron companies were happy to support us.

2.2 *The agenda*

The submitted proposal included:

- A series of lectures based on the historic formation of Limassol.
- A series of pedestrian architectural tours.
- A workshop which would gather feedback from local users.
- Research within private archives and old submitted files of the city's planning office in order to gather information and expand our city's architectural archive library.
- An architectural exhibition with images/photographs from the most important urban formation phases.
- A contemporary art exhibition with ten plus one pronounced artists living on the island. Artists who have participated internationally in established forums and exhibitions came to associate architecture as a form of art that society perceives as noble.
- In addition to this, we proposed to the Pritzker Architecture Prize winner, Starchitect Renzo Piano to give a lecture based on the recently inaugurated 566-million-euro Cultural Center Stavros Niarchos Foundation of Athens. However, the offer was turned down since, as he claimed, he would love to join but he would need one more life to achieve so given our strict schedule. Therefore, he addressed/recommended us to his truly helpful personal assistant who suggested we address the invitation to his project leader architect, Giorgio Bianchi. Unfortunately, the event was canceled just a few days before taking place and it is still pending. Hopefully, as the project grows, Renzo Piano will address the lecture after all.

2.3 *Getting under the umbrella*

With such a team and strong proposal, the project was placed underneath the umbrella of the celebrations of the European Heritage days and the World Architecture Day. Cumulatively, the preannounced lecture was programed to be part of the Cyprus Architectural Awards events, given by the Urban Planning Office.

2.4 *The call for participation*

Having accomplished the aforementioned collaborations, the first lecture was organized and advertised as an open call to the project. Invitations were sent through the architect's

association channels and through 50,000 mobile phones registered in the Limassol district with the financial support of our sponsor. The call gathered a crowd that oversized our participating expectations. Therefore, the first lecture was presented within a fully crowded lecture room of Limassol's public university, TEPAK.

3 THE PROCESS OF IMPLEMENTATION

3.1 *The lectures*

The agenda of the first lecture had three phases. The first one included the introduction of the organizers and the curatorial team, the project's aim, and detailed information about the final eight abovementioned events, (see paragraph 2.2). The second part was a historic narration about the formation of Limassol's urban fabric dating from the late Ottoman era until the contemporary stages of our urban landscape. The third phase featured an explanation of the workshop with a parallel open call for participation.

The second lecture was addressed by the project's research consultant, architect, Christakis Sergides. He is one of Limassol's most pronounced researchers in architectural heritage and the former head of the Urban Planning Office. Sergides elucidated the participants about the contemporary stages of Limassol's urban formation. By using maps, diagrams and images, the different kinds of urban planning strategies, and a layered superimposition that took place were indicated. In addition, 8 different clusters which include the vast majority of repeatable infrastructures were introduced, like the industry zone, the abandoned industrial zone, a low-income housing neighborhood, a high-income housing neighborhood, a refugee settlement area, the city center, the former tourist area and an integrated village within the main urban fabric. A bus tour and a city walk were helpful in approaching the subject, and the participants were asked to take as many pictures as possible in order to proceed to the next stage of the workshop, that of visual sociology. For our records, this lecture was recorded and it has been featured in the homonym publication.

3.2 *Engaging the tools of visual sociology*

Personal experiences, local beliefs, myths, and folklores, as part of urban narratives is claimed to be beneficial for a City's Branding strategy (Finnegan, 1988). Therefore, during the next stage the researchers had been asked to submit 20 pictures, sketches, maps, diagrams and a short text no more than two paragraphs for each picture, in the form of PechaKucha. The commentary was based on economic, social, environmental, aesthetic, emotional or associated issues with a sensitivity to keep in mind the researching field which was based upon the Bristol Accord, 2005 and questioned: The design and planning quality, the existence of a safe and active environment and the quality level of connectivity, infrastructure and service. In addition to the maintenance and the management's level.

Inevitably, disqualification of a series of essays which were purely documented was decided. At the end, thirteen well written small essays were selected and included in the homonym publication. The unfortunate disqualification followed since we craved to achieve a series of essays which would work as short literature jewels but at the same time as potential proposals for further academic research.

3.3 *Reviewing the 13 proposals*

Nadia Anaxagorou, Head of the Cultural Services of Limassol's Municipality services: Through her essay, she gave a glimpse of the relationship of city and sea by using the example of the regenerated sculpture park. At the same time, she introduced us to some artists of the artworks.

Penelope Vasquez Hadjilyra, architect: with a parallel participation in the art exhibition, using a video camera, she documented the recently inaugurated linear park in the bed of the stream river with a poetic verbal criticism.

Yiannis Kakoullis, General Secretary of the provincial Technical Chamber of Cyprus: claimed that Limassol's new developments and beauty coexist with the timeless problems of the city.

Marina Kassianidou, artist, Ass. Professor at Colorado Boulder University: expressed her inner need to "space" herself by dancing as a ballerina within the urban fabric. She arrived to the conclusion that following the condition of the infrastructures she must drive by car even for buying some basic commodities.

Louis Kilonis, Journalist and Sociologist and the main assistant of the organizing team: Evidenced the coexistence of intercultural spaces within the urban fabric.

Manolis Hadjimanolis, artist & Marinos Panagiotou, undergraduate student: As a team studied a part of the garbage disposal system and the degraded bus stops.

Phidias Pavlides, Researcher, Architect and Quantity Surveyor: Studied five local commercial centers and focused on the refugee settlement area.

Elena Pilakouri, Architect: During the program, she investigated a suburb of high income with its imposing houses and its isolation from all services.

Christina Poourkou & Savina Simillidou, Architects: They focused on the modern architecture era of the city.

Christakis Sergides, Architect and Research Consultant of the project: Studied the irrational phenomenon of the disclosure of the plaster coated stone masonry which creates a fake building identity.

Tasos Stylianou, gallery owner and merchant: Studied the decentralization of the trade centers, the urban sprawl and the lack of pedestrian life in the streets.

Petros Fiakkas, engineer and amateur photographer: proposed a silent photographic tour to explain the relationship between the buildings.

Andria Christou, Architect: while comparing various development programs of the modern city, she studied a low-income neighborhood.

3.3 *Initiating the creation of the artworks*

Before presenting these essays at Limassol's City Hall, during the celebratory day's activities, to an audience with a mixed background, the essays were distributed to our pre-selected group of participating artists. Additionally, they were given any necessary material which was requested to start their creative process.

3.4 *The urban architectural tour*

At the same time, the curatorial team gathered research material for the architectural tour which took place during the final festivities. The tour connected the two exhibition spaces via a pedestrian route and focused on 30 buildings which represent the different architectural styles that are recognized in Cyprus. At the same time, the tour encouraged the idea of the pedestrian activity in a city that tends to drive even for basic consumables. The tour, which is hosted within the pages of the homonym publication, was also enriched and addressed on some dates by the architect, Phidias Pavlides.

3.5 *The architectural exhibition*

The exhibition spaces were carefully selected. Firstly, an abandoned municipal exhibition space was selected due to its vicinity with the Rialto Theater, the intensive involvement of its executive director, George Papageorgiou and the goodwill of the former Mayor, Andreas Christou which led to this action. It is worth mentioning that after the exhibition, the space is available for any event of Rialto. The exhibition space next to the Rialto Theater is located at the only square within the historic center, the Heroes square, and the abandoned municipal exhibition space is located underneath the dominant epicenter monument of the square. Within this space, the architectural exhibition which took place was formed and curated by the organizing team. The exhibits were post cards selected from the archive of the city, placed

upon a wooden structure screwed upon a pillar of local plastic baskets. This gesture and the use of plants symbolized the idea that architectural heritage is in reality our commodity (Avraham, 2000). The pictures in the form of post cards contained information about the buildings and their location. Once there is a second publication of the book, this material will be available to the public.

3.6 *The construction of a latent new social housing project*

The final destination of the architectural tour led to the contemporary art exhibition which took place in the first municipal social housing project. The abandoned buildings, erected in 1948 by the local municipal authority from the engineer, Nikos Roussos during the British administration, were planned to be demolished by the municipality. The demolition was planned for the completion of a new but latent development project, with similar characteristics to the famous, Pruitt Igoe demolished housing project (Reggio, 1983) and dated approximately three years before our project took place. Originally, the contemporary art show was supposed to take place back then as a protest to the demolition plans of our historic buildings, as an act of what is known as effective art, i.e. artists are committed to work in ways that actually change how the world works in addition to the ways we might perceive the world. However, after the conflict with the municipal authorities and the Mayor, the idea was rejected and the buildings saved since everyone agreed that they are part of our architectural heritage and must, therefore, be protected. Moreover, these abandoned social houses were placed under the umbrella of a European funding program. Thus, now they are eligible for a 2.5 million funding, for their reuse in a different framework that would contribute positively to the new latent numbering social housing project. Therefore, for the purposes of the implemented contemporary art exhibition, four housing units were cleaned, sealed, wired and lighted, with the contribution of the municipality.

3.7 *The contemporary art show*

Within the activated building the organizing team curated an art show that gave every participating artist a heavily used empty room. However, the simplicity of lighting, the visible cable wiring and the repetition of the plan managed to present the event as a well-organized art project space.

Helene Black the co-founder of NeMe (www.neme.org). Through a series of photographs and an engraved marble logo questioned the local mentality.

Elina Ioannou by borrowing the forms of architectural material she sculpted what she claimed to be Cyprus's identity.

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Stelios Kallinikou, co-founder of the art space, Thkio Ppalies (www.thkioppalies.org). Through a series of photos studied the topography of the city's landscape and thus reviled the complexity of the city's identity.

Marina Kassianidou Ass. Professor of Colorado Boulder University. Through her work indicated that a building could be an architectural landscape even if it is just a minor gesture.

Lia Lapithi, artist and part 2 RIBA architect. She proposed a merge between the city and the citizen.

Marina Xenofontos inspired by the fragments of the existing urban fabric indicated and questioned some failed efforts.

Michalis Papamichael through a series of photographs and by collaborating with two architects studied some unfinished buildings.

Andreas Savva initially suggested an artwork which required 2000 banknotes of €500. Due to the lack of banknotes sponsorship, he proceeded to a second proposal which studied the relationship between structure and habitation.

Constantinos Taliotis, an artist that won a special mention at the 55th Biennale di Venezia with the group participating in Cyprus's pavilion in 2013. He tried to study the modern movement of Limassol within a context of a playful manner.

Evanthia Tselika Ass. Professor & Coordinator of the Fine Art program of the University of Nicosia. With a parallel invitation to one of her undergraduate students, she studied the relationship of the refugee settlement area and the integration with the rest of the urban fabric.

Penelope Vasquez Hadjilyra, by a video installation, questioned the recently inaugurated local linear park in the bed of the stream river.

4 CONCLUSIONS

4.1 *Bricoleur(ing)*

The interrelated, marketing, branding and public relations strategies we used, arguably, could create the same outcome as a Tourist City Branding program attempts to do. If the population was better informed in the fields of architecture, art and urban planning, then even a simple tourist branding strategy would have included bits and pieces from the architectural heritage of the city without perceiving its heritage as a monumental object. However, this team of artists and architects provided archival material, new awareness and knowledge in the architecture and theoretical field, instigating an ongoing discussion around cities identities within the present urban fabric. Hopefully, this long-term project will give rise to a continuous transformation in consciousness in a way that the city's identity might construct architect bricoleurs to keep pushing the boundaries.

REFERENCES

Anholt, S. 2010. *Definitions of place branding—Working towards a resolution*. Palgrave Journal of Marketing Analytics. Place Branding and Public Diplomacy.

Avraham, E. 2000. *Cities and their news media images*. Cities, 17(5), pp. 363–370.

Baudrillard, J. 1993. *The Transparency of Evil: Essays on Extreme Phenomena.* New York. Verso.

Curtis A. 2009. *The Century of the Self*. United Kingdom: RDF Television BBC, Film documentary.

Dormans, S. 2006. *A narrative analysis of urban identity: the case of Tilburg*. Governance and Places (GAP) working papers series, 2006/4. Nijmegen: Radboud University Nijmegen.

Embracher, & Buttle. 1989. *A repertory grid analysis of Austria's image as a summer vacation destination*. Journal of Travel Research, 27 (Winter), pp. 3–7.

Finnegan, R. 1997. *Storying the self: personal narratives and identity. In H. Machay (Ed.),* Consumption and everyday life (pp. 65–112). Sage: Thousand Oaks.

Reggio, G. 1982. *Koyaanisqatsi: Life Out of Balance.* United States. Island Alive New Cinema. Film Documentary.

Sergides, C. 2012. *Λεμεσός: Οινοπόλεως Μέστωμα Lemesos inopoleos mestoma*. Limassol. Αφή.

Tzirtzilakis, Y. 2008. *Ο οριστικός κλονισμός της υψηλής νεωτερικότητας.* Βήμα Ιδεών Vima Ideon.

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Unearthing the spatial archetypes of two indigenous South Asian cities: The walled city of Old Delhi and Old Dhaka

Sheikh Itmam Soud
Department of Architecture, Stamford University Bangladesh, Dhaka, Bangladesh

Md. Obidul Haque
Department of Architecture, Premier University, Chittagong, Bangladesh

ABSTRACT: The cities of Old Delhi and Old Dhaka are frequently depicted as congested, filthy, formless, functionally obsolete, lacking public green space, and possessing narrow twisted streets. All of these criticisms appear true if someone looks from non-indigenous insights. But deep beneath there is an archetypal spatial structure that has functioned since their establishment as cities, where traditional hierarchies and organic spatial structures form a rich mix of indigenous morphology. This study focuses on these spatial dynamics of the urban structure of these two indigenous cities, where a high density of people living, working, and socialising within a self-contained community bondage. Further de-layering of these (so-called) chaotic urban patterns reveals a meaningful spatial structure, which provides valuable clues to the resolution of planning, housing and related community development problems arising from the continuing rapid rate of urbanisation.

Keywords: Old Delhi; Old Dhaka; indigenous city; archetypal spatial structure; chaotic urban patterns; rapid urbanisation

1 INTRODUCTION

Many scholars have adopted a simplistic scheme in which cities with an orthogonal layout are classified as planned, whereas those that lack the grid principle are considered to be unplanned (Smith, 2007). However, in contemporary times a number of researchers have considered the spatial principles in addition to orthogonal layouts instead of the false dichotomous schemes of planned versus unplanned (or sometimes 'organic'). This paper is an attempt to compile such research output as it has been applied to two cities of India and Bangladesh. Old Dhaka (Bangladesh) and the walled city of Old Delhi (India) both have similar features and backgrounds in the subcontinental history. Both cities had been at the crossroads of international trade routes from ancient times (Figure 1), were established as capitals by Mughal emperors, and were ruled by the British for nearly 150 years at the same time. As a result, a good number of indigenous spatial characteristics innate to their settlements remained unappreciated for a long space of time.

Moreover, rapid urbanisation and uncontrolled growth have been annihilating these indigenous features on a daily basis and planners have imposed Western ideas in their recent projects, ignoring the cities' native cultures, contexts and environments. According to Geddes (1917), "the diagnostic survey … seeks to unravel the old city's labyrinth and discern how this has grown up. Though, like all organic growth, this may at first seem confused to our modern eyes that have for so long been trained to a mechanical order, gradually a higher form of order can be discerned—the order of life in development".

Figure 1. Map of South Asia showing the locations of Old Delhi and Old Dhaka, which had been at the crossroads of international trade routes from ancient times (adapted from Texas Austin, 2004).

2 METHODOLOGY

This study is a successive consideration of three basic questions:

a. Why select Old Delhi and Old Dhaka?
b. How were the cities' spatial patterns established?
c. What were the characteristics they inherited?

Based on the nature of the research, this study will adopt two approaches:

a. Forming an overview of the individual settlement patterns of Old Delhi and Old Dhaka according to the relevant literature;
b. Analysing this information to outline the archetypes of the indigenous spatial planning features of these cities.

At its conclusion, this paper also offers a glimpse of the recent chaotic urban fabrics of these two cities and the alarming condition of the old parts of the cities, which might help architects and urban planners when taking decisions about their conservation and upgrade. The study will also support professionals in future city planning with a more 'indigenous' spirit.

3 TRACKING THE ORIGINS OF OLD DELHI AND OLD DHAKA

The walled city of Old Delhi was founded as Shahjahanabad by Mughal Emperor Shah Jahan between 1638 and 1649. It remained the capital of the Mughals until the end of the Mughal dynasty (Nath, 2006). In the 19th century, the British government developed a low-density semi-suburban 'North Delhi' as their garrison (cantonment) and administrative civil lines to the north of the walled city where most of the residences were bungalow-types with huge open spaces to ride horses and horse carriages. Then, in the early 20th century, the British government transferred its administrative capital from Calcutta to Delhi. This new Indian capital was developed on the southern edge of Old Delhi and exhibited a dramatic contrast with its older neighbour by virtue of its street planning and urban design decisions. Two British architects, Edwin Lutyens and Herbert Baker, ignored the ingenuity of Old Delhi in planning this 'New Delhi' and designed it with low-density, wide streets and a complex Renaissance street pattern featuring a diversity of geometric shapes.

The history of Dhaka begins with the existence of urbanised settlements in the area that is now Dhaka that date from the 7th century. The city area was ruled by the Buddhist kingdom of Kamarupa before control passed to the Sena dynasty in the 9th century (Dhaka City Corporation, 2006). After the Sena dynasty, Dhaka was successively ruled by Turkic and Afghan governors, descending from the Delhi Sultanate, before the arrival of the Mughals in 1608. Following the Mughals, the British ruled the region for over 150 years until the independence

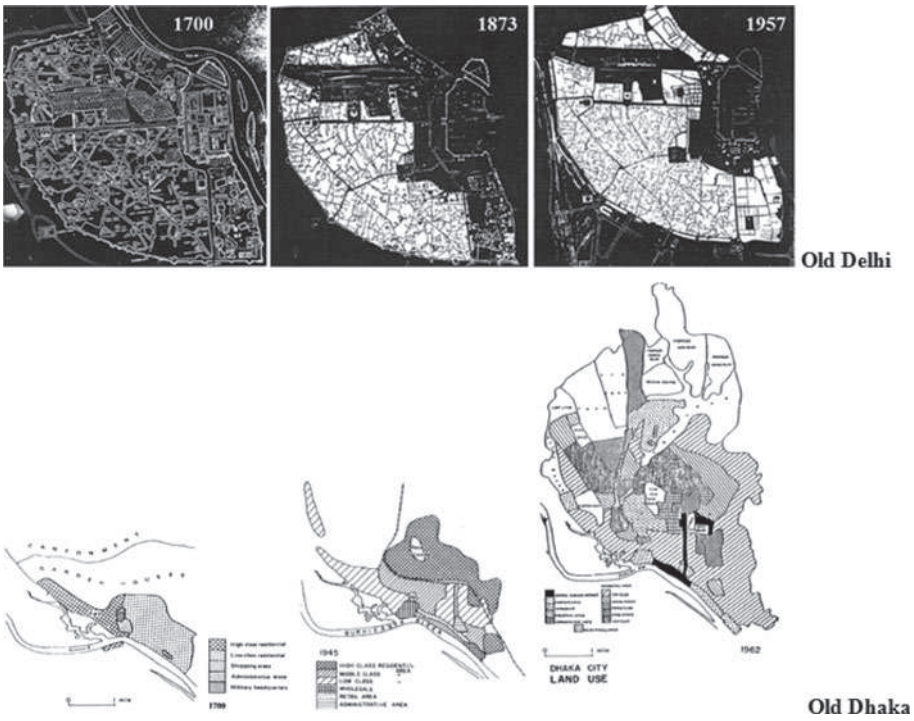

Figure 2. Expansion of two cities (Fonseca, 1969; Ahsan, 1991).

of India. In 1947, Dhaka became the capital of East Bengal province under the dominion of Pakistan, and then became the capital of the new state after the independence of Bangladesh in 1971. Over the passage of 400 years of history, the medieval trading town of Dhaka has extended from one square mile in 1600 to a large conurbation (Dhaka Statistical Metropolitan Area, DSMA) of 522.34 square miles in 1991. Over a similar period, the population has increased from 200,000 (in 1640) to 6,950,920 (in 1991). Dhaka has been experiencing phenomenal growth for the last three decades. By 2001, the city was deemed one of the mega cities of the world, with a population of 10.71 million (Nazem, 2003).

4 SPATIAL STRUCTURE OF OLD DELHI

4.1 *The settlement pattern of rural communities*

Indian society was traditionally perceived as divided into five castes: Brahmins, Kshatriyas, Vaishyas, Shudras and menials (untouchables). This was the case only in ancient times. Later, the basic subdivision was formed by social units known as 'jatis', each of them having their own rules and regulations. Specific groups of jati clustered in communes, where upper caste groups maintained their superiority over inferior groups. The spatial structure within a rural community sometimes reflects the hierarchical order based on ritual/religious purity and the norms of the community (Figure 3a). Generally, two or more households are grouped together around a common courtyard with separate areas for men and women (Figure 3c). Women's courtyards are located at the rear, behind the men's quarters. The spatial structure of the community is one of enclaves, where unclean occupations cluster on the periphery while clean or dominant groups occupy prime central locations (Fonseca, 1969). The boundaries between the communes or enclaves are mostly open ground, where service facilities such as water-wells, temples and bazaars are located (Figure 3b). For groups of individual houses, the boundaries

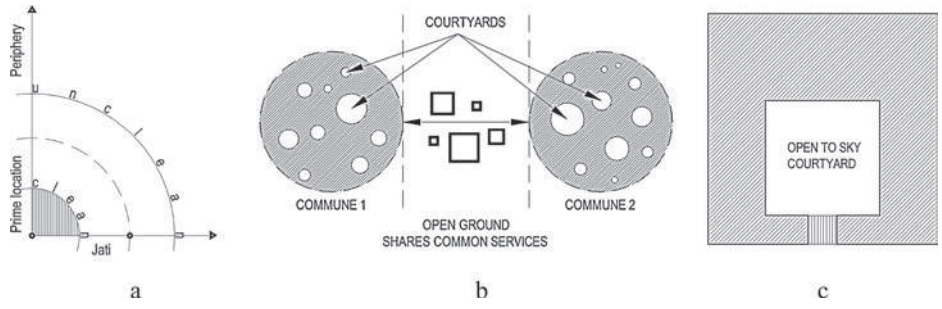

Figure 3. (a) Enclaves of community; (b) Patchwork pattern of clusters; (c) Multiple households around a common courtyard.

are simply common walls of houses or courtyards or streets. Fonseca (1969, p. 107) describes how Indian settlements thus present a patchwork pattern of clusters, embodying the living principles of social behaviour, rather than the annual growth ring development observed in European settlements, carried over with modifications into the indigenous urban scene.

4.2 *The bazaar city*

The streets and alleyways of Old Delhi are among the best known examples of traditional urban environments in India. They are characterised by a great variety of users and activities. Railroads and major road connections, such as the ones connecting Calcutta and Bombay, had importance as principal commercial centres for bazaars and handicrafts. The walled city that is Old Delhi is still a bazaar city, with a tradition of fine craftsmanship in gold, silver, jewellery, ivory, carving, miniature painting and weaving. The entire city may be described as a bazaar, with peaks and dips in activity as one moves from primary to secondary to tertiary streets (Fonseca, 1969). Generally, primary streets formed large clusters with retail and wholesale outlets while bazaars of specialised single items formed smaller clusters among the secondary streets. The interior courtyards and alleyways away from primary streets were the actual production and storage houses of the artefacts and other utilitarian items. This meant that every residential courtyard had an important role in the city economy (Figure 4a), and is why Fonseca (1969, p. 108) argued that production, storage and service centres were either immediately behind the retail outlets or a short distance away, in residential areas.

4.3 *An informal reflection of gridiron pattern in access routes*

Looking at the public spaces of Old Delhi, an overcrowded scenario will be a common one where there is little or no formal spatial separation between vehicles and humans. One will also find a complex, congested relationship between street commerce, parking and traffic movements. This has happened because motor vehicles are not banned but the urban design of such neighbourhoods originally envisioned use by pedestrians, carts, bicycles, cattle and draught animals and is still in place: it is not conducive to car use. Nevertheless, Bromley (2016) argued that, despite all this hustle and bustle, there are informal norms and practices that influence the use of space and that keep accidents, property damage and criminal activity to low levels. Closer inspection of this complex road network reveals an essential gridiron pattern of primary and secondary streets within the walled city, although it is not recognisable at first sight (Figure 4b).

4.4 *Administrative divisions and social groupings*

Old Delhi is divided into eleven municipal wards or *thanas*, which are separated by bazaars on primary and secondary streets and mostly named after the main streets. At a macro level,

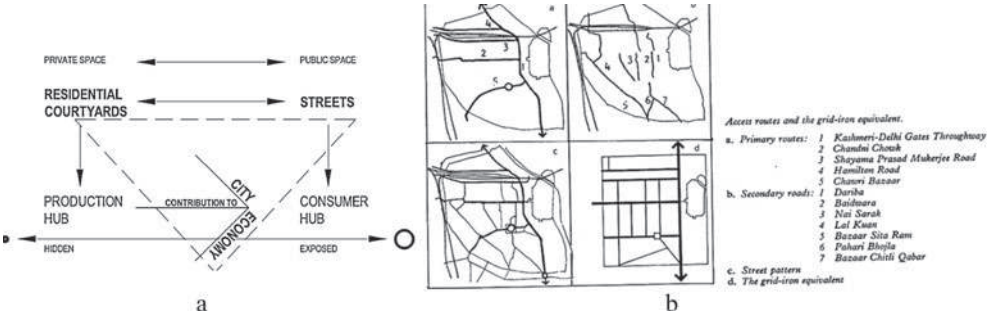

Figure 4. (a) Production vs. consumer hub in *mohalla* enclave; (b) Unseen gridiron pattern in access routes (Fonseca, 1969).

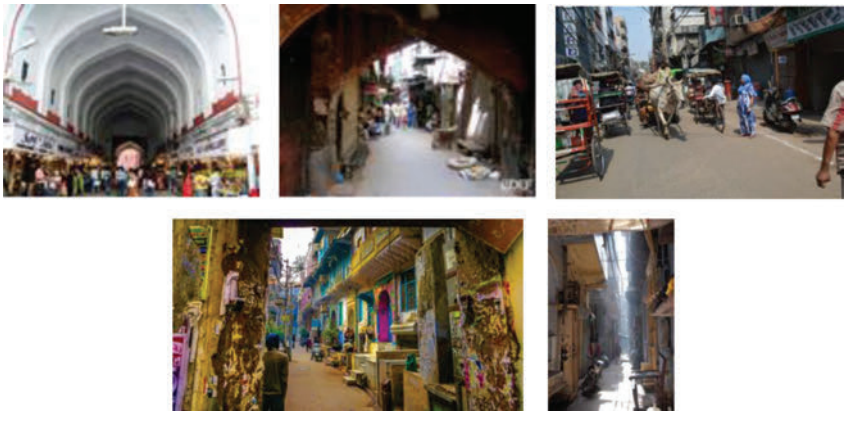

Figure 5. A *katra* and street views of Old Delhi (sources: www.fabhotels.com, www.aroundtheworldl.com).

the city is a combination of five essential elements: *mohallas*, *kuchas*, *galis*, *katras* and *chattas*. The word *gali* is frequently used interchangeably with *kucha*, *katra* and *mohalla*. A linear entity (conventionally, a street) is implied by the use of *kucha* and *gali*, while *mohalla* and *katra* imply zones (Fonseca, 1969). A market with residential quarters and storage facilities is known as a *katra*, which is enclosed by high walls and entered through a gate (see Figure 5). When the upper storey of a residential structure crosses over a street or lane, the term *chatta* is used instead of *kucha* or *gali* (Fonseca, 1969). This is a feature unique in its use of the air rights above public commuting space, and also provides a means of climate protection. Arguably, this architectural feature increases the attractiveness of the streets, as do canals and shading foliage.

4.5 *Unit of social identification: Mohalla*

A resident of the walled city traditionally belongs to a particular *mohalla*. A *mohalla* is a geographical area which relates to the occupation, religion or geographical origin of those dwelling within. Fonseca (1969, p. 109) defined this segmented area thus: a *mohalla* is a clearly defined area of residential and commercial activity fronting onto a spine street that connects to a primary or secondary bazaar street. Most often, there is a network of *galis*, *kuchas*, *katras* and *chattas* spreading out from the spine into the interior of the *mohalla*. Some *mohallas* had controlled social hierarchies with their own bazaar, mosque or temple, schools and orphanage, which were governed by a *mohalla* council. However, the isolated aspect of these

social units was broken by the need for community co-operation during religious festivals and by the bazaar, which retails the artefacts produced within the unit (Fonseca, 1969).

4.6 *Unit of group interaction: Chowk*

The majority of the buildings of Old Delhi are residential and commercial. However, there is a great variety of worship houses, historic monuments and other built forms available within a walkable distance. Old Delhi is a walkable city. The streetscape of Old Delhi is continuous because most of the buildings fully occupy their lots with no setbacks around them. This essentially continuous streetscape is occasionally broken by narrow private alleyways that lead to backyard spaces or by broader public alleyways providing access to properties that do not front onto the streets. Bromley (2016) claimed that, occasionally, an alley may also open out a little to create a pocket plaza around a shade tree or well. Another feature unique to the indigenous urban setting is the *chowk* (see Figure 6). This is often no more than a widening of the street as it turns a corner or at the junction of two or more streets, and more commonly at the termination of a *kucha* or *gali* (Fonseca, 1969). Sometimes a *chowk* is no more than a setback in the street around a precious tree, which served as a market space for vendors, a play area for children and adults, a place of debate of political issues, and so on. Around a *chowk*, the land use type changes from residential to commercial activities. This change may appear in the form of a tea shop or a general merchandise shop where the daily necessities of life can be purchased. Thus, a *chowk* tends to serve the immediate community and becomes the main focal point where the inhabitants of two or more *mohallas* meet (Fonseca, 1969).

4.7 *The introverted garden city: Courtyard*

An outside observer may see the streets of the walled city as a pattern of dark voids between buildings and is thus apt to form an erroneous impression. However, behind these narrow dark lanes bounded by blank walls are sunny courtyards where most of the activity takes place (Clinard, 1966). This pattern is reflected in the land use, where only 10–12 per cent of a ward is devoted to streets, whereas nearly 25 per cent is interior courtyards (Fonseca, 1969). This is clearly a case of an introverted 'garden city', where the open space varies between 30 and 40 per cent of the gross area and is public property (Marshall, 1931). At a deeper level, a resident of the walled city had three different tiers of protection in front of his residence: sequentially, the interior courtyard, the lane outside his door and the world outside the *mohalla*. The metamorphosis is completed as he increases his distance from the *mohalla* entrance. Returning, he regains his privacy in increments: first in familiar sights, then faces he recognises, and finally in people, who, greeting him, invite him to join them for a cup of tea (Fonseca, 1969).

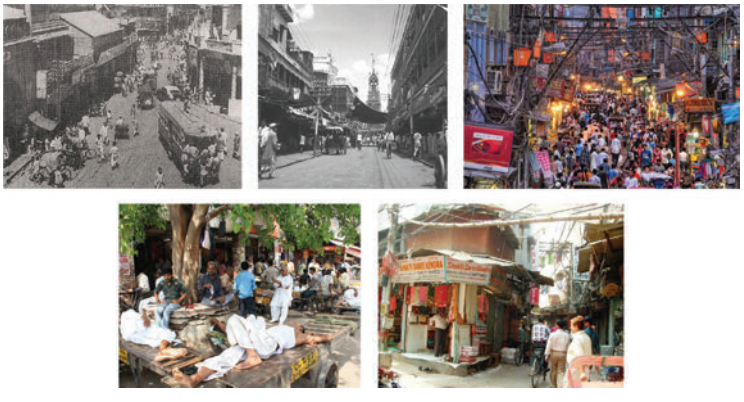

Figure 6. *Chowks* of Old Delhi (sources: https://dailyjag.com, https://poraschaudhary.photoshelter.com).

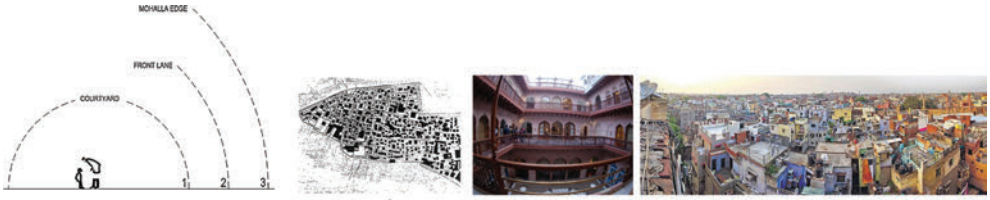

Figure 7. (a) Three different tiers of protection up to the residence; (b) Courtyards of Old Delhi (sources: Fonseca, 1969, www.business-standard.com, https://sujoysen.wordpress.com).

5 SPATIAL STRUCTURE OF OLD DHAKA

5.1 *Trading hub and the bazaars*

The street and the court are the two types of component that exist in Old Dhaka, which are connected in a continuous network of open and semi-open, public and semi-public spaces. The intersecting points often turn into *chowks* or nodes (Figure 8b). Another important element is a 'bazaar street', which signifies the commercial interface or market centre of the city (Figure 8b). This was the core concept for generating Islamic bazaar streets, because these heterogeneous types of spaces generated human activity at the pedestrian level (Ferdous, 2012). Rappaport (1977, p. 219) depicted the transformation of simple homogenous streets into complex indigenous bazaar streets (Figure 8a). Generally, these types of bazaar streets shadow the residential neighbourhoods, which are morphologically indigenous and sometimes of mixed use in character. All of these localities were confined within the circuit of the old Dholaikhal. The *Tanti* (weavers) and *Sankhari* (shell cutters) are believed to be the oldest inhabitants of the city, and they still live in the area (Dani, 1962). The cottage industries and trading areas of the pre-Mughal period housed the majority of the city's lower-class population, which consisted of artisans, labourers, and traders who were effectively segregated from the higher-class residential areas. During the Mughal period, Chowk Bazaar was developed as the main business centre, which served both upper- and lower-class residential areas, and another commercial centre was located at Bangla Bazaar, which was the main shopping centre before the Mughal period (Taifoor, 1956).

5.2 *Access routes and organic street patterns*

There are, in fact, two types of access system in this area: the waterways where *ghats* (landing platforms) are the significant feature, and the roadways where main roads intersect with many secondary and tertiary roads, referred to locally as *gali*. River *ghats*, significant transitory spaces linking the river with the land, had commercial, social and religious roles. They were used as wholesale points for primary produce, embarkation places, and sacrificial and cremation points (Rahman & Imon, 2016). All types of formal and domestic activities and regular and seasonal rituals evolved around the water, giving sense to the particular morphology featured in the area's orientation towards the water (Ashraf, 2012). The city was divided into a number of neighbourhoods, which were clusters of houses webbed with intricate narrow lanes (Islam, 1996). The long narrow shop houses and houses facing inner courtyards generated a dense settlement with intimate social spaces (Figure 9). The winding lanes, often ending at the river bank, created social spaces at the street level. The street junctions and sudden widening of the lanes due to placing of building would form popular hang-out spaces for all ages (Khan, 1985). The *morhs* and *chowks* became the magnets of the settlements, special places where people meet, gossip, and enjoy and exchange products (Mowla, 1997).

5.3 *Administrative division and social groupings*

During the Sultanate and Mughal periods, "…each *mohalla* had its *punchayet* which engaged much of the people's attention and drew on their community spirit, since all could participate

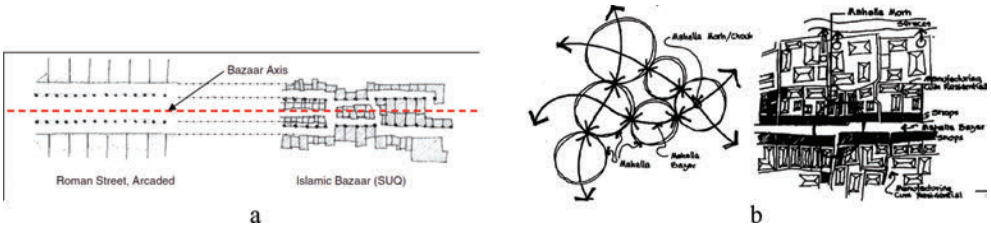

Figure 8. (a) Transformation of Roman street into Islamic bazaar (adapted from Rapoport, 1977); (b) *Mohalla* bazaar in *mohalla* morphology (Mowla, 1997).

Figure 9. The complex webbed street pattern of Old Dhaka (Author: Khan, 1985; Rahman & Haque, 2001).

Figure 10. Interactive spaces in indigenous Old Dhaka (Sources: www.leeabbamonte.com, http://dhakadailyphoto.blogspot.com, Khan, 1982).

in its deliberations" (Ahmed, 1986, p. 15). The *mohallas* were semi-autonomous socio-spatial units, with very little control in their internal matters from any higher level in the hierarchy of the administration and judiciary. Each *mohalla* had a *panchayat* (village council) office, also used as a community centre, called a *bangla*, situated in a conspicuous part of the *mohalla*. During the day the *bangla* would be used as a *maktab* (elementary school) and at night as a social club for adults of the locality (Mowla, 1997).

The Mughal elites had garden houses for recreation, festivities and receptions (Hossain, 2013). Other favourite pastimes of *zamindars* (aristocrats) included cockfighting and goat fighting. These events would usually be held in streets and *chowks* (Rahman & Haque, 2001). The intersections of narrow lanes formed wide and irregular nodes that acted as a civic space at the local level. Some of the local nodes turned into *chowks*—larger social gathering and festival spaces—for the local *mohallas*, whereas other nodes were rather intimate in nature and held local social gatherings (Nilufar, 2011). The sense of enclosure of these spaces was very intimate in scale. The area is celebrated with lots of colour in different festivals and religious occasions and most of them take place in the streets, *chowks* and sometimes in the inner courtyards and upper roof terraces. The extended plinths and low-height boundary walls are the *mohalla*-level interactive spaces for both the young and adults (Figure 10). The small tea stalls in the *chowks* became an institution for local natives. This indigenous settlement pattern integrates richer and poorer in living and working as a family and neighbourhood, which offers a greater sense of community and the option of a less expensive lifestyle.

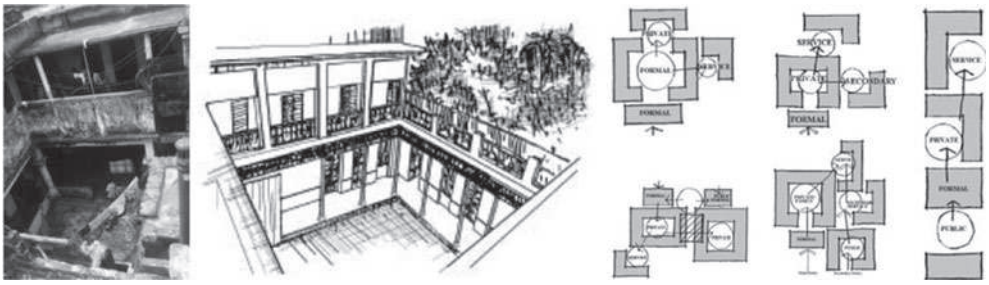

Figure 11. Different types of courtyard of Old Dhaka (Rahman & Haque, 2001).

5.4 *Unit of social identification: Mohalla*

According to Conzen (2004), the diversity of morphology in South Asian cities arises from the diversity of historical development, functional types and different combinations of morphological characteristics. Tankel (1963, p. 58) believes that there are two types of urban space of which people are aware, and another of which they are more likely to be unaware but which affects their lives and helps shape the pattern of development. The first categories of space are used, viewed and felt, that is, they provide a range of active and passive recreation activities, circulation and privacy, insulation, and a sense of spaciousness and scale. The indigenous *uthans*, *galis*, *morhs*, *chowks* and bazaars of the *mohallas* are in this category. Nilufar (2004) reveals that neighbourhood (i.e. *mohalla* in Urdu or *para* in Bengali) and locality are the two territorial units in the cognitive imagination of the inhabitants of Old Dhaka. Neighbourhood is primarily a social phenomenon arising from cohabitation in a physical area. The traditional neighbourhoods in Old Dhaka were mostly named after their occupation or caste. Localities have strong agreement as to their named identity and also have robust images in the cognition of the inhabitants. In addition to their symbolic identity with the name, the objective social attributes (like economy, ethnicity) of the localities act as social labels for these physical areas, which have a distinguishable environment and ecological position defined by distinctive spatial characteristics within the city structure.

5.5 *Unit of family interaction: Courtyard*

The areas to the south and south-west of the Old Fort up to the river bank grew mainly as commercial areas, whereas the areas to the north and north-east grew as residential areas (Chowdhury & Faruqui, 1991). In urban areas, the traditional rural house was often reproduced in compressed form (Rahman & Haque, 2001). In rural areas a house is composed of multiple rooms around an *uthan* (courtyard). In general, larger families have two courtyards where the inner one is the female or children's domain and the outer one is that of the males; the courtyards are the key socialisation spaces at a family level, as well as being used for multiple household activities. A *mohalla* was formed from a few houses; thus, the attributes of the houses are not only combined within it but imposed on the form of the *mohalla* to support these houses. This is the oldest pattern identified at various locations of indigenous Old Dhaka (Mowla, 1997). The celebration of native festivals and rituals was also still an integral part of Dhaka's social life. Though many of these rituals were religious in origin, they were pan-religious in celebration (Rahman & Haque, 2001) and were celebrated from inner courtyard to the *chowk* of the *mohalla*.

6 DISCUSSION

Altman and Wandersman (1987) pointed out that communal life, such as the presence of local institutions, official recognition, the type of housing, the pattern of social interaction

and organisation, and the ethnic, socioeconomic, and demographic makeup of residents, provides the communal identity and essential characteristics of an area. The following list attempts to summarise the archetypal characteristics of the two indigenous cities, Old Delhi and Old Dhaka:

a. Demarcation of city fringe: by natural defence (river and canals) and fortification.
b. Access patterns: organic/greatly modified gridiron/webbed.
c. Access hierarchy: primary roads (connected with city gates or *ghats*); secondary roads (town bazaars); tertiary road (main streets of *mohallas*); quaternary and quinary roads (lanes, byways/*galis*).
d. Integrated business hubs: neighbourhood shops; *chowks*; *katras*; *ghats*.
e. Integrated social hubs: mostly *chowks*.
f. Integrated recreational hubs: streets (*gali*), but mostly street nodes (*morhs*).
g. Neighbourhood patterns: localities with clusters of *mohallas* (mostly single-occupation).
h. Settlement texture: introverted garden city with shared walls.
i. Settlement patterns: *havelis* (mansions) and courtyard houses are the most dominant residential units.
j. Location of institutions within neighbourhood: mostly religious structures along with the main access; dominant presence of *panchayat* office (*bangla*) within *mohalla*.
k. Private/family hubs: courtyard(s) (inner, outer) to adjacent *gali* (street) and connected roof terraces.

7 CONCLUSION

After taking control of the Indian subcontinent, British rulers developed a lot of infrastructure, buildings, cities and urban areas. In most cases, the British designers ignored the traditional patterns and instead imposed Western ideas of planning and design. In developing both New Delhi and the extension of Old Dhaka, the street patterns and urban design seemed deliberately contradictory and negating of existing parts. Moreover, these urban developments were not uniform throughout the city but were concentrated in the isolated areas where European and native elites resided. In contrast, the old cities were seen as impervious, perilous and a place of communal conflict. On the basis of these preconceived viewpoints, the Western designers saw these cities as unpredictable objects to reform or be remade and they remained fully unembraced by the newer developments. As a result, infrastructure improvements bypassed these areas and led to further decline, thus confirming prevailing discourses. In consequence, places such as Old Delhi and Old Dhaka, once seen as the focus of subcontinental culture, were now seen in negative terms, that is, in terms of what they lacked or the threat they proffered.

In a congested and seemingly chaotic environment, it is very difficult to enforce rules because so many seem to be breaking them. Instead, to a very large extent, the continuing peaceful functioning of public spaces depends on the common sense and mutual 'give and take' of the many people who use them. The concept of *jugaad* (a word taken from Hindi which captures the meaning of finding a low-cost solution to any problem in an intelligent way), the legendary Indian capacity to find solutions to problems through ingenuity, is crucial in understanding how the public realm functions in a highly congested area like Old Delhi (Gandhia, 2015).

The survival and success of old South Asian cities require great ingenuity and adaptability, but the most important factor is the human ecology. Here, in the indigenous context, the complex human ecology provides an astonishing variety of prospects within an inconsequential range. As a result, the distances between the availability of facilities and settlements are shorter than in the countryside or on the metropolitan periphery. At present, it seems that the areas of Old Delhi and Old Dhaka are fully occupied and an unfit place to survive if one looks from non-indigenous insights. But these urban environments remain historic treasures and have yet to reveal the archetypes of existence with religious tolerance and high-density mixed-use environments that continue to be viable and desirable in the 21st century.

However, in recent times these indigenous contexts and ecological prospects have been changing and changing violently. Fonseca (1969) claimed that it was a tragic loss to India when planners rejected all of the traditions and institutions of the indigenous urban scene—institutions uniquely Indian and arguably superior to the Western tradition that replaced them. Mahmud (2007) argued that, in Old Dhaka, the traditional way of life within the neighbourhood is now changing and people are losing the neighbourhood identity they were once proud of, because the physical built environment is transforming. In conclusion, we cite the thoughtful quotation of Doshi (1995) on efficient urban design:

> *The models of indigenous cities have their own problems too. Congestion, pollution and traffic chaos may have been synonymous with old neighbourhoods but it would be wrong to blame the physical form or the built environment of the place. The culprit is the unhealthy densification and an overtaxed infrastructure and not the spatial configuration.*

REFERENCES

Ahmed, S.U. (1986). *Dacca: A study in urban history and development*. Dhaka, Bangladesh: Curzon Press.

Ahsan, R.M. (1991). *Dhaka: Past Present Future*. Chapter-Changing Pattern of the Commercial Area of Dhaka City (pp. 432–437), Dhaka, Bangladesh: The Asiatic Society of Bangladesh.

Ali, M.M. (1996). Future of the past. Paper presented at the International Seminar on Future of the Past: Architectural Heritage of Dhaka, 13–14 January 1996, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh.

Altman, I. & Wandersman, A. (1987). *Neighbourhood and community environments: Human behavior and environments*. New York, NY: Plenum Press.

Ashraf, K.K. (2012). *Designing Dhaka: A manifesto for a better city*. Dhaka, Bangladesh: Loka Press.

Bromley, R. (2016), The Streets of Old Delhi: Order in a Seemingly-Chaotic Public Realm, *Governing Megacities in the MENA and Asia*. Retrieved from: http://www.mei.edu/content/map/streets-old-delhi-order-seemingly-chaotic-public-realm.

Chowdhury, A.M. & Faruqui, S. (1991). *Physical growth of Dhaka*. Dhaka, Bangladesh: Asiatic Society.

Clinard, M.B. (1966). *Slums and community development: Experiments in self-help* (pp. 73–74). New York, NY: Free Press.

Conzen, M.R.G. (2004), *Thinking About Urban Form: Papers on Urban Morphology, 1932–1998*. Bern, Switzerland: Peter Lang.

Dani, A.H. (1962). *Dacca: A record of its changing fortune*. Dacca, Pakistan: Asiatic Society.

Dhaka City Corporation. (2006, September 5). Pre-Mughal History of Dhaka.

Doshi, V.B. (1995). Architecture and Society. *EARTH*, *2*(1), 6.

Ferdous, F. (2012). The spatial analysis and morphological evolution of the 'Bazaar Streets' and urban structure of Dhaka city. *URBAN DESIGN International*, *17*(3), 206–220. doi:10.1057/udi.2012.10.

Fisher, T. (1993). Do the suburbs have a future? *Progressive Architecture*, *13*, 37.

Fonseca, R. (1969). The walled city of Old Delhi. In P. Oliver (Ed.), *Shelter and society* (pp. 103–115). London, UK: Barrie & Rockliff.

Gandhia, A. (2015). Delicious Delhi: Nostalgia, consumption and the old city. *Identities*, *23*, 1–17. doi: 10.1080/1070289X.2015.1034130.

Geddes, P. (1917). *Report on town planning: Dacca*. Calcutta, India: Bengal Secretariat Book Depot.

Hossain, M.S. (2013). Strategies to integrate the Mughal settlements in Old Dhaka. *Frontiers of Architectural Research*, *2*, 420–434.

Islam, N. (1996). Dhaka from city to megacity. In G. Clarke & J.R. Stubbs (Eds.), *Megacity management in the Asian and Pacific region* (Vol. 2). Manila, Philippines: Asian Development Bank.

Khan, I.M. (1982). *Alternative approach to the redevelopment of old Dacca* (Doctoral dissertation, Katholieke University of Leuven, Belgium).

Khan, I.M. (1985). Liveability of Old Dhaka: Evolving residential patterns in mahallas. In R. Powell (Ed.), *Regionalism in architecture* (pp. 123–135). Singapore: Concept Media. Retrieved from https://archnet.org/publications/2709.

Mahmud, S. (2007). Identity crisis due to transformation of home environment: The case for two Muslim cities, Dhaka and Hofuf. *Middle East Technical University Journal of the Faculty of Architecture*, *24*(2), 37–56.

Marshall, J. (Ed.). (1931). *Mohenjo-Daro and the Indus civilization*. London, UK: Arthur Probsthain.
Mowla, Q.A. (1997). Settlement texture: Study of mahalla in Dhaka. *Journal of Urban Design*, *2*(3), 259–275.
Muktadir, M.A. & Hasan, D.M. (1985). Traditional house form in rural Bangladesh: A case study for regionalism in architecture. In R. Powell (Ed.), *Regionalism in architecture* (pp. 81–86). Singapore: Concept Media. Retrieved from https://archnet.org/publications/3676.
Nath, R. (2006). *History of Mughal architecture*. New Delhi, India: Abhinav.
Nazem, N.I. (2003), "Urban Growth and Urbanization in Bangladesh: Interpretation of Census 2001" in CUS Bulletin on Urbanization and Development No. 45, July–December, 9–11.
Nilufar, F. (2004). Hidden morphological order in an organic city. *Protibesh, Journal of Department of Architecture, Bangladesh University of Engineering and Technology*, *9*, 34–41.
Nilufar, F. (2011). Urban morphology of Dhaka City: Spatial dynamics of growing city and the urban core. In *400 Years of Capital Dhaka and Beyond, Vol. III, Urbanization and urban development* (pp. 187–210). Dhaka, Bangladesh: Asiatic Society of Bangladesh. Retrieved from http://www.academia.edu/245137/Urban_Morphology_of_Dhaka_City_Spatial_Dynamics_of_Growing_City_and_the_Urban_Core.
Rahman, M. & Haque, F.A. (2001). Multiple courtyard mansions of Dhaka: Form and context. *Traditional Dwellings and Settlements Review*, *12*(2), 57–71.
Rahman, M.M. & Imon, S.S. (2016). How can historic waterfront conservation help to improve the quality of life in Old Dhaka. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, *26*(2), 200–218.
Rapoport, A. (1977). *Human aspects of urban form—Towards a man environment approach to urban form and design*. Oxford, UK: Pergamon Press.
Roy, S. (2011, September 1). A tale of two cities. *Hindustan Times*. Retrieved from http://www.hindustantimes.com/delhi-news/a-tale-of-two-cities/story-8jkSX5QwS3DVpl3pK4KqZJ.html.
Smith, M.E. (2007). Form and meaning in the earliest cities: A new approach to ancient urban planning. *Journal of Planning History*, *6*, 3–47.
Taifoor, S.M. (1956). *Glimpses of Old Dhaka*. Dacca, Pakistan: S M Perwez.
Tankel, S.B. (1963). The importance of open space in the urban pattern. In I. Wingo (Ed.), *Cities and space*. Baltimore, MD: Johns Hopkins University Press.
Texas Austin, U. (2004). Southern Asia. Retrieved from http://www.lib.utexas.edu/maps/asia.html.

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