Architettura e Innovazione/Built Environment Technologies and Healthy Architectures

Mediterranean Urban Campus for Regeneration at the Dubai 2020 Expo

Urban Open Spaces toward the New Challenges of Adaptivity

edited by
Filippo Angelucci and Antonio Basti

FrancoAngeli

Architettura e Innovazione
Built Environment Technologies and Healthy Architectures

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This book collects the results of the "Mediterranean Urban Campus for Regeneration" project, that was selected by the Italian Ministry of Foreign Affairs among the initiatives carried out at the Italy Pavilion of Expo 2020 in Dubai. The project was coordinated by a research team from the "G. d'Annunzio" University of Chieti-Pescara and was developed with thank to the expertise of professors, researchers and PhD students from the Abu Dhabi University, the American University in Dubai, the American University of Sharjah, the British University in Dubai, the Heriot-Watt University in Dubai, the University of L'Aquila, and the Zayed University in Dubai.

The book was realized with the contribution of "G. d'Annunzio" University of Chieti-Pescara – Department of Architecture through the editors' 2019 personal funds.

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Cover image: View towards the metropolitan landscape from the plaza of the World Trade Center in Dubai. Photo by Filippo Angelucci, 2021.

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Greetings.
Innovation and Architecture
From Expo 2015 Milan to Expo 2020 Dubai and Beyond

Paolo Glisenti *

Years have elapsed since Milan Expo 2015 and now Expo 2020 Dubai is creating its legacy for hosting future global events. Looking at these past experiences, one has the impression of a real time leap forward. It is in this prospective that we now look at Expo 2025 Osaka-Kansai as yet another opportunity for assessing the strong and rapidly developing connection between Innovation and Architecture.

In Milan we admired the "restorative design" that evolved the expectation of a reconstructive phase in the relationship between Human beings and Nature, between Human beings and Environment, between Human beings and food resources. In Dubai, our Pavilion appeared as a model of "regenerative design", an innovative and sustainable model of home, work and study habitat, resilient to the asymmetrical shocks that may affect our lives in terms of health, wellbeing and safety.

In this regard, the Italian Pavilion was not an experimental prototype, as you might have been tempted to think, but a solid "market" project, built and set up by mid and large-size Italian companies that made of sustainability a pivotal factor of competitiveness, profitability and work, starting from the areas of the World – from the extended Mediterranean region to Southeast Asia and beyondthat, in the coming years, will express the strongest demand for goods capable of ensuring resistance to climate change and delivering the greatest supply

* General Commissioner of Italy to Expo 2020 Dubai. General Commissioner of Italy to Expo 2025 Osaka-Kansai.

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of "zero impact", decarbonized products, made with compostable and reusable organic materials.

The creativity of our architects, Carlo Ratti and Italo Rota, and of the art curator, Davide Rampello, made this Pavilion an exceptional branding factor for our manufacturing abilities, technologies and craftsmanship.

Last but not least, our Pavilion, starting with the vegetable garden, showed how biodiversity – a primacy of natural beauty in Italy – is today a decisive factor of balance and development in our changing World. Finally, the Italian Pavilion at Expo 2020 Dubai marked the increasingly blurred line between ecological transition and social innovation.

The events that animated it for 6 months during the Expo, taking place in totally digitalized areas of the Pavilion for the occasion, were the result of new multidisciplinary skills that are intertwined between different sectors of architecture, construction, science and art.

In this Pavilion, every day, we talked about the new "soft skills" that the job markets – in deep and quick evolution – are looking for. In this real school and university Campus, in an uninterrupted process of "learning by doing", we dealt with the skills that the "pathfinders", the creators of new jobs, who will replace the "jobseekers" in the years to come, will offer to the companies and administrations that want to survive and beat the competition.

After all, the Italian Pavilion at Expo 2020 Dubai was nothing more than an immersive journey into "design thinking" and into the "problem solving" approach that the new World in which we live asks us to design and implement. This was the "Beauty connects People" which made our Pavilion a case study worldwide on Innovation and Architecture.

And now we are moving towards Expo 2025 Osaka- Kansai, ready to make of it a new landmark.

The strong interdependence of mankind, nature and technology in designing future societies for our lives is the interpretative theme which

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Italy's Pavilion intends to propose to Expo Osaka-Kansai 2025. Italy will aim at showing the many different ways and means leading, in the past, today and in the future, to a human-centric society capable of generating innovation, sustainability and wellbeing, overcoming past and present contrapositions between human beings and machinery, between natural and artificial. Italy's participation at Expo Osaka-Kansai 2025 will focus on contributions and present best practices of a collaborative entrepreneurship by exhibiting ideas, projects and initiatives of inclusive economic innovation, social development, cultural growth , capable of creating human capital and generating social development.

As a living business and science laboratory, Italy's Pavilion will be a space for an experiential discovery of its contents which visitors will be seeing, interacting with and experimenting in person or remotely, admiring the combination of thought, science and technology that is today at the base of the Italian melting pot of cultural and creative diversity.

Its architecture and interior design will serve to make of the Pavilion a real and virtual hub not only for students, teachers, scientists but also for entrepreneurs, startuppers, managers and simple visitors in sharing ideas, creating collaborative opportunities, generating multidisciplinary skills and ventures.

The Pavilion experience will be direct and virtual, an ibrid experience capable of creating a strong and constant flow of visitors in Italy as well as in other countries. Since the world of arts has for a long time created new spaces of imagination bridging science and creativity, culture and education, wealth and environment, the Pavilion will be inspired by the millennial Italian vision of art, design, music capable of emancipating women and men to live in a fastchanging societies.

A division of space – contemplative, interactive, immersive – in one Pavilion and all at once in an open and participatory virtual process for a closely integrated co-working demonstration of its concept and contents establishing the interconnection of knowledge, expertise and skills.

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Once more creativity will be a key element of the Italy's exhibition space, both from the architectural point of view and the memorable experience for visitors.

It will show and host the humanistic idea of future society, a key component of Italy's cultural and social identity, and will contain historic artworks and modern design, in diverse forms and shapes, which will create the narrative approach closely interrelated with the theme of Expo. An Italian garden will serve to make visible the connection between mankind and nature, between biodiversity and sustainability, between metropolitan housing and country landscapes. A number of living labs will be the meeting points for influencers, for challenge-based learning programs, for musical, cultural and theatrical events.

This will be our new contribution to Innovation and Architecture.

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Foreword. An Interdisciplinary Experience from the Mediterranean Urban Campus for Regeneration/ Dubai Expo 2020

Lorenzo Pignatti *

I am pleased to say that the Department of Architecture of Pescara often offers the best of itself in teaching and research activities that are carried out outside of its own location, specifically within international events where students from various universities confront themselves in design workshops. This is the case with the participation of our Department in the "Mediterranean Urban Campus for Regeneration" project, selected by the Italian Ministry of Foreign Affairs among the initiatives carried out at the Italian Pavilion of Expo 2020 in Dubai. The project, coordinated by a research team from the "G. d'Annunzio "of Chieti-Pescara was conducted and developed in November 2021 with professors, researchers and students of Abu Dhabi University, American University in Dubai, American University of Sharjah, British University in Dubai, University of L'Aquila, Zayed University of Dubai.

The stimuli that these occasions offer are manifold. First of all, the opportunity to interact with people of different backgrounds and cultures, which often opens a fresh and innovative breath for our students who, in turn, react with enthusiasm and participation. Another aspect of interest is given by the fact that these occasions often revolve around architectural projects or urban transformation that are located in areas different from the ones we normally work on, an aspect that requires an effort of interpretation of the sites that

* Director of the Department of Architecture "G.d'Annunzio" University of Chieti-Pescara.

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makes them more fascinating. Finally, the idea that these occasions revolve around a "project", addressed in the different scales of intervention and in its different disciplinary components, make these occasions special because teachers and students do not engage in abstract themes but are rather called to respond with their ideas and creativity to the needs and specificities of the contexts.

However, I would also like to focus on the issues addressed in Dubai, related to public spaces and their adaptability in general but, in this context, with respect to particular and even extreme climatic conditions.

I believe that the tradition of public/private spaces that intend to offer themselves as alternative solutions to traditional open spaces to mitigate atmospheric and climatic aspects, begins with the covered galleries of 19th-century European cities, starting with the Parisian *passages*. These were wonderfully praised by Walter Benjamin in the book "Paris. Capital of the XIX century" where we can read "...the *passages* become the asylum of all those who are taken by surprise by the rain…" and elsewhere that "a *passage* is an inner city, a miniature world for the *flâneur*...". In these brief quotes, the Parisian covered pathways are interpreted as micro-cities protected from the climatic effects within the urban fabric, "... they are internal corridors that have no contact with the outside, they are dreamlike spaces". I therefore would like to start from the nineteenth-century city and from the spaces that that culture has generated, a sort of duplicate of the outdoor urban public spaces into internal spaces, introjected, rarefied, often unreal, but certainly protected from the climate and more controlled than a generic public space.

The Parisian passages were the forerunners of the great covered urban galleries, one of them being the Galleria Vittorio Emanuele II in Milan. Unlike the former, narrow and almost hidden, the nineteenth-century galleries are large and monumental spaces, true spaces for the representation of an opulent and sophisticated society and culture, true urban lounges protected both from climatic and social

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conditions. I like to think that these spaces were not only conceived as places of strolling and commerce of the nineteenth-century bourgeoisie, but they also represented all aspects of urban life. The famous painting by Umberto Boccioni "Brawl in the Gallery" (1909) reveals the social tension of the time where political events did occur also within the most respected public spaces.

As we know, these nineteenth-century galleries become the precursors of the shopping malls that developed in North America from the mid-60s of the last century as a result of the early ideas developed by Victor Gruen, an architect and urban planner who became in the 1960s in the USA "the pioneer of shopping centers" as well as "the architect of the environment" for his advanced theories in regional planning based on the repetition of a series of singular "cellular metropolis", at the center of which, there were general facilities and services, including a shopping mall. The figure of Victor Gruen is here chosen as emblematic for his

Fig. 1 - Umberto Boccioni "Brawl in the Gallery" (1909). Source: public domain.

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"invention" of the shopping mall typology. The shopping malls were seen and conceived as easily accessible regional shopping centers and places of leisure and commerce where the internal environment was completely controlled, both from the point of view of public safety and commercial strategies and, finally, of the climate, cool in summer and warm in winter. Shopping centers were and are therefore safe, easily accessible, commercially efficient and climatically comfortable places. Indeed, in some more recent examples, tropical climates have been recreated to make the shopping experience more diversified and playful, or even artificially snow-covered surfaces to allow visitors to ski (Edmonton Mall, Canada). The shopping center has become a typology that has spread to all parts of the globe, becoming a repeatable model in any context, with clear distribution rules determined by commercial needs and with an architectural image that is often absolutely similar in any regional or cultural context.

However, it must be said that the universal shopping center model certainly belongs more to the phantasmagoria of the cult of shopping rather than to the real needs of the context and adaptation to particular climatic conditions. Reporting personal experiences, I can say that the literature of climate-controlled public spaces has illustrious examples in the cold Canadian cities, Montreal and Toronto. In Montreal, one of the first urban megastructures of the 1960s praised by Reyner Banham, Place Bonaventure, was conceived as a large urban project that contained everything within itself, a sort of city within the city. In addition to offices, hotels and residences, it also contained a shopping center, that was moved from the suburban outskirts of North American cities to urban down-towns, offering a comfortable urban environment to shop.

Another paradigmatic example belongs to one of the most important architects of the Modern Movement, Mies van der Rohe. When he designed a building complex of banks, offices and commercial spaces in downtown Toronto, the Toronto Dominion Center, in order to maintain a sort of purity of the public space at street level without

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commercial functions that would have created a visual confusion, Mies invented the "minus 1", by creating a sequence of commercial spaces buried underground, which ensured the commercial component of the project without invading the public space at street

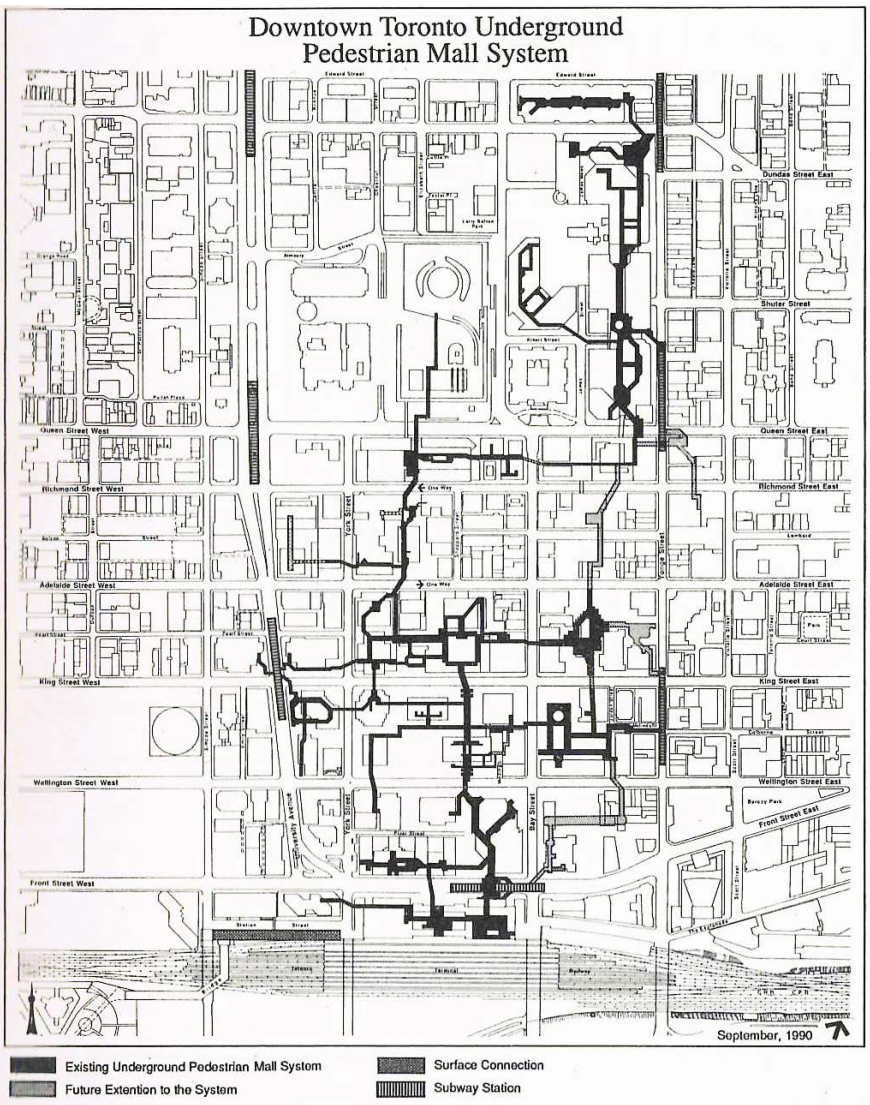

Fig.2 - Toronto. Plan of underground pedestrian system (Toronto-Rome. Designs for two cities, edited by F. Moschini and L.Pignatti).

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level. Moreover, this underground network of spaces provided a comfortable setting to the harsh Canadian winter. Mies was therefore the forerunner in Toronto of a system of underground commercial spaces that developed in the following years throughout the city center, offering, in addition to commercial spaces, easy connections between the various urban blocks, up to the well-known example of the Eaton Center, a direct replica of the Galleria Vittorio Emanuele in Milan. Toronto citizens can easily walk a part of the city center in favorable climatic conditions, without having to walk in snowy streets at several degrees below zero.

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Introduction.
The Mediterranean Urban Design & Regeneration Campus

Antonio Basti, Filippo Angelucci

This publication brings together the work produced during and after the *Mediterranean Urban Design & Regeneration Campus* (MU-DRC) (MU-DRC, 2021) workshop organised by the Dipartimento di Architettura (DdA) at the Università di Chieti-Pescara. This event was just one of the initiatives promoted and hosted inside the Italy Pavilion by the Italian Ministry of Foreign Affairs and International Cooperation during Expo 2020 in Dubai (UAE).

This event was created in response to the call issued by the Ministry of Foreign Affairs and International Cooperation for Expo 2020, seeking proposals for the dissemination of projects demonstrating the excellence of Italian universities around the principal theme "Connecting Minds, Creating the Future" and the related themes "Opportunity, Mobility and Sustainability". The latter were examined in relation to both material infrastructures (innovative logistics, transportation and communications systems, accessibility, resilience and sustainability of environmental, energy and water resources) and immaterial infrastructures, such as the smart sharing of creative content and experiences, skill training and the dissemination of innovative cultural and scientific projects.

Linked to the general theme proposed by the Italy Pavilion *Beauty Connects People* (fig. 1), the DdA's proposal focused on promoting the results of applied research developed in recent years around the theme of the architectural design and environmental regeneration of the Mediterranean city. Experiences in which the themes of beauty,

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creativity, the connection of minds and the sharing of knowledge represented the fil rouge of a line of work driven toward architectural quality and sustainability, resilience, climate adaptation and the environmental efficiency of urban space. Experiences ranging from studies, research and conventions of international importance (Pignatti, Angelucci, Rovigatti & Villani, 2018; Pignatti, 2020) to the organisation of thematic workshops intent on building bottom-up processes of *conscious design*, to participation in international competitions for the design and construction of ecological and self-sufficient housing and quarters. Activities conducted in collaboration with national and international entities, agencies, universities and research centres, including universities in the UAE.[1]

Evaluated by the General Committee of the Ministry of Foreign Affairs and International Cooperation, the proposal was selected as one of the two choices for the participation of the Università di Chieti-Pescara at Expo 2020 [2] and scheduled during the week dedicated to the theme *Urban & Rural Development, focus areas Cities & Informal Settlements*, together with other initiatives promoted by the following entities, universities and institutions: Fondazione Matera Capitale della Cultura 2019; Università di Firenze, Rete delle Università per il Benessere Urbano; Ministry of Agriculture; CNR (Centro Nazionale Ricerche) and INU (Istituto Nazionale di Urbanistica); Teams Smartcities; Ministry of Infrastructure; Fondazione Inarcassa; Politecnico di Torino; Politecnico di Milano.

Conceived as an instant workshop (Work & Play Event), the event presented participants with the specific objective of the theme "Create Your Urban Agora". The intention was to stimulate debate and consequent proposals on the theme of the configuration of urban space as a place of encounter and cultural discussion. The format was developed to involve visitors, students and professors attending Expo 2020 in an experience of active design to develop ideas for improving architectural and environmental quality in particular urban spaces

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in Dubai, and to trigger a process of exchange between two different cultures of urban planning, Mediterranean and Emirati.

In more detail, the event was structured in the following phases[3];

- An approach, focused on drawing attention and provoking a fruitful debate on the themes being explored, through the organisation of talks and debates on leading social platforms (Facebook, Instagram, LinkedIn);
- The preparation of base documents for case studies to be further explored, offered to participants to facilitate the development of metadesign activities to be carried out during the event;
- A process of metadesign, developed during the event in six work groups (figs. 3-6), where teams of visitors, students, professors / facilitators and consultants (Tables 2-3) came together to analyse the criticalities of the study area and present their initial design hypotheses for each of the urban micro-environments identified near the *Mall of the Emirates* and the *Dubai Trade Centre*;
- A final presentation of the reflections and design proposals developed by each work group, followed by critical reflections, commentary and suggestions from local consultants.

The results of the work, together with the suggestions and proposals presented in this publication confirmed and activated numerous conventions and agreements for international collaboration, in teaching and research, involving students and professors from the participating universities investigating the themes of transferring and sharing approaches, methodologies, instruments and experiences in sustainable urban design in warm-arid climates, such as the United Arab Emirates and, more recently, the southern territories of the Mediterranean and Italy, in the wake of ongoing climate change.

Special thanks to the General Commissioner of Expo 2020 from the Ministry of Foreign Affairs and International Cooperation, Paolo Glisenti and his staff for choosing this initiative, to the Magnifico Rettore of the Università di Chieti-Pescara, Sergio Caputi and the

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Director of the DdA, Lorenzo Pignatti Morano di Custoza, for supporting this project, as well as all of the teaching staff, researchers and students hosted by the event and involved in the realisation of this publication.

Notes

1. The British University in Dubai, the Heriot-Watt University in Dubai, the Abu Dhabi University, the Zayed University in Abu Dhabi, the American University in Dubai.
2. Evaluation made in the wake of a national call extended to all Italian universities. The proposal was selected together with 40 other proposals presented by 26 Italian universities, all of its structured as workshop-type training events. The proposals were done in the contest of the "Universities co-creation laboratories" during the first quarter of Expo 2020 Dubai at the Italian Pavillon.
3. Due to the restrictions imposed by COVID 19, the event was open to a limited number of participants who attended in person, with a remote connection that allowed others to actively participate.

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Table 1 – Event content

Project title
Mediterranean Urban Design & Regeneration.

Proposer
DdA (Dipartimento di Architettura, Università di Chieti-Pescara (IT).

Thematic week
Urban & Rural Development.

Focus areas
Cities & Informal Settlements.

Project type
Thematic Work & Play Events (Workshop + Serious Game Activities).

Project brief
Group sessions with a moderator and facilitators, during which visitors and students worked together to analyse the critical elements and develop ad hoc design solutions for urban micro-environments.

Contents
Challenge. Transfer of methodologies of participatory and integrated (top-down/bottom-up) design, fundamental to the development of meta-design objectives for projects of collective interest.
Objectives. Present the principal processes of analysis and formulation of design objectives. Develop among participants the capacity to analyse problems, imagine solutions, evaluate weaknesses, criticalities and inefficiencies, and learn from errors (learning by doing).
Skills. Capacity to read, analyse and define meta-design.

Organisation
The workshop will be organised around the theme of the design/regeneration of urban public spaces based on the methodology of identifying cases studies and articulated in three steps:
1. Description and guided analysis of the case study (points of strength, criticalities, opportunities, risks).
2. Development of design proposals by small groups supported by expert facilitators.
3. Joint exhibition of the proposals developed by each group and collective critical reflection.

Target audience
- Expo 2020 visitors (no age limit, 2 per work group, from Middle East, North Africa, South Asia)
- International university students (18 to 23 years of age, 2 per work group)
- International professors (1 per work group)
- International and/or Emirati experts (1 per work group)

Recruitment
The activities of awareness raising and recruiting of participants will be carried out with the project partners. Events and phases leading up to the event will be presented via the DdA website and local social networks, in collaboration with the project partners. The leading events will include webinars to introduce the theme and presenting the previous work of the DdA and include moments of collegial discussion (meet up).

Educational resources
Educational and technological resources: computers, drawing board, internet connection, access to one drive, 1 tablet with stylus for each table.

Comunication
Website, multimedia video, advising and focus groups on social networks.

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Table 2 – Event programme

EXPO 2020 DUBAI
Mediterranean Urban Design & Regeneration Event, Italy Pavilion, 01 November 2021.

Research Dissemination Event
Scientific coordinators: Filippo Angelucci & Antonio Basti

Introduction & Chair
Antonio Basti.

Greetings
Lorenzo Pignatti, Director of the DdA.

Presentation of the event and guests
Filippo Angelucci.
Presentation of the case studies
Stefania Gruosso.

Working Roundtables
Table 1 - Massimo Angrilli, Cristiano Luchetti, Valentina Ciuffreda.
Table 2 - Apostolos Kyriazis, Stefania Gruosso, Riham Zeyad Saadeh.
Table 3 - Domenico Potenza, Marco Sosa, Giulio Girasante.
Table 4 - Filippo Angelucci, Bassam Abdel-Karim Abu-Hijleh, Virginia Lusi.
Table 5 - Lina Ahmad, Matteo Abita, Kulthoum Shakhshir.
Table 6 - Caterina Palestini, Lorenzo Pellegrini, Amedeo Minischitti, Andrea Di Cinzio.

Collective session
Domenico Potenza, Moderator.

Exposure of outcomes
Table 1 - Valentina Ciuffreda.
Table 2 - Stefania Gruosso.
Table 3 - Giulio Girasante.
Table 4 - Virginia Lusi.
Table 5 - Matteo Abita.
Table 6 - Lorenzo Pellegrini.

Guests comments and suggestions
Bassam Abdel-Karim, Abu-Hijleh, British University, Dubai.
Cristiano Luchetti, Heriot-Watt University, Dubai.
Apostolos Kyriazis, Abu Dhabi University.
Lina Ahmad & Marco Sosa, Zayed University, Abu Dhabi.
Anna Cornaro, American University, Dubai.

Conclusions
Massimo Angrilli

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Table 3 – Partecipants

Team DdA - Department of Architecture, University of Chieti-Pescara (IT)
Lorenzo Pignatti, Director of the DdA.
Massimo Angrilli, Deputy director of the DdA.
Filippo Angelucci, DdA event Scientific coordinators.
Antonio Basti, DdA event Scientific coordinators.
Caterina Palestini, DdA professor.
Domenico Potenza, DdA professor.
Stefania Gruosso, DdA fellow researcher.
Valentina Ciuffreda, DdA PhD student.
Giulio Girasante, DdA PhD student.
Lorenzo Pellegrini, DdA PhD student.
Andrea Di Cinzio, DdA PhD student.
Amedeo Minischitti, DdA fellow.

Guest
Prof. Bassam Abdel-Karim Abu-Hijleh, British University in Dubai (UEA).
Prof. Cristiano Luchetti, Heriot-Watt University, Dubai (UEA).
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Fig. 1 - The Italian Pavillon. Source: Commissariato generale di sezione per l'Italia per Expo 2020 Dubai 2021.

Fig. 2 - The workshop team.

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Fig. 3 - Greetings by Prof. L. Pignatti, Director of DdA.

Fig. 4 - Presentation of the case studies.

Fig. 5 - Groups at work.

Other sources available at:
https://fb.watch/918snk63lW/
https://twitter.com/ItalyExpo2020/status/1455104884898865152?s=20
https://www.youtube.com/watch?v=9cURUFnh7tY

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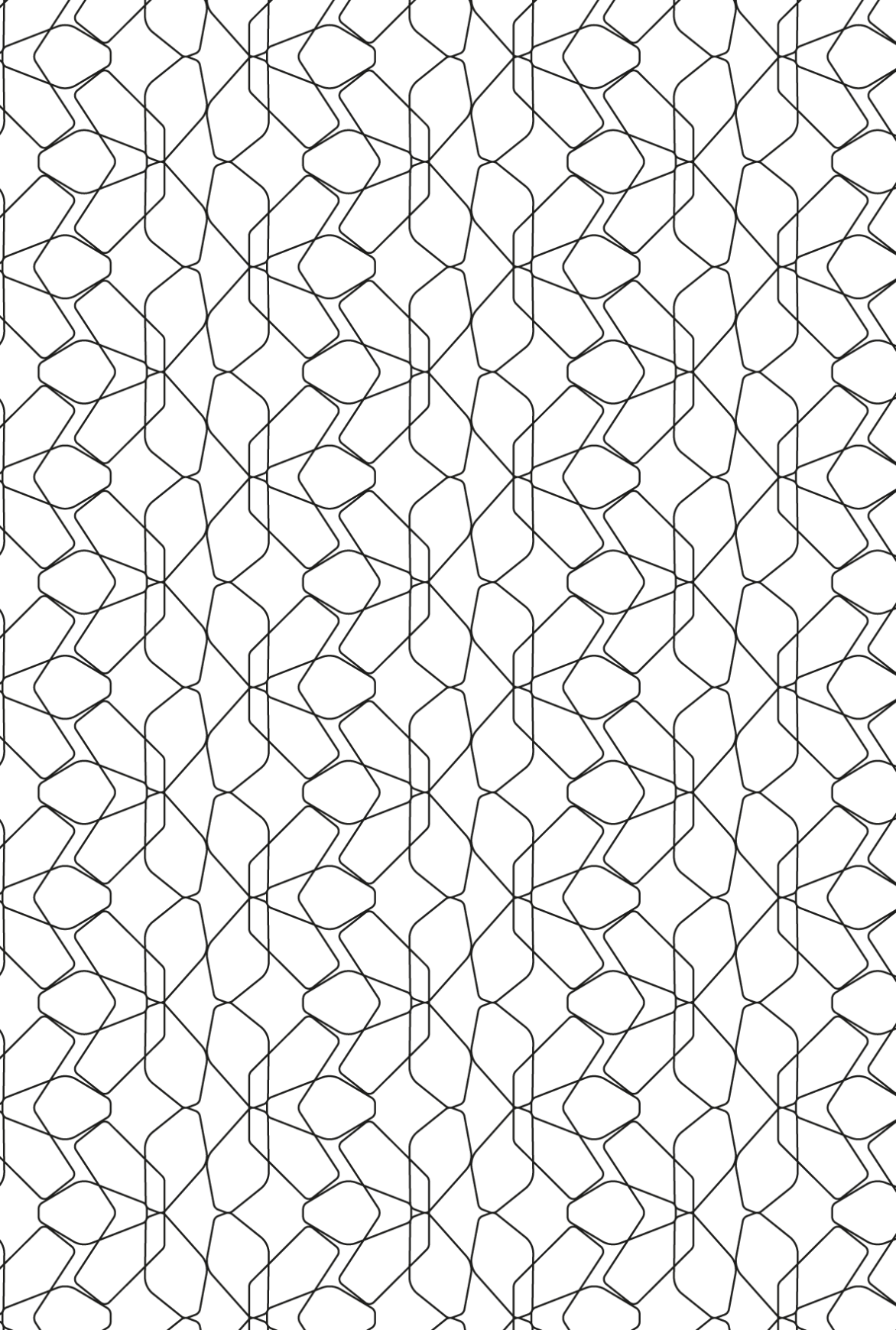

PART 1

Workshop Contents

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Open Design Practices and New Challenges for the Adaptive City

Filippo Angelucci, Antonio Basti

Middle East/Mediterranean: Signs from the Future of Cities

Little more than one thousand kilometres separate the ancient Sumerian cities of Uruk and Ur, in Southern Iraq, from Dubai, in the United Arab Emirates. Archaeologists consider Uruk and Ur, constructed between 3500 and 3000 BC, the first forms of urban settlement. Both developed inside a perimeter wall, with a central nucleus of temples. Uruk presents areas born of the aggregation of pre-existing villages that will extend to form a metropolis. In Ur, instead, we find the first true residential districts, whose spatial articulation is still visible.
Uruk and Ur established the fundamental elements that would influence the history of urbanisation processes, at any scale, in the Middle East, in the Mediterranean and around the globe. Emerging from among these elements is the centrality of open spaces, both as a polarising body of key public, administrative and religious functions, and in the sense of spatial components defining intervals and mediating between private buildings and the spaces of collective life.

If we wished to translate in kilometres the conceptual distance between these two ancient Mesopotamian cities and Dubai, it would be insufficient to adopt a scale in the order of thousands of metres.

Dubai, together with other metropolises that developed in the world, in Arabian areas and the *Persian Gulf* [1], constitutes one of the most significant contemporary examples of breaking with the principles underlying the foundation and modelling of Western cities.

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Following the vision outlined in the *Dubai Structural Plan 2015* (approved on 1995), large real estate operators sought the maximum exploitation of buildable areas presented as basic lots along the highway network. The city was thus constructed in self-referential residential clusters and macro-buildings (primarily skyscrapers and commercial containers) that incorporate open space as an exclusive, privatised system of connections serving gated *communities* (Alawadi, 2018; Aglieri Rinella, 2019). In Dubai it is impossible to find the central open spaces of the traditional city; there is no life in the spaces between buildings, but only movement from one means of transport to another, or on foot, immersed in a *continuum* of isolated and climate controlled spaces that establish no relation whatsoever with the outside.

This means of experiencing the city, certainly induced by extreme climatic conditions, totally negates the paradigms of urbanity, as we know them. Dubai belongs to the latest generation of post-urban settlements that, by reducing anything pre-existing to closed thematic areas and resetting relations with the natural habitat in a purely technical manner, manifest all the symptoms of the process of decontextualization and "capsularization" of globalised cities (De Cauter, 2006).

Five thousand years later, the Middle East is once again where we find the evolutionary trajectories that may influence the future development of most of the cities of the future. However, this time the situation reveals a number of criticalities in need of exploration. They are prodromic signs of an evolution that risks integrally annulling the meanings of urban life.

Though it would be realistic to imagine an extension of the climatic characteristics of the Arab-Middle Eastern area across the entire Mediterranean basin, there is no equal hope they can be dealt with by eliminating the open spaces present in our cities. If life in the city means living inside, in high performance spaces, disconnected from the natural and artificial world outside, we could no longer speak of

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urbanity. Furthermore, if open urban space were downgraded to a simple collection of surfaces leftover from land, space and energy-hungry building processes, we would be best to ask ourselves whether contemporary societies, beyond the post-urban, have not also decided to definitively abandon their status as "terrestrial" communities.

The signals that can be captured from the effect of Dubai on the possible scenarios awaiting the future of cities fully belong to the challenges launched under the theme "Connecting Minds, Creating the Future" at Expo 2020. In this sense, the *Mediterranean Urban Design & Regeneration Campus* (MU-DRC) focused on connecting diverse levels of expertise, cultures and visions for the technological, environmental and urban design of open spaces in the city. Indeed, this initiative fostered the start of a broad exploration of the criticalities and potentialities facing the development of those cities within the complex Middle Eastern-Mediterranean system. Cities that have often shared models and techniques of building open spaces and that, with all probability, are destined also to share the future effects of *climate change*. The case studies identified in the Emirate metropolis offered an occasion for investigating the principal signs of change and adaptation. Signs that, beginning with the model of urbanisation adopted in Dubai, are also leading to the total distortion of the meanings and functions of open spaces in other cities.

With respect to these themes, the MU-DRC concentrated on three fields of activity:

- analysing the dynamics of mutation in contemporary urban open spaces;
- using metadesign to explore the possibilities of rethinking approaches, methodologies and tools of design to favour the adaptation of cities;
- exploring the potentialities, for teaching, training and research, of rethinking the design of open spaces in cities as an open process that involves a plurality of knowledge and disciplines.

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Changes and adaptation taking place in urban open spaces

Two aspects that can now be found in the Dubai model have begun to spread, at the global level, into small, large and metropolitan urban situations.

An initial aspect can be tied to the advancement of a technical-systems-based hypertrophy that, focused on the maximum performance of micro-climatization devices and the regulation of safety levels, tends to reposition open spaces within an exclusively "internal" dimension (Martini e Luchetti, 2018). Hidden away in more tranquilising building volumes, open space loses its centrality in the city's geo-morphogenetic processes. The pandemic provided even more oxygen to this process. By isolating people in small domestic environments and aseptic virtualised emulations, the social distancing induced by *lockdowns* intensified physical distancing and the separation from urban open spaces (Kyriazis *et al.*, 2020).

New spaces used by society, incorporated within private buildings, provide elevated levels of inhabitability in the face of the pressures exerted by *climate change* and the rising demand for safety. Additionally, they lend themselves to being easily reproduced in any other urban situation. Yet there remains a hint of doubt about the degree to which these processes of internalisation/privatisation are truly environmentally, economically and socio-culturally sustainable. With their elevated dependency on energy consumption and maintenance requirements, coupled with the need to respect very rigid private and commercial regulations, these spaces introjected into buildings are the cause of at least two distortions.

They cancel those inclusive spaces that, traditionally, welcomed the vitality of the city in the Middle East, the Mediterranean and the rest of the world, in all of its cultural, social, civil and democratic manifestations. At the same time, the progressive substitution of external spaces, and their confinement within new volumes-containers, drives up the use of land, both public and private.

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A second relevant aspect is tied to the spreading conviction that the adaptation of cities can be achieved solely through an exasperated simplification of design that privileges high performance standardizations, decontextualised solutions suited "to all seasons", and interventions confined within the communicative and repetitive expressive codes of non-places and junkspace (Augé, 1992; Koolhaas, 2006). This other designing aspect, so visible in Dubai that it generated the neologism *Dubaification* (Alrauf, 2006), has relevant effects on the perception of open spaces and their capacity to adapt to the evolutionary dynamics of the contemporary urban habitat. At the level of involvement of public and private actors, it steals investments from historical spaces of collective use, with their specificities and diversities, and from all other spaces with an elevated capacity to condense outdoor urban functions. These spaces have little chance but to conform with the internationalising dynamics of thematic "tourism-recreational" zoning, intensive or exclusive, abandoned to a fate of dequalification and defunctionalisation, or be reduced to residual fragments of processes of urbanisation. At the level of the architectural-environmental characterisation of interventions, the adaptability of urban spaces is reduced to the excessive functional impoverishment of void and anonymous space, freely manipulable and colonisable without any rules. An alternative is the densification of objects, equipment and furnishings to favour a hypothetical flexibility that, however, often translates into a condition of discomfort produced by semiotic congestion (Dorfles, 2008).

These two recurring aspects contribute to slowing the transition toward the conception, the design and the construction of open spaces in the city capable of adapting to the changes taking place. On the contrary, they contribute to the gradual alienation of open spaces from their urban contexts, facilitating an artificial adaptation that excludes and disenables individuals and communities, as well as impoverishing and standardising cultural diversities, practices and the inhabitation of local contexts.

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The challenges of adaptation faced by open spaces in the city become mere expressions of an authorial and top-down approach to design that fails to involve the community, or to capture its alterities and psycho-physical-relational needs, as well as failing to promote knowledge and techniques of construction consolidated over time. The *Dubaification* of open spaces in the city places us in front of a design trend defined once and for all. A trend that ignores the mutability of environmental changes and people, and concentrates solely on the practice of adding products: limited in number, exclusive and highly efficient.

Metadesigning adaptive open urban space

Dubaification is countered today by diverse projects that bring new value to pedestrian and natural spaces to limit the invasiveness of automotive traffic. Despite continuing to be realised in private areas, these interventions help reorient Dubai toward the new dimension of a *walk-in city* (Luchetti, 2019). Some of the projects completed for Expo 2020 confirm this change of direction. *Al Wasl Plaza* (fig. 1) and the *Water Feature*[2] (fig. 2), despite their elevated tecno-scenographic emphasis, integrate environmental the architecture of open spaces with natural elements (water, light, vapour, sound) within a single system and with immaterial and interactive devices (music, projections, performance). Both will be left to the city as public heritage and become part of the District 2020 centred on the themes of health and wellbeing.

In Dubai as in other cities, aside from projects linked to areas highly attractive to users and investment capital or large international events, we must still confront the regeneration of diffuse, spontaneous, and informal public micro-spaces or marginal open spaces, currently far from the heart of design considerations. These latter two typologies of open space, in fact, given their pervasive presence in built fabrics,

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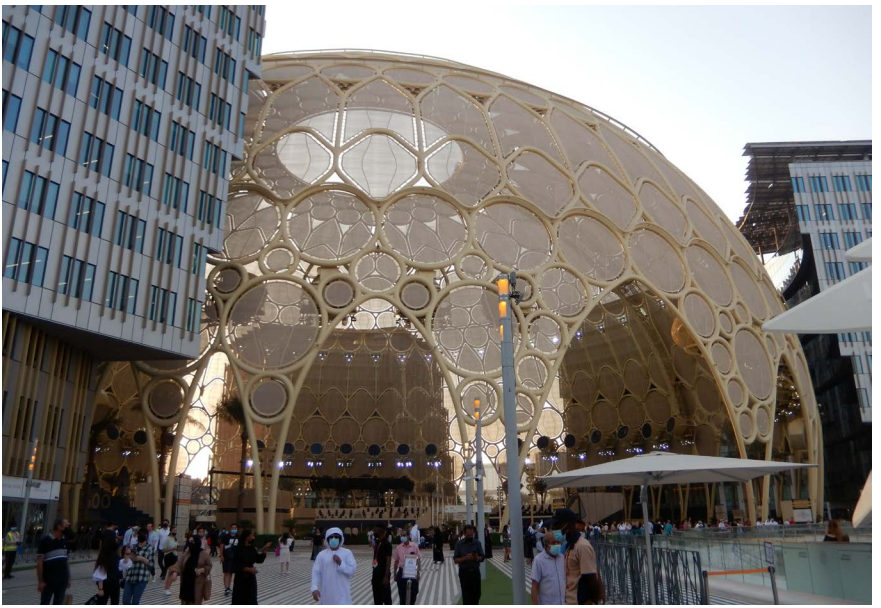

Fig. 1 - The Al Wasl Plaza, designed by Adrian Smith+Gordon Gill for Dubai Expo 2020, is an experimentation of multi-sensorial urban open space based on the coexistence of sounds, lights, shadows, wind flows. Photo by Filippo Angelucci, 2021.

Fig. 2 - The Water Feature, designed by WET for the Dubai Expo 2020. Users are totally immersed in an experiential collective open space between water, vapour, and sounds. Photo by Filippo Angelucci, 2021.

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still constitute precious resources for improving the quality of urban life because they host the majority of everyday individual, collective, commercial, and convivial activities (Elsheshaswy, 2010; Settis, 2017; Angelucci & Elfraites, 2021).

New design complexities emerge above all when we confront the challenges of adaptivity.

In large projects, the highly sector-specific demands of investors and stakeholders, to optimise costs, social benefits and profitability, guide interventions based on rigid projects, on administrative decisions or exclusive formalism. For smaller projects, on the other hand, the weak when not absent interest of private actors and the often scarce level of design in public institutions, favour margins of indeterminacy that make it impossible to respond to the real needs of individuals and communities effectively and adaptively.

What emerges is the need for a substantial rethinking of the design process, because achieving the adaptability of open urban spaces, to be configured based on a reasonable and balanced environmental, technological, economic and social sustainability, requires a plural projection of investigations, hypotheses and multiple responses that are both flexible and reversible. This situation transfers the objective of adaptability from the design object to the process behind its conception and formation. There is a shift in meanings, procedures, contents, practices and objectives of design, from the traditional definition of the complete and closed project toward an interpretation of process metadesigning (Angelucci, 2021) that is both open and in constant evolution Ratti, 2014; Carta, 2014; Gasparrini, 2014; Sennett, 2015).

The MU-DRC explored two central dimensions for a metadesign and adaptive innovation of urban open space design. The first dimension, dialogic, provided a cross/inter/trans-disciplinary translation of design, overcoming the recurring definition that reduces the comparison between different disciplines to a mere aggregation of heterogeneities or a temporary collaboration between a leading discipline and another at its service. In a second dimension, methodological,

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continuous changes to the bio-tecno-socio-sphere are interpreted not as limits, but as opportunities for a plural and multi-informational guidance of metadesign, in order to raise integrated natural, individual, organisational and spatial adaptive capacities.

With regard to the dialogic dimension of metadesign we set out from the assumption that the adaptability of urban open spaces in the twenty-first century could develop solely through a choral process of continuous and open dialogue between different technical fields (Manzini, 2015), design cultures and practices of inhabiting the city (WHO, 2006; UN, 2015; UN, 2017).

The working groups of the MU-DRC approached this first challenge through actions based on three methods of metadesign exploration, also borrowing friendly aspects, procedures and practices specific to serious games (thinking in terms of models, designing by strategies, contaminating hypotheses, looking together at errors):

- through *learning by using*, concentrating on experiences, sensations and narratives relative to the diverse ideas and cultures of open space, understanding specialisms, barriers, performance, capacities and communicability, based on diverse methods of use;
- through *learning by doing*, supporting dialogue and interaction among different actors, experts and non-experts, through their diverse capacities to analyse problems and hypothesise solutions, evaluating weaknesses and criticalities, learning by sharing successes and errors;
- supporting *learning by interacting*, exchanging research and experiments in teaching and design among the various actors involved, in order to hypotheses, imagine, guide and govern open spaces toward multiple levels of adaptability, transformability and coevolution.

With regard to the methodological dimension of metadesign, the MU-DRC defined a process centred on defining the multiple levels of transformation and adaptation of the qualities of open spaces. Qualities that must incorporate the capacities to interest and contex-

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tualise, case-by-case, new relations and connections with factors and exogenous-global and endogenous-local agents (Angelucci, Basti *et al.*, 2015; Clementi, 2016) also including experimental forms of cooperation between private investors and public actors.

In this direction, the activities carried out through the MU-DRC made it possible to further expand on three integrated informational aspects of the metadesign of urban open spaces (Angelucci, 2019):

- scenarios, intended as the projection of horizons of adaptation, not only imaginable, but also possible, probable and hoped for;
- visions, elaborated not only as the pre-determination of interventions, but also in terms of the elaboration of relational, performative and process-based redundancies required to favour adaptivity;
- concepts, identified not as the pre-formalisation of design, but instead as the evaluation of trajectories of adaptive innovation, between degrees of appropriateness and deviations measured against context.

Experimenting with multiple means of metadesign exploration and proposal, the theoretical and operative framework that emerged from the MU-DRC framework, in reality, evidenced a much broader field of action for the design of urban open spaces. This is another important challenge that moves beyond dialogic and methodological dimensions, and has the potential to assume a simultaneously participatory, didactic and educational character.

Toward an open definition of the adaptive *polis* of the future

The path travelled by the MU-DRC in Dubai, involving the two case studies of the *Dubai World Trade Center* and the Mall of the Emirates [3], helped clarify that confronting the transition toward more adaptive urban open spaces requires a number of paradigms shifts in how we design, and which directly involve universities.

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Firstly, there is a need for a change in decision making involving public and private actors, but also as part of discussions to define and resolve designing choices.

There is a need to develop an ability to forecast (Caffo & Muzzonigro, 2018) that, in the face of multiple and unpredictable variations in context, can enable not one project, but multiple projects that can evolve over time. Open space in the city must become part of an ongoing, "open" and inclusive process of activities of conservation, transformation and adaptation involving multiple actors, with different levels of responsibility, decision-making and competencies. As part of this process, by operating as a support to the incubation of ideas, metadesign holds strategic value for nurturing a collective culture of open space in the city.

Even the sector of education in schools and dissemination across the territory can involve universities in activities of research and the Third Mission.

Scholastic infrastructures are in fact granted the role of spreading culture in local territories, forming the idea of a national community and educating future generations to live together in society and share the common good. The practice of metadesign constitutes an important tool for activating open experimental laboratories of co-design and sharing. Laboratories can be spaces of study, dialogue, work and assistance that act on the various open microcosms in the city, supporting collective practices and for confronting the changes of adaptation required of people, facilities and spaces.

Predicting multiple levels of adaptation for open spaces requires that we question the very ontologies of design. This should involve universities in a revision of their curricula and research, moving toward a more *open project*. Didactics, experimentation and technical-professional training must concentrate increasingly less on generalist knowledge or ultra-specialised notionisms. Instead, there is a need for a multicultural examination (Losasso, 2017) of the morphological-expressive, technological-environmental, urbanist-landscape

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and historical-perceptive dimensions of the design of open spaces. A metadesign practice can proactively support the development of a plural vision of open spaces, also contributing to defining the progressive passage from cross/inter/trans-disciplinarity (Perriccioli, 2016) toward a hoped for meta-disciplinarity (Schiaffonati, Mussinelli & Gambaro, 2011).

It is objectively clear how, in all of these fields, open space continues to play a central role. If adequately reconsidered in adaptive terms, it can once again welcome the vitality and levels of comfort, the interaction and conviviality that has always connoted living together in the city, also establishing new and unprecedented relations among people, nature, technologies and societies.

The time in which we forget the lesson of Uruk and Ur is still a ways off.

Notes

1. Among these, Abu Dhabi, the capital of the United Arab Emirates, is one of the most significant examples of a city that has grown and expanded rapidly, both laterally and vertically, as specified in the essay by Lina Ahmad and Marco Sosa. However, in Abu Dhabi, some architectural polarities try to maintain a close link with the local typological construction traditions, as specified in the essay by Domenico Potenza.
2. The Italian company Cimolai Rimond Middle East built Al Wasl Plaza according to the design by Adrian Smith+Gordon Gill. The Water Feature was designed by WET, also responsible for the Dubai Fountain project.
3. For specific explorations of the themes and proposals developed by the MU-DRC work groups, see the successive parts II and III of this publication.

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Case-Study Areas

Stefania Gruosso

Introduction

Dubai is a city that has grown rapidly. Around forty years ago, much of the contemporary metropolis was just desert; today that same space is home to more than three million people from over 130 nations and to a thriving economy. The city can be seen as an emblem of modern urbanisation dynamics, characterised by such rapid growth that it has ended up disrupting the landscape through significant changes. All of this took place in an environment that was not easy, both because of the climatic conditions (characterised by high temperatures, strong winds, high level of humidity and low rainfall) and the geology of the soil (consisting of sand, which forced the use of structural poles exceeding 130 metres, to support the tall buildings that characterise the Dubai skyline).

Sudden urbanisation has led Dubai to be included in the list of what architect Rem Koolhaas calls "no longer cities", immoderately growing cities which follow the rules of anarchic urbanism. Koolhaas writes: "Normally the origins of a city are associated with the needs of a large number of people to live in the same place; this is not the case of Dubai where the reduction in income due to oil extraction is compensated by the increment of settlement development. Again, we see here a situation where the motivations for the city's growth are completely new and not measurable by traditional standards" (Koolhaas, 2021).

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To get an idea of what Dubai is all about, a preliminary step was to compare it with a familiar metropolitan reality: Rome. (fig. 1) The most relevant data concerns Dubai's territorial extension, which turns out to be more than three times Rome's one, despite a fairly similar number of inhabitants. Totally different, however, are the directions that have guided urban development, which is linear in Dubai and concentric in Rome. In the United Arab Emirates metropolis, the non-standard not only concerns the quantity and manner of building but also the quality and size of the interstitial open spaces between the tall skyscrapers, urban voids that are difficult to typify. These are non-places, uninhabited spaces, marginalised by a condition of disuse or underuse, which has reduced them to the condition of urban residues.

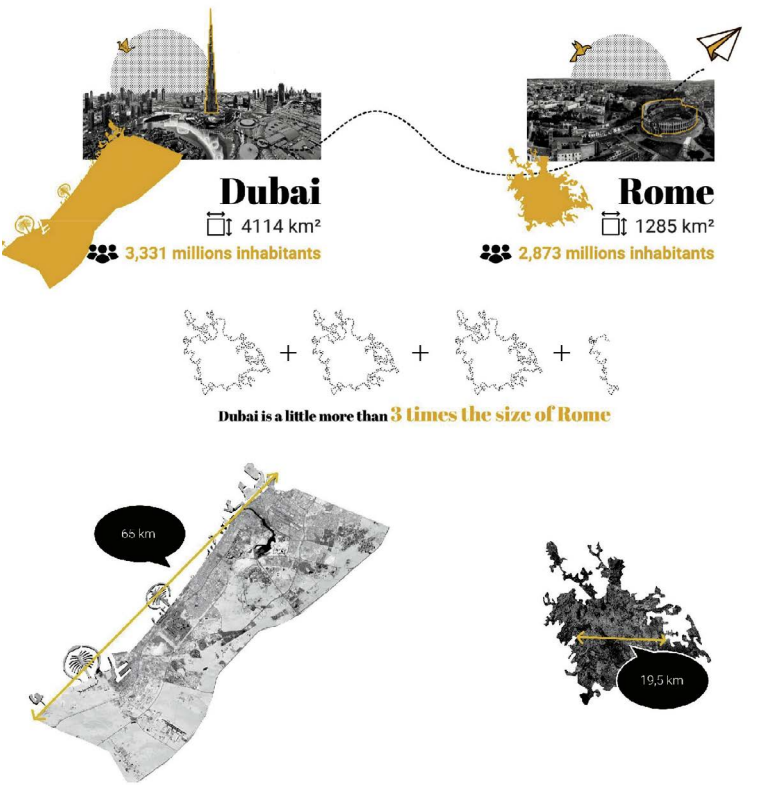

Fig. 1 - A comparison between Rome and Dubai about territorial extension, urban development and number of inhabitants.

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The Mediterranean Urban Design and Regeneration Event

The Mediterranean Urban Design and Regeneration Event was an opportunity to test a meta-design approach to support, at the urban scale, the definition of strategies, visions and concepts useful to identify and reactivate a network of open spaces. The experience focused on issues related to two specific case studies. The spaces in question, empty of meaning, become the subject of reflections aimed at improving the liveability and the forms of use of Dubai's open spaces.

The two case studies were selected for their ability to represent certain conditions peculiar to the metropolis:

- *Case Study 1, Dubai World Trade Center*, for its ability to summarise the idea of emptiness as a space of relationship;
- *Case Study 2, Mall of The Emirates*, for its ability to represent the concept of emptiness as a space of connection.

Dubai World Trade Center

The first area is a large open space located within the Financial District, near the Dubai World Trade Center (DWTC), a complex built in 1978 by Sheikh Rashid Bin Saeed Al Maktoum, which includes a tower, eight exhibition spaces, the Dubai International Convention and Exhibition Centre and some flats and residences located in an area known as "The Apartments". The Dubai World Trade Centre is the city's first office complex to attract international investors: a strategic space whose importance is underlined by the depiction of its profile on the 100 dirham banknote. The Centre has over 1 million square metres of mixed-use space, and is capable of hosting events of all types and sizes. More than 500 international trade fairs, shows and conventions are organised each year, with over 2.5 million visitors from 160 countries worldwide.

During events the area is one of the pulsating hearts of the metropolis, but during other times of the year it becomes an uninhabited

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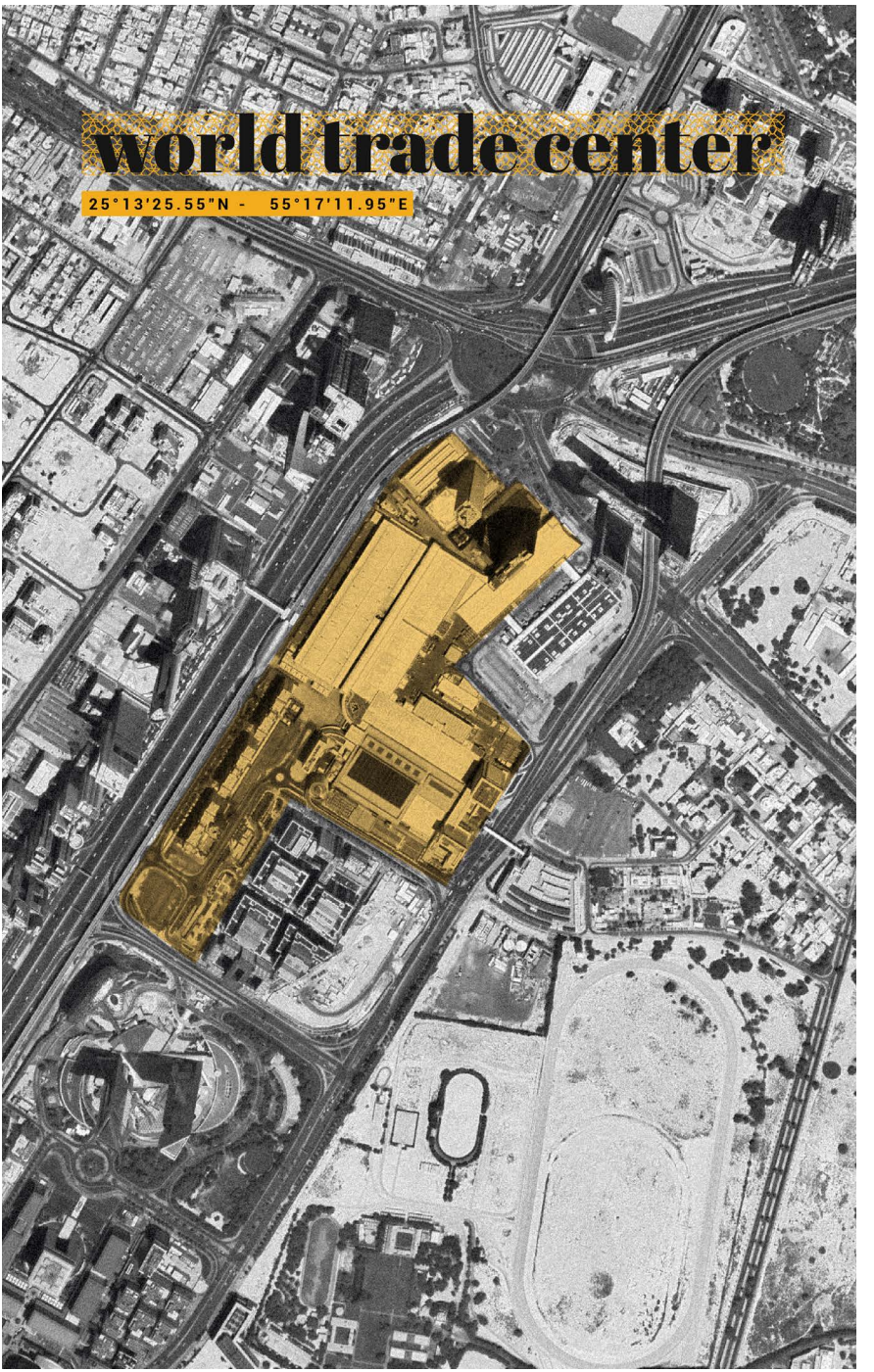

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Fig. 2 & 3 - Two different point of view of the large open space located near the Dubai World Trade Center. Photo by Stefania Gruosso, 2021.

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space between buildings. Centrality, besides being defined by the presence of the DWTC, is guaranteed by the metro station and the proximity to one of the city's main arteries, *Sheikh Zayed Road*.

The extensive plateau has an articulated geometry that winds its way between the buildings, until it becomes a filament as it crosses the WTC to intercept the space in front of the *Sheikh Rashid Tower.*

Today, the area plays a strategic role as a connective space capable of creating synergies between buildings that represent the city's history: the *Sheikh Rashid Tower*, a skyscraper built in 1979, which for many years was the city's tallest building and recently underwent a retrofitting intervention, the *Dubai World Trade Center*, the hub of Dubai's finance and trade, and the *Museum of Future*, a museum with futuristic architecture, inaugurated in 2022 and described by some as the "most beautiful museum in the world". The exhibition space takes the form of a 77-metre monument, with no pillars and covered by a stainless-steel facade illuminated by 14,000 metres of Arabic calligraphy that decrees it as Dubai's new urban icon.

Mall of the Emirates Park

The second area, a large green space located near the *Dubai Mall of the Emirates*, is called *Mall of the Emirates Park*. The *Dubai Mall of the Emirates* is the largest shopping centre in the world in terms of number of shops and occupies an area of more than 1 million square metres. The complex is located near the *Burj Khalifa*, the world's tallest building, in an area of the city that seems to condense records both in terms of elevation of the buildings and their size.

The studied space, which has a characteristic amoeba shape, is the result of a city built vertically, where voids mostly become crossing spaces necessary to reach different levels of elevation or to cover large distances. The *Mall of the Emirates Park* is characterised by green areas and a central portion occupied by an artificial pond. The perimeter

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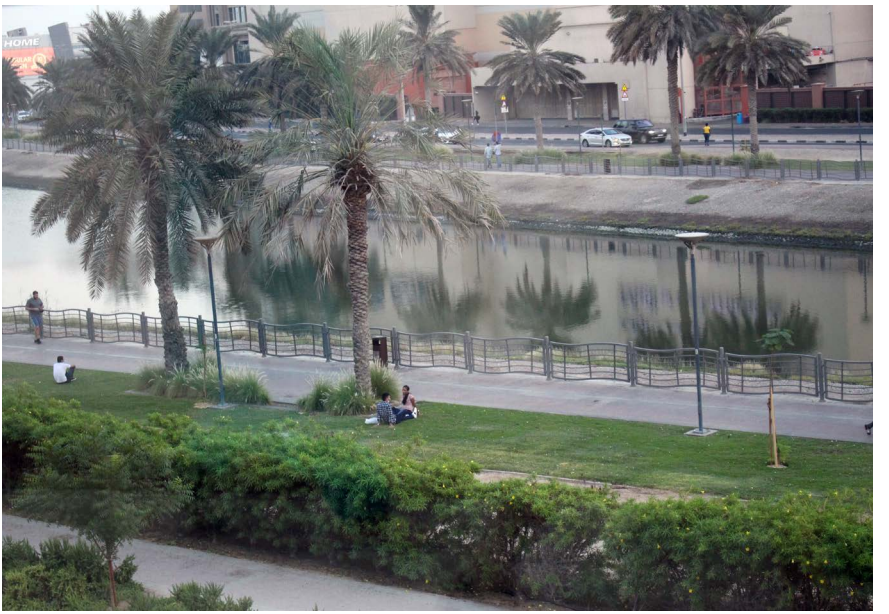

Fig. 4 & 5 - View of the Mall of Emirates Park and the space in-between the Park and the Dubai Mall of Emirates. Photo by Stefania Gruosso, 2021.

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is marked by a paved pedestrian circuit, which allows jogging and/or walking around the lake, under the shade of tall palm trees rows. However, the lake is not directly accessible due to the presence of a fence.

The urban condition of the *Mall of theEmirates Park* is completely different from the *World Trace Centre*'s one. The open space presents itself as a fragmented surface, a condition caused by a multi-level crossing made of roads but also of walkways that connect to the Dubai Mall and the metro station at different heights.

As well as presenting various critical issues, the area shows unexpressed potentials, such as: being the only open-air public space directly accessible from the *Dubai Mall*, being the space that introduces users arriving by metro to the *Dubai Mall of the Emirates*, and having the possibility of becoming a satellite area of the nearby *Academy Park*.

An open view

"When exploring a new reality, one must make the effort to move away from the usual stereotype, one must have a view free from moralism and prejudices because only in this way it is possible to read a *new beauty*" (Basilico, 2007).

If we talk about public spaces, we almost spontaneously seek an assonance with the Italian "piazza", a place permeated with history and a reflection of urban identity, but in Dubai we have to deal with a completely different history and context. While making the effort to uproot ourselves from our culture, we cannot, however, deny the global concept of public space as an active space, animated by the presence of people, a meaning we have not found in the Emirates metropolis, where it is instead connoted as a residual space, with sporadic use and a rarefied identity. Starting from the assumption that spaces acquire meaning if people move or play an active role in them, the workshop set itself the goal of defining not only new

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spatial configurations but also new functional rhythms capable of restoring public spaces to their role as pulsating places in the city. This is a complex operation that should lead the inhabitants to establish a different relationship with the public space, encouraging them to experience it and recognising themselves in it.

How to implement this change?

What could be the strategy and what functions should be assigned to encourage the use of open spaces in Dubai?

What devices could improve the liveability of these spaces?

Open spaces, in Dubai, should be rethought and rearticulated considering a specific context, characterised by international flows, in which the local seems to vanish under the influence of the global. A place where multiple identities come together and where every single person must be able to feel comfortable. This atypical situation, made of hostile climatic conditions and multi-ethnic coexistence (in which locals make up 11/12% of the population), must become an opportunity to experiment with a new design, which is a synthesis of social, political and economic conditions in which open spaces can propose and encourage new ways of social interaction.

During the workshop, six different scenarios were developed, each of which attempted to answer the questions previously raised by focusing on different issues and themes:

- Design team 1. The Public Space as an Open Urban Process. The Case-Study of the Mall of the Emirates Park. Given its changing nature and the different spatial and functional conformations that alternate in the city of Dubai, the open space is set to be an open urban process, made of new functions and new spatial proposals that try to mediate between POPS and informal public spaces.
- Design team 2. The Public Space as an Urban Machine. The Case-Study of the Dubai World Trade Center. It is a hybrid, performative, interactive and catalytic public space capable of reconfiguring modes of occupation and in which digital technologies play a fun-

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damental role as catalysers of processes capable of having a strong social, cultural and environmental impact.

- Design team 3. The Public Space as a Threshold. The Case-Study of the Mall of the Emirates Park. The urban threshold, in its declination of passage space, assumes, in the Middle Eastern country, the meaning of permission, of līwān. A place with a clearly defined border is an accessible and livable place.
- Design team 4. The Public Space as Place of the Experience. The Case-study of the Dubai World Trade Center. It is a public space whose main objective is to improve the conditions of thermal comfort and wellness of users in order to promote conviviality and social sustainability of open spaces.
- Design team 5. The Public Space as a Bioclimatic Shelter. The Case-Study of the Dubai World Trade Center. It is a dynamic, changeable and flexible public space, thanks to devices capable of changing their configuration according to the characteristics of the microclimate and useful for defining new resting spaces that intend to recall elements of the local cultural and building tradition.
- Design team 6. The Public Space as Place of the Ephemeral. The Case-Study of the Dubai World Trade Center. It is a public space that aims to respond to the rapidity of social and urban evolution through the introduction of devices capable of generating environmental comfort and establishing new possible social relationships in the urban context.

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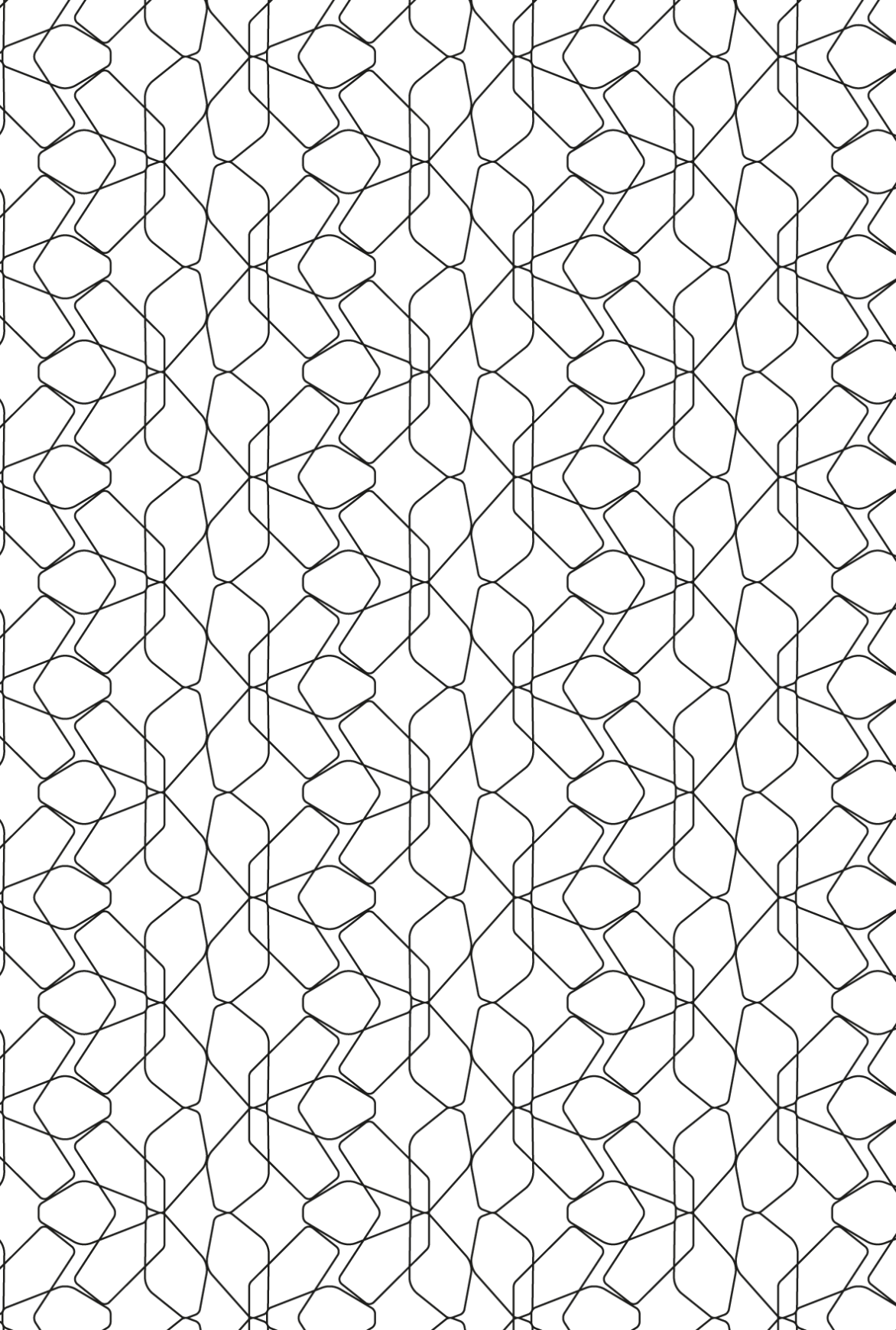

PART 2

Scenarios, Visions, Concepts

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The Public Space as an Open Urban Process. The Case-Study of the Mall of the Emirates Park

Valentina Ciuffreda

Introduction

Are there best practices or models of public space, belonging to our design culture, that we can share to implement and rethink the role Dubai's open spaces? We tried to answer this question in the working table [1] dedicated to informal open spaces in the Emirati metropolis, starting with the definition of what public space means in Dubai, both at the urban and social levels.

The choice of areas to debate on was addressed even before participation in the Mediterranean Urban Design & Regeneration Event, identifying the large open spaces in the proximity of the Dubai World Trade Center and the Mall of Emirates as the experimental grounds with which to measure ourselves as academics and designers. But direct confrontation with those who live and work within the Emirati reality has intensified reflection, necessitating a step back from the outlined perimeters.

In particular, an attempt was made to start from the definition of public space in Dubai, from the way in which the citizens are preparing to experience it, investigating the role it plays within the city's balances. Finally, a number of useful considerations were set to trace the operational margins of the research, of which this intensive workshop is an important first step.

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Public spaces and users

While it is true that, more than architects and urban planners, the people using the space create the places (Worpole and Knox 2007), the first consideration that has arisen relates to the communities settled in Dubai, which fully reflects the composition of the population nationwide[2]: this is a small percentage of local Arabs, about 8 percent of the total, combined with a large number of expatriates from mainly Asian and African countries, representing 92 percent of the population[3]. Looking at the reasons for this social composition brings the attention back to the city's extensive urban development since the 1990s, when in order to encourage the influx of foreigners and compensate for the low number of residents, an unprecedented settlement development was started, transforming the desert into a city in just over 30 years.

Such a diverse social composition is an added value for the metropolis, which we can imagine as a large-scale transposition of the community of monastic people on Mount Athos, recounted by essayist Roland Barthes, where each individual lived at his own pace, in harmony with the rest of society (Coste and Clerc, 2002): it is precisely this set of "rhythms" that gives form and life to the city, shaping its configuration. At the same time, such richness underscores how important it is to think about the regeneration of parts of the city with the main goal of improving the living conditions of its inhabitants, and to question the ways in which the city is experienced, how global processes affect local situations and housing patterns.

Inclusive and flexible open spaces can be thought of that can accommodate and bring together as much as possible the needs of the resident population, which become places for discussion and sociability. But in the urban situation of Dubai, the main public spaces of free access and gathering for the entire population are mostly represented by the large shopping malls (fig.1) and the large corridors and the wide mall lobbies become the hub of relationships (fig.2). This

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is why the large open spaces alongside these facilities hardly enjoy the same popularity, in terms of user turnout, as they do inside the buildings themselves, the accomplice being both the socio-cultural and weather factors that make it almost impossible to stay outdoors in the summer months. In the specific case of the Mall of Emirates Park, the users are almost entirely either employees, who decide to spend their lunch break there, or the Mall users themselves, who pass through the Park on their way to the subway station.

A direct exploration has revealed how the bike path surrounding the reservoir is particularly used in the evening hours, just after sunset, both for sports activities and for stopping and relaxing (fig. 3). Directly observing how these spaces are experienced is the basis of any design consideration, as animation by inhabitants allows them to contribute to the city-building process: their daily practices and the social interactions that are woven into it can shape and reinvent the streetscape (Kyriazis *et al*., 2021). Choosing to exclude these large empty spaces from the frenzy to fill, as Koolhaas calls it, allows

Fig. 1 - Interior of the Dubai Mall. Source: public domain.

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the emptiness itself, the landscape and the space to become levers capable of eliciting total adherence from anyone (Koolhaas, 2021).

POPOS and informal public spaces in Dubai

"Dubai owes its early survival and its current momentum to trading. Everything points to consumption. [...] Buildings are held together

Fig. 2 - Comparison of Mall of Emirates and Fondaco dei Tedeschi. Original elaboration by Valentina Ciuffreda.

Fig. 3 - The Mall of Emirates Park at sunset. Photo by Valentina Ciuffreda, 2021.

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by proximity. There is no layering. Since the early landscape has been barren, anything goes and anything is new. The city has definitely ceased to be a site: instead, it has become a condition" (Katodrytis, 2019).

This concise and clear definition of the urban condition of Dubai summarizes not only the idea that matured in our imagination already in the discussion phase prior to the event hosted during Expo 2020, but also clearly describes the image that the metropolis returns of itself to the observer who is relating to it for the first time. It feels as if we have been catapulted into the Metropolis illustrated by Paul Citroen in his collages (fig. 4), to such an extent that questions have often been raised during the debate about whether it is actually possible to have open public spaces on which to graft new projects.

One of the possible solutions is to think about the built environment, which is composed of buildings that are not to be considered as isolated elements, but are endowed with their own internal dynamics, which are constructed in the way they enter into relationship with each other, with infrastructure and free spaces, or with nature (Sennett, 2018): from this point of view, the opportunity offered by the area behind the Mall of Emirates is valuable both for the richness from the material point of view, given by the artificial basin around which a dirt and partly tree-lined promenade is arranged, and for the replicability of the strategy, since the relationship between the long covered walkway leading directly from the subway station to the Mall and the space below, flanked by the presence of driveways of considerable size, is a recurring condition in several sites in Dubai (fig.5).

The first question that arises is: what to do then with this space? An informal public space that is fully accessible, but difficult to manage and maintain, or a so-called POPOS (Privately Owned Public Open Spaces), along the lines of the virtuous experiences in Dubai in recent years? To answer this question, a brief examination of either spatial typology is necessary to identify the points of connection with the strategic proposal.

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In the study context, we cannot reintroduce the concept of "public space" as it has become established in our culture and more generally in that of Western societies, as the idea of a "free space," as we are inclined to think of it and design it, is not present here, and

Fig. 4 - Dubai. Collage loosely inspired by Paul Citroen's Metropolis. Original elaboration by Valentina Ciuffreda.

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most usable open spaces can be defined as POPOS, that is, spaces with clear regulations establishing the rules of their use and with supervisory personnel to ensure that these rules are observed. They are often spaces linked to the commercial function, which excludes from fruition, already in the design premises, all segments of the population that cannot economically afford this experience. They are open-air commercial spaces that take advantage of the quality of the landscape in which they fit, as in the case of "The Beach" in the Jumeirah Beach Residence or the "City Walk" that are interfaced with the coast, or the "Culture Village" and "Dubai Creek Harbour" that attempt to consolidate a relationship with the canal, both attractively and functionally, by allowing it to be crossed, or they are complex projects, as in the case of the Dubai International Financial Center, which divides vehicular and pedestrian flows, which take place at a higher level and meet, again, a range of receptive and commercial activities.

Thinking of such a development for the Mall of Emirates area would certainly be the easiest way forward, proposing to the private individuals who run the Mall a project that would add some

Fig. 5 - The layering of infrastructure in the relationship between Mall and Metropolis. Photo by Valentina Ciuffreda, 2021.

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outdoor recreational activities that would build a continuum with the indoor commercial space.

In the opposite direction, corroborated by the heterogeneity of population and customs, the development of informal relationship spaces comes to life, particularly in the suburbs of the Dubai metropolis. Informal public space, as opposed to the already presented case of POPOS, is an open space used spontaneously, which does not arise from careful planning: it is an informal public space, an unbuilt portion of the city, a square, part of a street. It is, as Kyriazis defines it:

"[...] the element of surprise on a highly regulated stage. It is the art of improvisation within a saturated space. It expresses the urge of escaping from the quotidian struggles. It is a constant reminder of the shortcomings of city planning and its community provisions. And despite efforts to demonise it, it is the manifestation of a healthy, active city" (Kyriazis *et al*., 2021).

It emerges, from the direct accounts of those who live in the city, that these are sometimes spaces that are used by families, who spend a large part of the day here, especially on holidays, transforming it into a place of rest and recreation, even stopping for many hours of the day; on the other hand, these are places frequented in the evening hours by the younger segment of the population, who experience these spaces as places of encounter and exchange through the most diverse forms of expression, changing the meaning of empty spaces into "urban reserves for the experimentation of collective dreams" (Breek and de Graad, 2001): it is the individual intelligence, engaged in the search for better conditions of existence that constructs these informal modes of confrontation with the "official" city, and that in this confrontation exploits the folds of space to claim rights of citizenship (Borja, 2003).

The desire to experience these residual spaces of the metropolis represents a "combination of place and process that is at the origin of the form of the city, in its extraordinary variety, in the richness of

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declinations, in the boredom of imitations" (Caudo, 2010), and the resources that are obtained from the relationships become a public good available to society: they arise from the exploration of the existing and confront the plurality of inhabited worlds.

Imagining such unpredictable development for the project area is an interesting challenge that would lead us, rather than designing space, to trigger processes capable of "disrupting a constituted spatial order, positioning itself where the market has temporarily looked away, recycling parts of the city in penumbra. Without the pretense of bringing light to these places. Rather to make them work, against the existing city, like woodworms, with the will to retract rules and arrangements" (Sampieri, 2014).

Identifying issues: among climate conditions, energy consumption
Urban scale: the future of public space in Dubai

Dubai's "instant" urban development, known as "Dubaization" (Alawadi, 2016), has been the promoter of large-scale projects referenced by iconic American architecture, and has espoused ideas from economic liberalism, particularly in the 1970-1990 period, characterized by the strong economic boost from the discovery of oil reserves, when John Harris' master plans drew a car-friendly city with large infrastructure to enhance fast transportation and commercial traffic. The next phase, from 1990 to the current, has been characterized by a form of urban globalization marked almost exclusively by real estate speculation and tourism (Virtudes A. *et al*, 2017). If in the present it lives, therefore, like Calvino's Diomira, of a succession of scenic elements that do not enjoy an identity matrix such as to enshrine its uniqueness in the international panorama, in the future, and in particular in the master plan of "Dubai 2040", the aim is to build a metamemory based on happiness and quality of life for citizens, residents and visitors. The vision of this master plan is to make the city a model for sustainable

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urban development by 2040, through a series of key objectives that cross-cuttingly involve the environment, heritage and people, whether citizens or users: the strengthening of consolidated urban areas, the development of vibrant and inclusive communities, the doubling of green areas, the improvement of environmental sustainability, the implementation of sustainable mobility networks and the preservation of cultural and urban heritage, with actions that strengthen its identity link with citizens, are envisaged. It will thus be the experience of well-being and happiness that will be imprinted in the memory of those who come into contact with this urban reality. The evolution of the goals set out in this master plan, compared to the historic master-plans of 1960 and 1971, represents a turning point, which, at least in theory, gives hope for a change of course and gives us as planners the opportunity to insert ourselves with ideas, references and research from well-established experiences working on these issues. At the same time, in order to pursue the goals of well-being and happiness of Dubai 2040, a critical approach to new designs is needed, which cannot aim at rigid and definitive forms, but must aim at adaptation, evolution and diversification of space and society:

If a "New Urbanism" exists, it will not be based on the twin fantasies of order and omnipotence, but will consist of a scenario of uncertainty. [...] It will no longer aim at stable configurations, but at the creation of fields that are capable of accommodating processes that refuse to be crystallized into definitive forms. [...] Its only obsession will no longer be the city, but the manipulation of infrastructure with a view to continuous intensification and diversification, shortcuts and redistribution-the reinvention of a psychological space"(Koolhaas, 2021).

Mall of the Emirates Park: regeneration and new functions

The discussion on the future of the area behind the Mall of the Emirates, while used as a purpose for a broader discussion on the

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future of urban development and in particular open spaces in Dubai, led us to reflect on some key points necessary for the redevelopment of this and other urban spaces.

First of all, any open space that we choose to make "public," must be equipped in such a way as to keep together as much as possible the different categories of end-users: we can opt, for example to make them a kind of "family friendly domestic spaces," equipping them with equipment characterized by a certain flexibility in use, which can thus fulfill this and other informal uses.

In designing such spaces, both the climate and the geography of the place must be taken into account, resorting to elements that constitute "arid softscapes," in ecological balance with the environment and enriching the city with ecosystem services. Beyond the function that one would like to attribute, it is necessary to emphasize how in this case the use of water as a fundamental component for the regeneration of the park would be a winner, as it would represent an exception to the other open spaces present in the city.

Moreover, by enriching the park with new functions dedicated to dining or leisure, it would have a twofold advantage: on the one hand, the creation of "anchors" would activate that process of "city walk," which has already turned out to be very effective in other areas; on the other hand, it would put this area in a functional relationship with the city, overcoming the mere "decorative" role it plays to date and transforming it into a new hub of regeneration.

Conclusion

Our task cannot be limited to assigning new functions to these spaces, equipping or fencing them off to make them for the exclusive use of paying visitors. At the same time, it has been necessary to review some possible configurations that would lend themselves to giving the area a future of centrality, thinking of a kind of "open urban procedure" simi-

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lar to that used by the "adaptive clinical trials" explained by Harvard physician Jerome Groopman, in which the terms of the test change as the experiment unfolds: this is where the discipline of urban planning and the ability of planners to exercise great caution while drawing the boundaries of currently unknown fields comes into play, with the understanding that, as with medicine, it is more useful and fruitful to give meaning to phenomena that seem surprising or engaging than to confirm what already appears predictable in advance (Groopman, 2016), in the spirit of a grand laboratory (a term, moreover, that connects the space of scientific experimentation and design ateliers) of which we hope to be a part in the future developments of this research that has just begun.

Notes

1. Massimo Angrilli, Cristiano Luchetti and Valentina Ciuffreda took part in the working table whose outcomes are reported in this contribution.
2. In the UAE, out of a total population of 10.7 million, 11.5 percent are from the local Arab community, while 88.5 percent are expatriates (2.6 million Indians, 1.2 million Pakistanis, 700,000 Bangladeshis, 525,000 Filipinos, 450,000 Iranians, 400,000 Egyptians, 300,000 Nepalese, 300,000 Sinhalese, 200,000 Chinese, others). Ministry of Foreign Affairs and International Cooperation <https://www.ice.it/it/mercati/emirati-arabi-uniti/informazioni-paese#:~:text=Popolazione%3A%2010.7%20milioni%20di%20cui,%2C%20200.000%20cinesi%2C%20altri.)> [Online: 11 February 2022].
3. Dubai Statistics Center. Report 2020 "Number of Population Estimated by Nationality-Emirate of Dubai". <https://www.dsc.gov.ae/Report/DSC_SYB_2020_01_03.pdf> [Online: 7 March 2022].
4. This is the definition given by Cristiano Luchetti based on the American experience of POPS (Privately Owned Public Spaces) outlined by Kayden Jerold in Privately Owned Public Space: The New York City Experience. John Wiley & Sons. 2000. In the essay "Dubai Walk-In City," Luchetti delves into its meaning. <https://www.cristianoluchetti.com/dubai-walkin-city> [Online: 5 April 2022].
5. Reference is made to the excerpt "The City and Memory" from Calvino, I. (1972), Le città invisibili. Torino: Einaudi.
6. Dubai 2040 Urban Master Plan <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/local-governments-strategies-and-plans/dubai-2040-urban-master-plan> [Online: 5 April 2022].

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The Public Space as an Urban Machine. The Case-Study of the Dubai World Trade Center

Stefania Gruosso

Introduction

In his book *Cities for People*, Jan Gehl describes Dubai as the 100km/h city, made of wide spaces, large buildings and a high noise level (Gehl, 2010). Gehl also tells us how the speed of an average walk is around 4-5km/h, a pace that allows us to grasp the details of what is around us, to meet people and therefore to store a wealth of information. This is still possible when running at a speed of around 10-12 km/h, an acceptable level for perceiving and processing sensory impressions.

If the speed increases, as when driving a car, going from 30 to 100 km/h the ability to pick up details and see people is limited. In the car it is still possible to have a sensory experience, but this is impoverished and deprived of the opportunity to become an occasion to intercept other people. The speed at which we experience cities is therefore important, because it shortens or lengthens distances, whether or not it favours social interaction and the possibility of enjoying space. Issues of distance are accompanied by inattention to the human scale, and thus to the relationship between building-open space-individual, an aspect that characterises all of contemporary Dubai and finds an exception in *Bur Dubai*, a historic district characterised by a traditional Arab village urban pattern that seems to have been forgotten. Today's urban scene is characterised by an imbalance in the *scale ratio* between buildings-spaces-individuals, within which people are so small that they do not feel welcome. This is because Dubai

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is not a city built for people, but it is built on an infrastructural system that requires people to travel great distances, and therefore needs all of this to happen at speed, favouring vehicular mobility and establishing

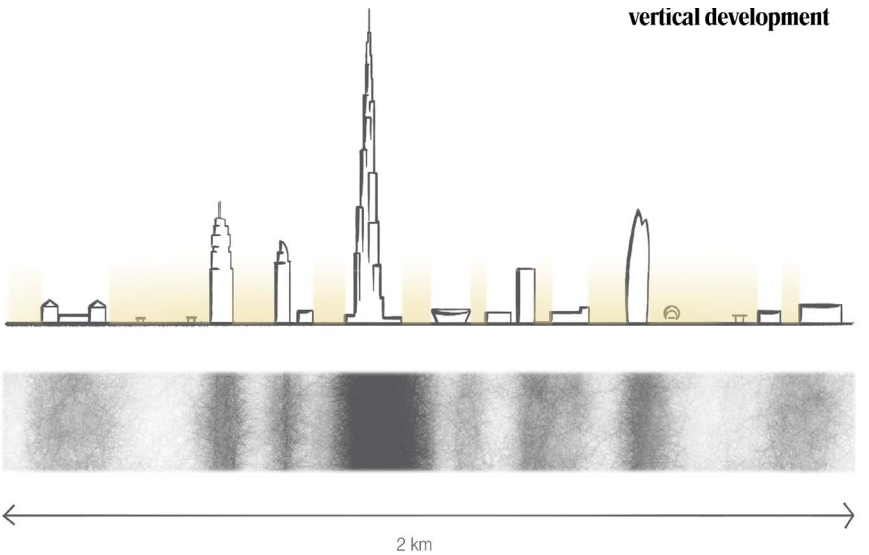

Fig.1 - The vertical development of the city analized in a radius of 2km. Original elaboration.

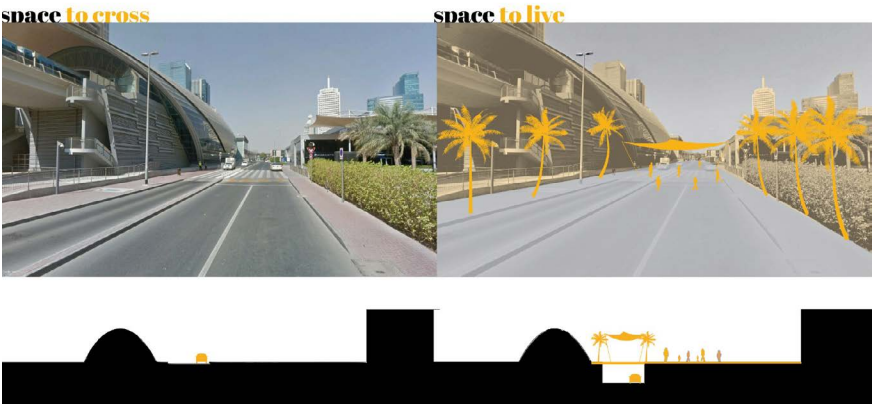

Fig.2 - A new vision of the space near World Trade Centre Metro Station transformed from a space to cross to a space to live. Original elaboration.

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the dominance of the car. As a result, the role of open spaces is considered marginal to the efficiency and liveability of the city.

Dubai is the Guinness City of Records, as some of the buildings

Fig. 3 - View of Dubai by night from the Burj Khalifa that shows the complex infrastructural system. Photo by Andrea di Cinzio, 2022.

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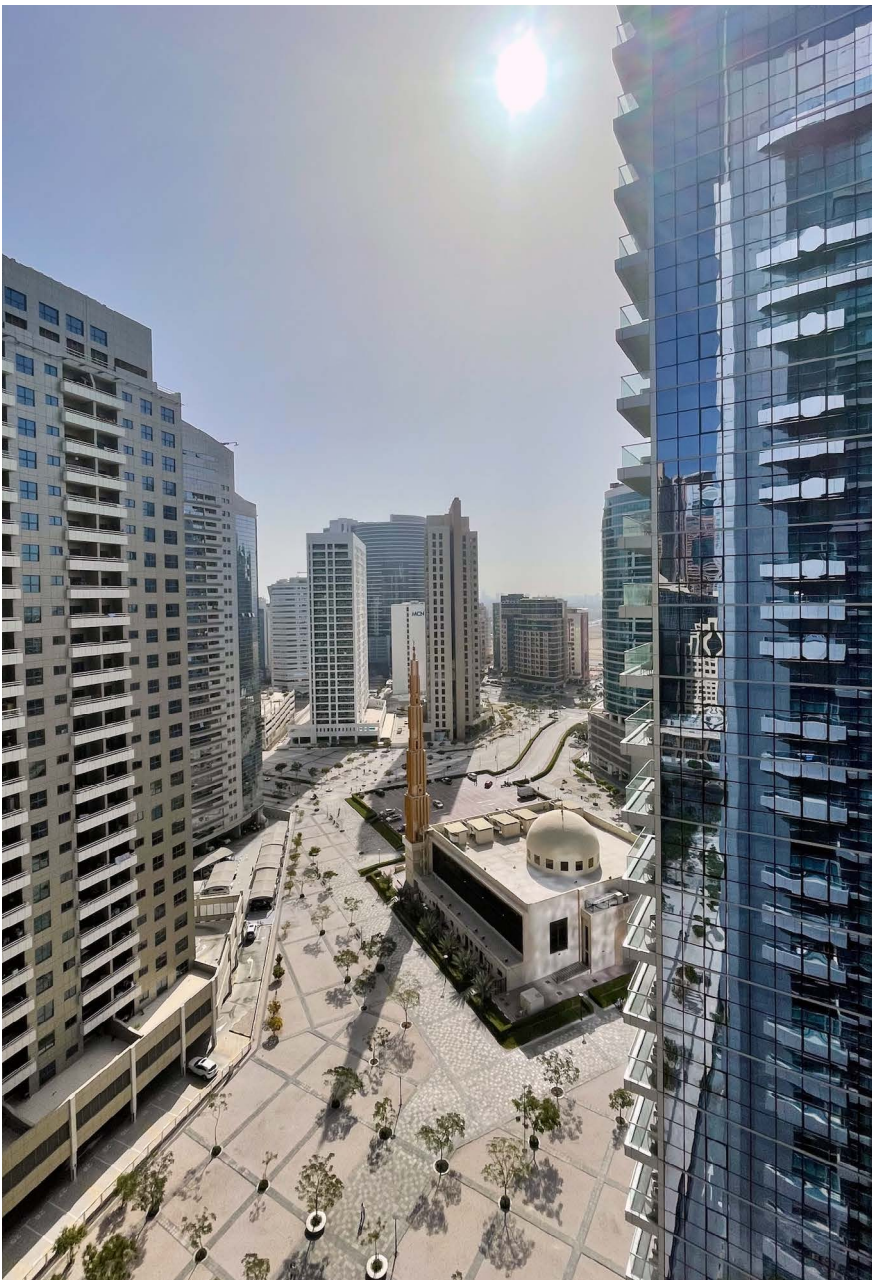

Fig. 4 - View of the open space of the Hamel Al Ghaith Mosque characterised by an imbalance in the scale ratio between buildings-spaces-individuals, Barsha Heights, Dubai. Photo by Andrea di Cinzio, 2022.

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that have been constructed prove. Just to name a few: the *Burj Khalifa*, the world's tallest skyscraper; the *Dubai Mall*, the world's largest shopping mall by number of shops; and the *Burj Al Arab*, the world's most luxurious hotel, with its unmistakable sail shape, which has become Dubai's icon. It is evident that here, more than elsewhere, architecture is a reflection of a "hyper-consumerist" culture, in which the building is strongly linked to the concept of spectacularisation.

Despite everything, we believe that Dubai should be allowed to be as it is, but we also believe that the city can find its own identity in more pondered, context-sensitive choices and responses in line with its desire to become an icon of the globalised city. In this vision open spaces, hitherto neglected and marginalised, can become the subject of new operational and strategic possibilities of architectural and urban design, and be transformed into public spaces: "inhabited places" by a plurality of users.

Rethinking open spaces means redefining the concept of distance and the way people cross the city, but also initiating new reflections on the issue of the scale ratio between people and buildings. Changing the speed of crossing and revising the scale would in fact transform in-between spaces, "suspended spaces", perceived as limits and boundaries, from neglected into reclaimed spaces.

Public space in extreme weather conditions

While the discussion of Dubai's open spaces cannot be separated from climate-related issues, we believe that a look towards the near future of the city cannot but focus on physical space as a place for experimenting with innovative solutions that are able to cope with the problems resulting from global warming, the mitigation of extreme weather phenomena, and also trigger new social and economic dynamics, offering a better quality of life to the community.

The issue of high temperatures, and high humidity, cannot become

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a limitation for the use of open space, just as, on the contrary, low temperatures are not in other countries of the world.

Winter cities, for example, present the same problem of liveability of open space but linked to low temperatures, which lead to physical inactivity of the inhabitants, decreased levels of social activity, as well as a number of health problems that can occur due to low light exposure, such as seasonal depression.[1] A broader view on the role of open space design allows its usability even in conditions usually considered unfavourable. In fact, the ability to *re-activate* open space with flexible solutions creates a chain reaction, therefore the increase of people on the street encourages others to go outside, increasing the liveliness of the city. Winter cities have developed the ability to use certain specific conditions as supporting, rather than counteracting, elements of the project, as some design experiments on public spaces in colder countries show. The same can happen in summer cities and Dubai could become a *city-manifesto* for new strategies for the *summer urban design*. What is proposed is a multidisciplinary approach, capable of generating long-term modifiable and implementable scenarios that would allow the Emirates metropolis to candidate as a prelude of a new taxonomy of *zero-cube architecture making* (Aymonino, Cavazzano 2007) in this specific historical moment of ecological transition.

World trade center: public space rehabilitation hybrid, performative, interactive and catalytic

The meta-project presented by the Working Table n.2, during the "Mediterranean Urban Design and Regeneration Event", looks at the open space of the World Trade Center (WTC) as a complex system able to interact and re-activate the context.[2]

The first reflection tackled concerned the concept of scale. The perimeter of the study area was in fact redefined, incorporating the annexed car park, and taking advantage of the condition of

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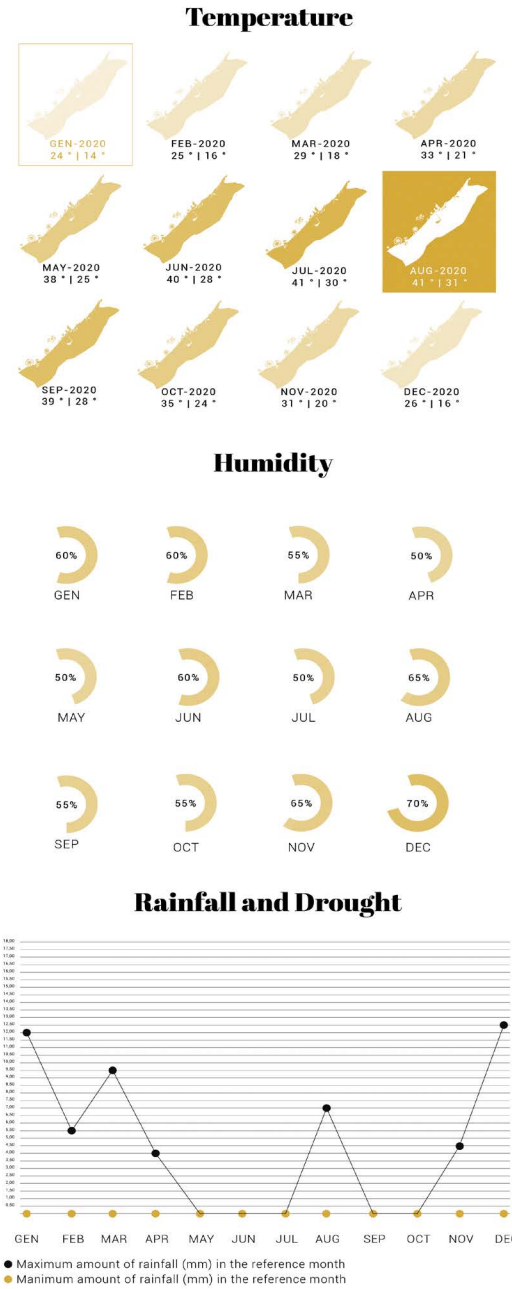

Fig. 4 - Microclimate analyzes of the Dubai urban area showing thw high temperatures in the summer months, the high humidity rate throughout the year and the maxiumum and minum amount of rainfall (mm) for each month. Original elaboration by Andrea di Cinzio.

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disconnection from the main road network: the result was a large rectangular plateau of approximately 12,000 square metres. This new configuration serves to emphasise the area's potential to become a connecting element between the WTR and the Museum of the

Fig. 5 - Piazza Duomo, Milan, Italy. The italian cathedrals and its role within the urban context.

Fig. 6 - The Exhibitions Gate of the World Trade Center, Dubai, United Arab Emirates The role of the cathedral is assumed by financial and commercial centres. Photo by Stefania Gruosso, 2021.

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Future, but also a space that can bring users to enjoy the speed of walking and social interaction. The metaphor is that of the Italian cathedrals, whose role within the urban context is sanctioned by the square in front of them, but also by their axiality in relation to the main urban axes or promiscuous representative buildings. In Dubai, the cathedrals are the large financial and commercial centres, where the annexed open spaces represent an opportunity for experimentation but also for redefining an urban identity, one that is not only linked to iconic architecture but also to representative public spaces. The experience of Expo 2020 itself emphasised the importance of "putting public space at the centre" as a place of confluence. In the masterplan drawn up for the Expo, the fulcrum is occupied by a square whose name, in Arabic, means "connection" and which, thanks also to the use of the most advanced technologies, is set up as a place capable of gathering visitors and involving them through an immersive experience of light and sound.

The location of public space within the urban pattern is one of the determining factors in transforming a latent fragment of the city into a living, welcoming space. In this regard, some of Camillo Sitte's reflections on the need to acquire spatial awareness of cities seem interesting to us, and highly topical too. Sitte suggests an idea of urban space as the negative of architecture, as a space contained between buildings that can be thought of "just as if it were a monument", a vision that has become a tool for reading and constructing the city and remains an essential reference point to this day. It therefore seemed appropriate to transfer some of the "rules", suggested by Sitte in "The Art of Building the City", to the interpretation of this space. A first aspect analysed was the height of the square.

If one considers the existing relationship between the dimensions of the square and those of the main buildings in it, it seems well founded to speak of its height as well as its width, just as if it were a monument. The distinction depends solely on the position of the observer and the direction of his gaze. The observer determines the

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typical shape of the square by looking at the building that dominates the whole. Thus, the space of the WTC can be considered an *in-depth square*, as it is organised in function of two head buildings, the *Sheikh Rashid Tower* and the *Museum of the Future*: a condition similar to a paradigmatic historical example such as the Piazza di S. Croce in Florence, Italy, where the space is organised in function of the main facade of the church. Another aspect that the WTC seems to respect is the square's proportional ratios, i.e. between the size of the square and that of the buildings surrounding it. In this case, the extension in depth of the space seems to be balanced by the height of the buildings. Added to its spatial characteristics is the fact that it is an extremely topical part of the city, which can become representative of the typical characteristics of contemporary Dubai: a new "monument" that can give new impetus to the design of open space.

This new vision is in line with the masterplan launched in March 2021 by Sheikh Mohammed bin Rashid Al Maktoum for Dubai 2040: an urban plan that will aim to guide the sustainable development of the Emirati city over the next two decades. The new plan, which will focus on the development of five main areas, is a very interesting document that presents Dubai as the best place in the world to live. An ambitious idea, which also aims to double the green areas and entertainment spaces.

Somehow, the time seems to have come for the Emirate city to take up open space and use this opportunity to transform city environments from waiting areas to "monuments" of contemporary Dubai.

What future for WTC *Square?*

The themes and the issues suggested pose new challenges, both analytical and design, nominating the WTC as a representative space of contemporary Dubai. The work of Table 2, rather than dwelling on a univocal spatial configuration, focused on the idea of a space

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capable of responding to the complexity of the contemporary city of defining use variations through a multiple and mutable identity, capable of germinating new forms of collective living. In this regard, the concept of public space as an "urban machine" can be implemented. In it the digital technologies play a fundamental role as catalysers of processes capable of having a strong social, cultural and environmental impact, and more specifically:

" […] Urban Machines are interventions in the physical urban public space that function as a system or set of devices, and through information technology, mediate the relationship between the urban environment and the user. In this framework the spatial practitioner is designing and programming these machines to promote, test and prototype the relation between city, technology and the human scale. The machines have the potential to generate a new type of either permanent or temporal urban geography operating as large-scale plug-in systems […] Urban Machines are a family of projects designed and developed to mutually enrich relationships between people, the space they inhabit and the urban environment. As the city is more and more produced through entropic processes, Urban Machines could operate as synthetic systems determined by the recombination of multiple parameters into one performative spatial form" (Del Signore and Riether, 2018).

Therefore, the idea is that the open space of contemporary Dubai, as well as that of the ancient cathedrals' squares, remains a free space in which, however, the interaction between urban space and people is guaranteed, where the non-physical matters as a tool capable of generating physical encounters between users. In line with the inclination of Dubai as a futuristic and global city, always ready to go beyond the limit, in our imagination, the open space presents itself as a great machine, hybrid, performative, interactive and catalytic, capable of reconfiguring the modes of occupation, "space that, by mix of functions, form, meanings and by connecting the built with the not-built, have the prevalent role of aggregation and social and

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social condansation" (Garau P., Lancerin L., Sepe M., 2015), a space that is able to amaze and be a "monument" of contemporary Dubai.

This new opportunity, which suggests a completely different vision of the city, can only occur if the Municipality intervenes by supporting an appropriate planning, capable not only of regenerating individual open spaces, but also of using them as a glue, capable of redefining a more unified urban pattern, in which public space is confirmed as a welcoming place for socialising and meeting.

Notes

1. Source: https://land8.com/winter-city-design-creating-attractive-public-spaces/
2. Apostolos Kyriazis, Stefania Gruosso and Riham Zeyad Saadeh took part in the working group, whose outcomes are reported in this contribution.

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The Public Space as Threshold. The Case-Study of the Mall of the Emirates Park

Giulio Girasante

"Human beings have erected thousands of buildings and walls in which they have always inserted a door. We are builders of thresholds because in our nature there is movement, the need to move from one place to another and to explore the unknown. Each of us is aninnate traveler and each door is an invitation to discovery."
(Martinez, 2021)

Introduction

If it is true that the climatic conditions in which the UAE metropolis stands are a major obstacle to the fruition of open public space, it is equally true that the designers and urban planners involved in the great birth of Dubai have overcome much more demanding challenges and achieved far more ambitious goals. From this consideration comes out the spontaneous and fundamental will to go and investigate of what are the obstacles that oppose each other between a way of living the open space in consideration of the context, and the absence of will to develop technologies and tricks to make it usable.

A western approach

Arriving in a contemporary and young metropolis is undoubtedly something that can hardly happen without arousing some questions

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in a designer or researcher: what was there before, where do they live, how do they move, how do they cover these distances... but in this tangle that crowds the mind, upon arrival in Dubai, one further question stands out above the others: where is everyone?

If you walk the narrow sidewalks that serve the endless skyscrapers, you realize how it was not designed to accommodate people who move on foot. You perceive that the narrow step that separates the façade from the road contrasts with the infinite measure of height; one can glimpse the desire to isolate point A from point B in a series of journeys where the quality of the journey is entrusted to the speed and comfort of the vehicle rather than to the pleasure of the journey.

A concept very far from that of Charles Baudelaire's Flâneur who loves to stroll unhurriedly through the city streets, feeling pleasure in observing the landscape. The figure of the Flâneur, as repeatedly explained in the reading, differs from the idle wayfarer who wants to stroll for the sake of wasting time and instead it takes the form of that of the researcher of the genius loci of the city who, with the right slowness, is capable to understand the authentic reality of a place, to enter into an intimate relationship with it. As explicit Giampaolo Nuvolati, Professor of urban sociology at the Bicocca in Milan, the function of the bar in the metropolis plays a fundamental role in understanding the place.

Only by experiencing this astonishing metropolis a little more you realize how the public space is the internal one: the shopping center, the hall of a hotel, the foyer of a skyscraper, the hall of a restaurant; not only because they are receptors of services but also because they are duly connected to the passage places.

And then comes up the need to understand why what appears to be a city without pedestrians is actually a city without open spaces. Certainly, as mentioned at the beginning, the immediate and long-debated answer in the days preceding the workshop is that the extreme climatic conditions do not allow adequate

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comfort for experiencing the outdoor space. The approach was to go and look for technological, formal and functional solutions for greater fruition of it.

The oriental gaze: a "kaleidoscope endowed with conscience" (Baudelaire 1863)

By resetting one's prejudices, pushing oneself beyond the threshold, lazing around the world with the necessary slowness to immerse oneself in the crowd while maintaining one's individuality, one becomes a traveler capable of finding the genius loci of the city.

Observing, in a more intimate way, the use of public space in Dubai, we understand how it is not possible to classify and standardize everything in the same way, just as it is not possible to describe a city from a neighborhood or a square.

From a quick and virtual look at the city we moved on to a careful reading of the space and the ways of living it and we realized how it is not entirely true that the external space is not exploited: squares enclosed by skyscrapers, touristic attractions or extraordinary places of aggregation such as the outdoor spaces of the Expo which are equipped to welcome numerous people, guaranteeing adequate conditions of comfort. Living in the city, therefore, it was possible to ascertain that the problem is not only of a technical and environmental nature but above all of a cultural nature.

The approach to the study area

During the preliminary stages of the workshop, which took place in Dubai during the days of the Mediterranean Urban Design & Regeneration Event, it was decided to focus on two large public spaces connected to important attraction poles of the city: the

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Dubai World Trade Center and the Mall of the Emirates. Both full of peculiarities, they reflect the financial and commercial heart of the Emirate city.

After a phase of in-depth analysis of the places, for reasons of differentiation of the proposals, the choice fell on the space facing the Mall of the Emirates. It is a large outdoor space characterized by the presence of different situations that make it an interesting site for experimenting with a possible and different fruition of public spaces.

The site is located between a twelve-lane expressway on one side and the shopping center on the other, and is characterized by a three-lane one-way street running lengthwise through it, a bus station and the pedestrian at the height of the elevated subway stop.

From the point of view of equipment and services, there is a large perimeter artificial basin in the area, apartly tree-lined pedestrian and cycle path that runs around the basin and a series of residual spaces which can be considered "junkspace"(Koolhas 2006). From the analysis of the crossings and accesses it can be deduced that the space was not designed for a connection with the shopping center but as an area in itself, with its own identity and autonomy.

From a physical approach to the area, it is difficult to understand which is the main entrance to the shopping center although it has a large foyer with windows and a concierge (fig. 1).

In fact, crossing the underground station at a height to connects directly with the interior of the shopping center is a widespread situation, and the traffic flow arrives in the garage from which the Mall is accessed, but in this way excludes most of the visitors from crossing the external area. The only pedestrian flow, except the few users who go from the shopping center to the artificial lake, remains the one that connects the bus station to the entrance. Living in the place, one continues to perceive that lack of attention to the design of the sidewalks, certainly undersized and inconstant, and the confusing and inopportune pedestrian crossings. The will to deny the comparison with the public interface can also be encountered

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Fig. 1 - The entrance foyer to the Mall of the Emirates. Photo by Giulio Girasante,2021.

Fig. 2 - The denied comparison with the public space. Photo by Giulio Girasante,2021.

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in some external spaces pertaining to bars and restaurants which overlook the sidewalk from inside the shopping center without, thus, generating a connection with it, on the contrary, blocked by barriers of flowerbeds, which block access from the outside or, even, in the spaces dedicated to employees, fenced and obscured from view (fig. 2).

The human dimension of the place therefore becomes difficult to find and the area becomes devoid of identity.

As also mentioned at the beginning of this contribution, although the climatic conditions do not favor life outside in the city of Dubai, it was the prerogative of the working group of the table to go and investigate the cultural reasons that do not promote research, development and use of technologies for a wider use of open spaces.

In the common imagination, Dubai has become a symbol of the multicultural, multiethnic, interreligious world which welcomes millions of tourists with one of the highest financial incomes in the world, but we must not forget that the Emirate city we know today has less than a historic generation. In fact, until the second half of the 1900s, the population was still mostly made up of Bedouins who settled on the coast in the small towns.

It is easy to understand that, although the original inhabitants are few, they are also the wealthiest and holders of decision-making power in the city. This is a peculiarity that makes Dubai still strongly linked to the traditions of the Arab world.

This background of knowledge was confronted starting from the concept of threshold, trying to investigate the reason why the narrow step of a sidewalk is preferred to the masterful lesson of Mies van der Rohe's Seagram.

Each architecture, each door, represents a passage from a place to another, from a state of confusion to a defined place, from a known situation to an unknown one, but it is precisely the threshold that differentiates the passage, which interposes a pause to whether or not to take that step.

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Each threshold is a passage or a limit, to access or not to something different.

Therefore, the meaning of crossing, interface, will, aspects that are often contained in the concept of threshold, have been accentuated in the table. It is undeniable that it is the element which differentiates the primitive architecture of caves from that built by Man. The Pantheon is a proof of how is fundamental the space which precedes: it is capable to prepare the user for the experience he/she will live.

Every time you enter the Pantheon you take a spiritual path: crossing the two central columns of the portico you feel infinitely small, surrounded by the colonnade of the pronaos in Greek marble and Egyptian granite, you cross and feel crushed by the magnificence of the Empire Roman and by the strength of its conquests. Once ready, you cross the spherical perfection of the internal space to be catapulted outside again through the transcendent threshold of the oculus.

The emphasis has been placed on the meaning that the threshold has in sacred architecture, on the parvis of contemporary churches and on the function of the narthex in Byzantine churches on those places of passage between the profane exterior and the sacred interior without neglecting the Muslim world and the importance of the large courtyard that precedes the mosque and which explains its meaning as a stop and passage in the large ablution fountain.

But, if it is true that the threshold (in its declination of passage) is not exclusively a Western concept, what differentiates the external space of the Expo or the one facing the "Dubai Fountain" from the anonymous and confused entrance of the Mall of the Emirates?

Probably to answer this question, the traditional architecture of Arab houses can help us understand the concept of hospitality in the Middle Eastern world. The traditional house is arranged around a central space, the *līwān* (ليوان). It is a place closed on three sides and open to the north side. It is raised, paved and covered and has the function of receiving guests. The *līwān* leads to all the other rooms of the house and, only from them, it's possible the to get to other

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external porticoed spaces. The concept of threshold, therefore, in Arab architecture, becomes something much more complex and articulated, it is transformed into an environment where not only the user but also the owner interact, a sort of authorized passage very different from the portico of American houses or in general of the western thresholds.

From this "kaleidoscopic" observation one can notice that we should speak about authorization instead of passage. Actually, on a closer reading, we notice how the equipped open spaces of the Emirate metropolis are surrounded by skyscrapers, flowerbeds or barriers in general which restrict entry. Enjoying an external space means having gone through a *līwān* (fig.3).

Elements for a metaproject

At the conclusion of the discussions settled, it was understood that before finding technical, technological and formal solutions for the public space, it is necessary to understand which portion of it to intervene on. Circumscribing an area, as well as building the border between the desert and human development, is preparatory to the project. Indeed, in this case, it is itself a project.

Although the area is potentially interesting for technological-naturalistic experiments aimed to a different management of the water resource of the artificial basin, or for the urban planning solutions to be put in place for an easier use of intermodal connections and intercalary crossings; the real challenge is that to be able to create a livable and contemporary open space in observance of local cultural traditions now at risk of an increasingly predominant globalization.

It is for this reason that, even before a design response, it was preferred to focus on the perimeter of the areas that can function as līwān in order to "authorize" access and generate the project of the external space of the Mall of the Emirates. "The social representations are a form of socially elaborated and socially shared knowledge. They have a practical pur-

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pose: they serve to build an image of the world and guide our actions within it. (...) Each social group has its own representations. In a certain sense, they constitute its identity, its symbolic baggage and knowledge. They are thus a knowledge that is essentially collective. One could even turn the question around: if the society exists, then it is, above all, a set of social representations"(Lenzini, 2017).

Although intermediate, the result obtained opens up a very interesting design scenario, or rather a cultural exchange, which enriches the "threshold" of the concept of "līwān". It opens up to experimentations and insights about the great debate of the "edge" as an element of access, equipment and construction, rather than separation and limit. The meta-project that this workshop and its in-depth study can generate, has thepotential for an authentic under standing of a fascinating culture and for the challenge facing the Western designer in a Middle Eastern culture.

Acting on a complex situation such as the one described, full of variables and components, necessarily implies the effort and audacity to make courageous choices, especially on an urban scale, capable of overturning established situations.

As mentioned, the preliminary operation was to "create space" for a "līwān" by freeing the entrance to the Mall of the Emirates from a series of crossings and interferences to generate spatial continuity between inside and outside. It is therefore necessary to divert the "Al Barsha Rd" site which runs alongside the mall, moving it tangent to the "Sheikh Zayed Rd" expressway and demolish the direct connection between the subway and the mall. In this way it is possible to incorporate the artificial water basin and to build a single large block with the shopping center. Once the edge has been traced, the next step becomes that of creating equipment capable of closing off the public space and generating an enclosed place. Therefore, a series of spaces suited to different functions have been schematized: a strip of services and refreshments between the layout of the new road and the artificial basin, an equipped green park to the east, a bus station to the west and an outdoor space in continuity with the

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Mall of the Emirates capable of accommodating attractions, services and equipment related to it (fig.4). Although the proposed design scheme may seem, among the many possibilities, difficult to implement, it wants to represent a different design approach rather than a feasibility study in a city where everything can become feasible.

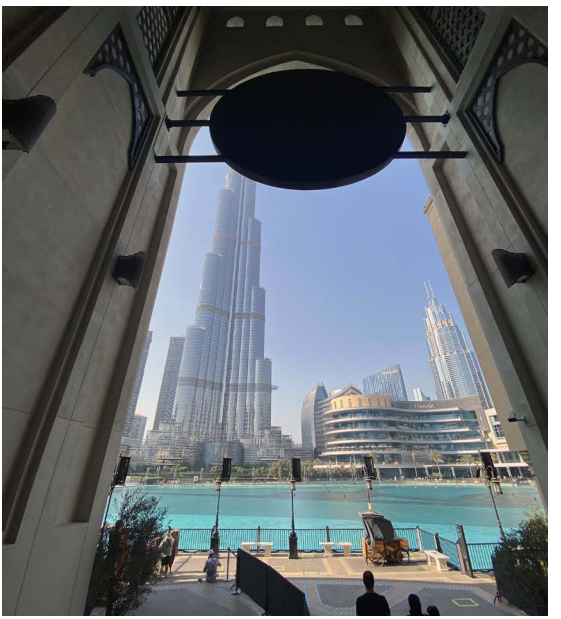

Fig. 3 - An urban *Liwan*. Photo by Giulio Girasante.

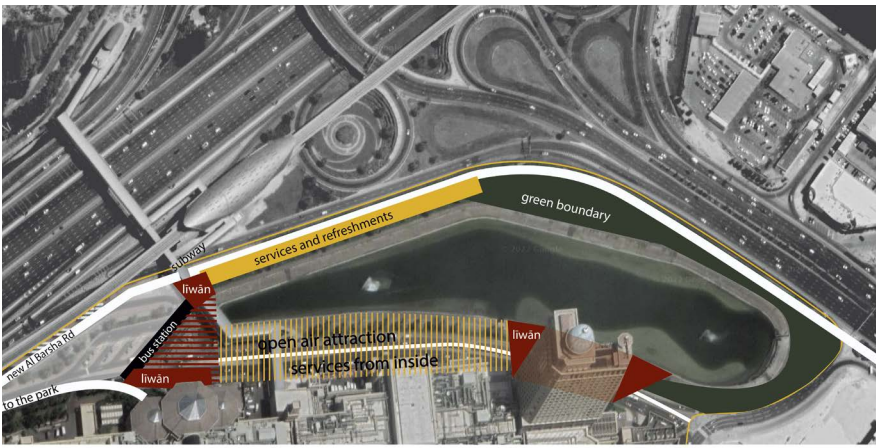

Fig. 4 - A design approach. Original elaboration by Giulio Girasante.

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The Public Space as Place of the Experience. The Case-Study of the Dubai World Trade Center

Virginia Lusi

The experiential dimension of public space

In Western cultures cities have long been imagined as spaces for social and cultural integration (Secchi, 2013). Above all, open spaces such as squares, paths and green areas have always been an important palimpsest of social identity.

In Dubai, a vanguard city for the East, the concept of social integration could be read mainly in indoor spaces. The climate of UAE unquestionably influences the identity and the ways of living the open places that, especially in the warmer periods of the year, are seen as a brief moment of transition between two indoor spaces.

In particular, World Trade Centre is an emblematic case study of public space. Thinking about a relevant place for the dynamics of Dubai, as a central hub of economic activities and trade, represents a different point of view in terms of how to design livability of open spaces and buildings in different contexts than the West.

The main purpose of the working group[1] was the focus on the experiential dynamics of users to recover the conviviality of open spaces. Specifically, the debate concerned the search for three different key-reading scenarios – *probable, possible and preferable* – useful to define meta-design strategies that can contribute to the improvement of environmental sustainability conditions, economic and social aspects of the city's public spaces and also to the recovery of some forms of conviviality and inclusivity of urban outdoor spaces, according to goals n. 3 and n.11 of the 2030 Agenda (UN, 2015).

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Identifying issues: among climate conditions, energy consumption and accessibility

The first evidences emerged from the working table n.4 concerned the investigation on the main characters of the area chosen as a case study, according to three main aspects. The first aspect concerns the building dimension of the World Trade Centre: office buildings, event pavilions and hotels. The alternation of high and low buildings constitutes the scenic backdrop of the second character considered: the public space in the urban dimension.

This space consists on the large and relatively free pavement and on the covered area for trade fair events, hosting permanent exhibitions or scheduled events that determine temporary changes to the free space (fig. 1).

The last aspect concerns the level of the user.

To access the WTC area is possible in several ways: by metro, whose station is located in front of the main entrance of WTC; by car, thanks to the large parking areas that facilitate usability of the car in the areas closest to the WTC; by bus, whose stop is located close to the car park. These different forms of mobility make the space accessible for different types of users.

Another relevant aspect was determined during preliminary studies, that have shown that the open spaces of the area are lived

Fig. 1 - The open space of the World Trade Centre. Photo by Virginia Lusi, 2021.

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in a different way in the various hours of the day or periods of the year, as evidence of how relevant are the environmental comfort and the well-being of users.

After identifying the hallmarks that define the structure of the area, the discussion focused on the critical issues that characterize a first problematic framework, in order to define some essential meta-design content. In this phase, to build up a whole framework of issues, the exchange of information among participants represented an essential support. Compared to the framework outlined before the workshop, the comparison was fundamental to correct some visions of the concept of public space and related issues in a desert climate such as the UAE. Among the points dealt with, aspects concerning climatic, energetic and usability variables emerged as priorities for action.

The first aspect is related to weather in Dubai. The extreme climatic conditions, and the resulting meteorological phenomena, strongly influence habits, culture and design approach of urban places. The need for better conditions of comfort leads to a different concentration in open places during the hours of the day and in the periods of the year. In warmer months people are searching for shady areas, air-conditioned places, or with adequate ventilation. This is why open spaces remain corridors of passage instead of conviviality places.

Another aspect related to the climate is the almost complete lack of rain. Water scarcity makes difficult to plant tree species that can provide sufficient shade. In recent years, sea water desalination systems have been introduced to overcome this problem. However, this solution is encountering several criticalities as it's an unsustainable operation: generating deep instabilities in the soil, coastal erosion, and being is expensive in terms of money, resources, and energy[2] .

The second critical question concerns energy. The humid hot climate makes a constant air conditioning of the buildings extremely necessary. This condition requires a high amount of energy, that it is not compensated by the use of renewable sources, as the wealth

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of oil fields in the Arab Emirates has never caused a lack of energy resources. Thus, most air-conditioned buildings use electricity from non-renewable fossil fuels. In addition, the weak wind makes hard to supply energy by wind. Geothermal energy is also an underused and experimental resource: the constantly hot subsoil makes cooling difficult, while the sandy composition creates problems of system stability. The only possible resource could be the solar one, even if, at present, it is not exploited to the maximum of its potential.

The third question concerns the usability of public space. The World Trade Centre area, like most of Dubai's predominantly privatized public spaces, is meant to be reached by car or subway. Accessibility presents some problems: the pedestrian paths are few and there are no cycle paths. This is due to three main factors that make it difficult to get around on foot or by bicycle: the extreme climatic conditions, the high distances to cross and the design of the roads based exclusively on car transport. Moreover, if the Western idea of public area is understood as a space "of all", in reality, in the Emirate city even open spaces are private, despite being "open to all".

These conditions open up the possibility of an increase in fenced spaces, a spread of building barriers or a sprawl of building functions in the open space.

Having outlined the problematic picture, the discussion turned towards solutions that could improve the characterization of space and the well-being of users, starting from examples in the literature, according to international policy guidelines to address climate change towards sustainable development goals.

Setting meta-design stage

Gordon Cullen in Townscape (Cullen, 1961) identifies perception as the tool for reading and designing space. Cullen talks about the

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"visual impact of the city" as a complex set of open spaces and buildings that must be designed through the evocation of memories and sensitive experiences. In order to assume perception as a concrete device of design it is necessary to define the ways through which the environment produces an emotional reaction in us, with or without our will (Marchigiani, 2012).

From here springs the key interpretation of urban space as a serial vision of suggestions of a project open to the user experience. It is precisely on the experiential dimension that the work table has set up the meta-design approach, starting from the sequences of movement in space (accessing, crossing, stopping) to the alternation of open and closed spaces to identify evolutionary scenarios and functional relationships between spaces and objects able to create a sense of identity with the place (fig.2).

Cullen also introduces the concept of "Art of Play", as the ability to implement the right moves through the suggestion of experience, starting from the direct observation of concrete cases with the intention of arguing and illustrating the possible tools. The solicitation on the art of the game suggested the opportunity to refer to the theories of "serious game" (Avedon, 1971) according to which there is a "serious" dimension of the game used to measure abilities, project visions, experiment solutions, learn from mistakes, taking a pre-adaptive position with respect to the availability of resources (Angelucci, 2020).

According to this approach, it was setting up a debate on the possible meta-project scenarios through the use of strategic action cards as tools containing different actions of intervention to be placed or integrated with each other. Four strategic categories have been identified for the definition of intervention scenarios: drought, storms, pollution, and heat waves. They refer to the three project priorities already outlined (climate, energy, usability) and can be implemented through 17 cards. These cards include actions such as the creation of ecological corridors, radiation protection,

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1


2


3


4


5


6

7


8

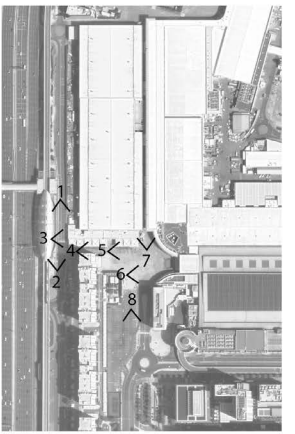

Fig. 2 - Fragments of the user's route from the metro station to the entrance of the World Trade Centre. The setting of the images is inspired by serial vision of Gordon Cullen in Townscape (1961). Photo by Virginia Lusi, 2021.

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the construction of energy self-sufficient buildings and the use of renewable energy. The latter is a white card made it possible to integrate the strategic actions already defined with new solutions emerging from the working table.

Another essential guide was the grid containing the 17 sustainable development goals of Agenda 2030. In a scenario characterized by sudden climate change, in particular in a desert context such as the Arab Emirates, it becomes essential to assume as founders the objectives of "Good health and well-being" (goal no.3) and "Climate action" (goal no.13). Among the other objectives selected during the discussion were also relevant: the goal no.11 "Sustainable cities and communities", to be declined as a search for sustainable strategies both from an environmental and social point of view; the goal no.12 "Responsible consumption and production" related to the reduction of non-renewable energy consumption and responsible use of resources, in line with the principles of the circular economy, nZeb buildings and zero waste processes; not least, goal no.7, closely linked to the urgency of acting according to the principle of "Affordable and clean energy".

Projecting scenarios: results of the experience at the working table

In the complex configuration of different scenarios that can be determined through the combination of project priorities, strategic categories of intervention, and strategic actions, it became clear that the outcomes could not be defined through a single solution. Instead, it emerged the need to implement several integrated technological-environmental systems to reduce the critical conditions highlighted, building a framework of scenarios related to three levels of meta-planning: possible, probable and preferable.

In order to support the implementation of the scenarios there are some main challenges to achieve: improving external thermal

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comfort, increasing the accessibility of spaces and surface characterization, reducing energy consumption, ensuring the social sustainability and conviviality of public spaces.

The matrix emerging from the workshop highlights three dimensions: urban, building and objects. The three levels of meta-design scenario were defined respectively as follow (fig.3):

- *Probable scenario.* It represents the scenario of problem solving according to the current trends, without a real design resolution, but through objective solutions aimed at buffering the criticalities of the open space;
- *Possible scenario.* It is the scenario consisting of a first level of meta-design definition, reasonable, content and reversible that allows to identify combinable solutions to respond flexibly to the needs of open spaces with greater performative capabilities;
- *Preferable scenario.* It represents the dimension of an ideal intervention, more structural, but not utopian, through integrated solutions between different complex technological-environmental devices, according to an idea of open space with adaptive and reactive capabilities regarding the variability of context.

The results of the debate, thus, led to the choice of cards to implement different actions integrating the three scenarios outlined. Among the most recurring cards emerged: the inclusion of cooling surfaces, the use of renewable energy, the energy self-sufficiency of buildings, the creation of buffer zones.

The probable dimension is assumed as a future scenario, without defined and controlled planning, a privatization of public space can take place, with the spread of barriers and semi-privatized filter spaces between building and open space, according to the established principle of defining thematic islands, the increase of fenced spaces, temporary furniture equipment and an excessive quota of people.

In a possible scenario, combined improvements are identified: such as the possibility to equip the ground space in a flexible and

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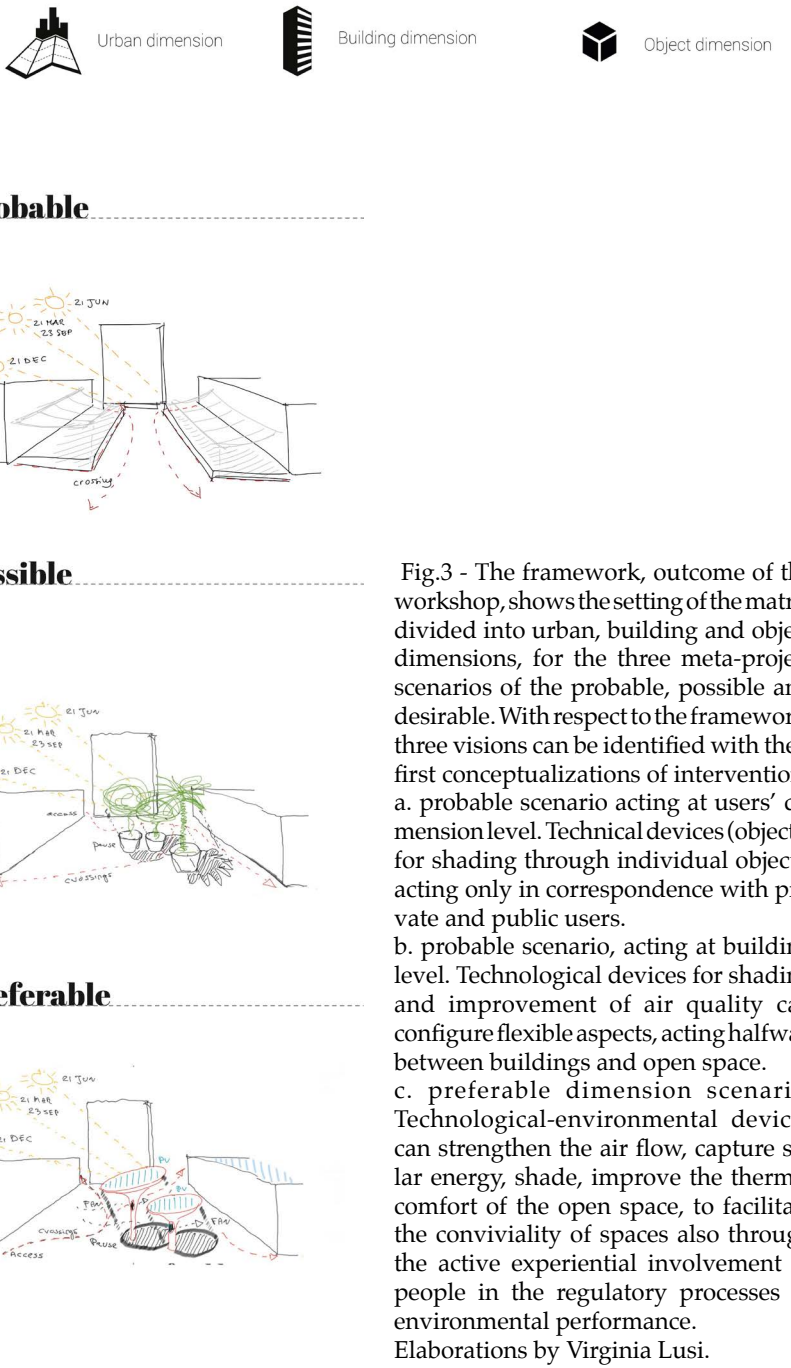

Fig.3 - The framework, outcome of the workshop, shows the setting of the matrix divided into urban, building and object dimensions, for the three meta-project scenarios of the probable, possible and desirable. With respect to the framework, three visions can be identified with their first conceptualizations of intervention:
a. probable scenario acting at users' dimension level. Technical devices (objects) for shading through individual objects, acting only in correspondence with private and public users.
b. probable scenario, acting at building level. Technological devices for shading and improvement of air quality can configure flexible aspects, acting halfway between buildings and open space.
c. preferable dimension scenario. Technological-environmental devices can strengthen the air flow, capture solar energy, shade, improve the thermal comfort of the open space, to facilitate the conviviality of spaces also through the active experiential involvement of people in the regulatory processes of environmental performance.
Elaborations by Virginia Lusi.

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reversible way, working on surfaces and not only on individual objects, modelling the space through the variable combination of components to modulate flows of access, crossing and stopping, also allowing additional activities for a better pedestrian accessibility.

In the preferable scenario, it is proposed an integrated vision between different technological-environmental components, through the strengthening of usability and a better characterization of the open space by different configurations (e.g. bubble spaces for various types of exposures, adjustable shading devices, energy production and micro-climate), increasing the ability of active and regulatory adaptation of open spaces.

The results of the working table are summarized in the framework no.4 in which three visions are placed according to the dimensions of intervention and the scenario levels (fig.4).

Projecting scenarios: results of the experience at the working table

The final outcome of a workshop is certainly not the end of a definite solution, but it gives a glimpse of the potential that the collective discussion on project issues opens to future intervention forecasts. The experience at the table has made possible to highlight how meta-design can help to build different patterns between public, semi-public and private spaces, introducing a concept of public open space that in Dubai today does not constitute an element of strong identity and that, perhaps, it struggles to take shape in the near future.

As Secchi (2013) suggests, there is a need to return reflecting on the "spatial structure of the city", recognizing its shape, drawing ambitious public spaces, reasoning on the collective dimension. This aspect represents an important outcome emerged from the work of the table. Some of the preliminary predictions regarding the case study are the way of living spaces and the search for solutions that

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would adapt to that type of context. In fact, the comparison with the dynamics of the city of Dubai has allowed us to understand the

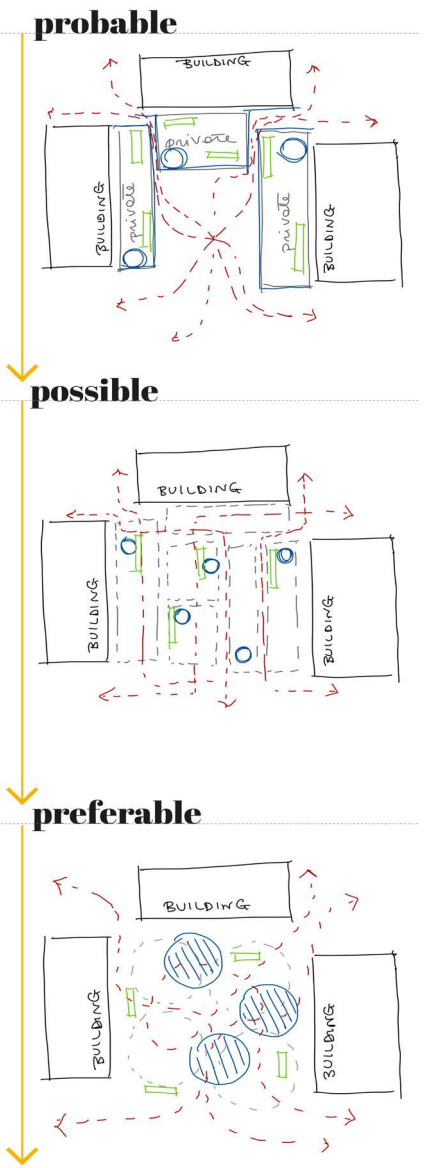

Fig.4 - Different configurations assumed during the discussion at working table. Elaborations by Virginia Lusi.

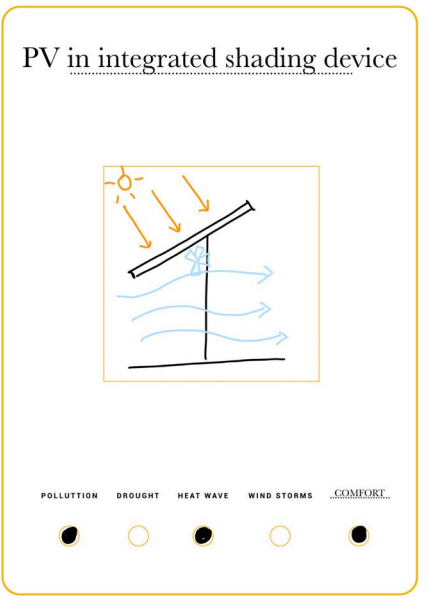

Fig. 5 - Card "shading +pv" designed during discussion at the table. The meta-design proposal also highlighted the need to define a new card: a cooling device capable of generating the movement of air and powered by renewable energy sources.

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reasons for the lack of livability in open spaces, due to the climatic problems, and the impossibility of transferring aseptically solutions borrowed from the European vision of public space.

Future developments may hopefully provide for the opening of a continuous discussion between the two realities that concern the way of living spaces in the Euro-Arab-Mediterranean context searching for shared solutions that in the perspective of climate change in progress, it will be essential to predict forms of replicability. In short or medium times, in fact, we could find ourselves living the open spaces with the same difficulties that are faced today in the Emirate metropolis and, with respect to which, it become fundamental to construct a dialogue to search for adaptive and resilient solutions, to mitigate the effects that the climate challenge is already imposing and that it will impose with greater force.

Notes

1. The working group of the table number Four was composed by prof. Filippo Angelucci, University "G. D'Annunzio" of Chieti – Pescara, prof. Bassam Abdel-Karim Abu-Hijleh, British University in UAE, and Virginia Lusi, PhD Student at University of L'Aquila.
2. Advantages and disadvantages of desalination: avaiable at link https://www.lifegate.it/advantage-disadvantageous-desalination-solution-safe. (August 2022).

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The Public Space as a Bioclimatic Shelter. The Case-Study of the Dubai World Trade Center

Matteo Abita

"While cities are growing, public spaces are shrinking and declining worldwide. Nevertheless, public spaces have enormous potential, strategically supporting cities' economic, environmental and social agendas […]. However, decision makers tend to forget public space' value, especially in the absence of a national regulatory framework in emerging globalised cities."
(Azzali, Mazzetto and Petruccioli, 2021)

Introduction

The Mediterranean cities are mostly characterized by an ancient origin and long development times, only partially scratched by the acceleration of building production implemented between the 19th and 20th centuries (Tostões and Costa, 2012). The slowness of transformative processes and consolidation of urban development, values that could be summarised in the principle «Festina Lente» (Frascari, 2011), represent fundamental references in order to analyse the peculiarities of the settlements and making design previsions that can comply with the history and identity of the places (Castagnaro, 2020). These factors are also involved in the understanding of the construction processes of the city texture, in which the relationship between urban buildings and voids is arranged according to a coherent proportional balance encoded over time.

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However, the slow development of the urban space construction and the embedded relationships of the morphological features seem to appear completely unrelated to the settlements that are characterized by an astonishing expansion rapidity, as in the case of the big cities of the Middle East, of which Dubai is one of the most representative. The metropolis of the Persian Gulf is one of «the fastest growing cities in the world» (Pineda, 2020), marked by iconic and technologically advanced architecture. This newborn urban giant reached a relevant position in the global market in just a few decades by adopting an image based on the values of densification, concentration and alliteration of macroscopic buildings. Furthermore, the widespread application of international language makes more complex to rediscover the place history, its spatial and construction tradition compared to the globalized face of the city (Fraser and Golzari, 2013).

The awareness of this contrast was the starting point for the activities of the Table 5 members that participated in the "Mediterranean Urban Design & Regeneration Event" workshop with the slogan "CoMeTs Shelters"[1]. The design activities, focusing on the topic of the architectural improvement and enhancement of the public space of two selected areas in Dubai, were precious occasion to promote

Fig. 1 - Comparison between the two areas chosen for the metadesign activities: the World Trade Center and the Mall of the Emirates. Photos by Matteo Abita, 2021.

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a mutual exchange of experiences and proposals between different architectural cultures (fig. 1). This short essay follows the phases of the dialogue between the participants in which, starting from the identification of the main critical issues of the selected areas, design strategies and techniques were proposed that could represent the starting point for a future urban regeneration that entails the refurbishment of public space in a city with great potential, open to innovation and ready to face the challenges of the contemporary world.

Issues and addresses

The comparison between the features of the case studies in Dubai and the public spaces of Western cities led to the identification of four general differences that should be considered for the metadesign strategies development (fig. 2). These critical issues, reflecting also design addresses, can be summarized with a series of keywords

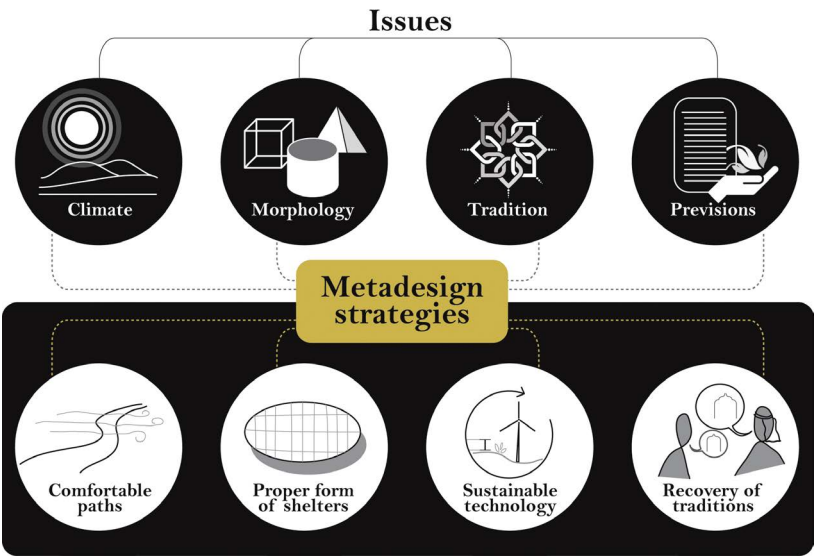

Fig.2. Summary diagram concerning the relationship between critical issues and metadesign strategies. Drawing by the author (Abita, 2021).

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that clearly identify the topics discussed in the initial phase of the workshop: climate, morphology, tradition and design previsions.

Climate

Because of its geographical location, Dubai is chacterised by strong differences in the environmental setting if compared to the Mediterrenean cities. Indeed, located in the southern area of the Persian Gulf, almost in correspondence with the Tropic of Cancer, the city has a subtropical climate in which the high temperature and relative humidity make particularly difficult to reach environmental comfort without the use of active systems, of ventilation and cooling. Air conditioning is "ubiquitous" in Dubai (Murtagh *et al.*, 2022), has a strong impact on energy consumption (Shanks and Nezamifar, 2013; Yannas, 2008) and its omnipresence involves sometimes a real "thermal shock" when it is necessary to go outside the buildings through open air spaces (fig. 3). The choice of orientation of the buildings

Fig. 3 - Air-conditioned bus-stops in the district of Al-Rigga: an example of the use of air treatment systems also in the outdoor spaces due to high temperatures (Stanistav Sablin, 2020).

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Morphology

Climate also affects morphological features of the public space which, in the Western culture, is often marked by a urban void and therefore shaped as an architectural space with "zero volume" (Aymonino and Mosco, 2006). In the case of Dubai it is not always possible to consider a total absence of structures, but it is often necessary to provide additional "galleries" or "shelters", such as shading systems or covered spaces, in order to achieve a better comfort, especially for paths of the public space. It is no coincidence that the city is already equipped with a dense network of indoor connections that are able to guarantee comfortable transfers between the main urban nodes. In addition to these reflections regarding the presence of volumes in the public space, it is also necessary to think about proportions of the urban void and geometric features of the shading structures. Indeed, in order to promote natural cooling, in addition to the respect of the orientation in the north-west direction, geometries that amplify aerodynamic effects can be suggested, entailing benefits to the users and also reducing the urban heat island effect (Taleb and Abu-Hijleh, 2013).

Tradition

Some of these bioclimatic and morphological principles could be also found in the features of public spaces that once characterised the urban voids of the cities of the UAE. For example, the places called "Al Fereej", "Al Saha" and "Al Baraha" define different types of spaces dedicated to socialization and meeting, divided according to their location in the urban texture and, sometimes, the starting points for ancient settlements in the Middle East (Ezzeddine and Kashwani, 2019). In addition to these various types of public space at the urban scale, places for social meetings can be found also in the architectural tradition of local houses, such as the Majlis (fig.

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4), welcoming areas for the reception of guests, sometimes shaped as rooms partially covered by tissues, and open to fresh air, then transformed into outdoor sitting areas located between the houses in the second half of 20th century, as in the case of some examples in the neighborhoods characterized by the Sha'bī Houses in the UAE (Elsheshtawy, 2019 a). Despite the image of a high-tech metropolis, the recovery of architectural tradition, in particular described by the representatives of local universities at the working table, is essential to find a continuous connection with local history and to define the place identity that is actually blurred by the massive use of international language.

Design previsions

Another reflection that was pointed out into the debate was the need to respect the design previsions defined by the city strategic plan, launched in 2015 and updated in 2021 the spirit of which is partially expressed in the event Expo 2020 (Government of Dubai, 2016; Government of Dubai, 2021). Four main operational addres-

Fig. 4 - Reproduction of a "Majlis" at Dubai Heritage Village (ZambesiShark, 2007).

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ses are identified in the plan: flexible and integrated connectivity, sustainability of resources, environmental health, safety and urban resilience. Therefore, design strategies should take into consideration the lowest possible waste of environmental resources, the promotion of digital communication and the push of flexible interventions that fit the needs of a metropolis subject to a continuous and rapid transformation.

Issues and addresses

The workshop process didn't develop project proposals with detailed information but permitted to identify the metadesign strategies and tactics that could be used for architectural actions aimed at the refurbishment and regeneration of the selected public spaces in Dubai. Four main metadesign guidelines were defined, each one that is consequential to the previous one, which also try to propose solutions to the critical issues.

The first strategy consists in identifying the paths in the urban void, dividing the available surface into different parts according to a various degree of speed of cycle and pedestrian flows, identifying also the areas that can be useful for the people meeting and relaxation (Clemente, 2018). The main paths should not only be selected through the line in correspondence of the minimum distances, but also shaping the paths by exploiting the shading deriving from the buildings of the context and favouring the north-west direction that would allow better natural ventilation. Despite the exploitation of the environmental characteristics of the context, it seems necessary to conceive the use of shading volumes in the open space, which can be shaped in order to foster flexible, dynamic and sustainable covered structures, that can adequate shade parts of the paths and define rest areas, especially in the crossing of the urban void (Elshater *et al.*, 2022).

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The second strategy consists in developing spatial and technological outlook of these volumes. From the spatial point of view, the sketches drawn in the activities at the working table, led to prefer polar or circular geometry shapes, in particular prisms with an elliptical base or ellipsoids, that were chosen for several functional reasons. These shapes could be easily integrated into the urban context, their form could establish an adequate relationship with other urban structures (for instance, the geometry that characterises the metro stops or other urban landmarks, such as the Museum of the Future), and can also be raised from the ground, as in the case of "bubbles" sustained by a few supports. The shape of the ellipsoid is also chosen for its aerodynamic potential, indeed it favours the preservation of the air flow speed that can be directed in open air paths and this effect could be amplified with the presence of more volumes (fig. 5).

The architectural image of the "bubble" is also useful to describe technological requirements. The shelters should be built with light structures, characterised by walls with a slender structural texture that allows maximum transit of air and filtered light. Steel construction is probably the most suitable to follow this operational address, indeed, using steel tubes with a thin diameter or steel profiles with open section and cables, various structural types can be obtained, such as the frame type, the diagrid type, tensile structures or even coverings that follow tensegrity principles (Boake, 2011). Some references to these spatial and technological configurations could be Renzo Piano's spheroidal bubbles built for the Lingotto building in Turin or for the harbour of Genoa (Dal Co, 2015), or the ellipsoidal bubbles designed by Massimiliano Fuksas for the Nardini company (Fuksas and Mandrelli, 2011). In these Italian references a glass envelope is chosen, but in the case of Dubai it could be replaced by fabric tiles that allows adequate shading and passage of ventilation flow.

The third strategy focuses on the promotion of sustainability principles both in the building technologies and in the content of

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the shading volumes (Carmona, 2021). The choice of a steel structure allows the use of elements that can easily be reinserted into the production cycle according to the circular economy framework and the fabrics used for the envelope could be produced using local resources or recycled material, considering that the production of textiles is the second largest industrial sector in the UAE economy after oil (El Mallakh, 2014). If the steel structure could be protected with a white coating useful to reduce the impact of solar radiation, the fabrics could be referred with their colours to the shades of local sand, in order to define a relationship with the desert that marks the environmental context of the emirates. Plantations should also be

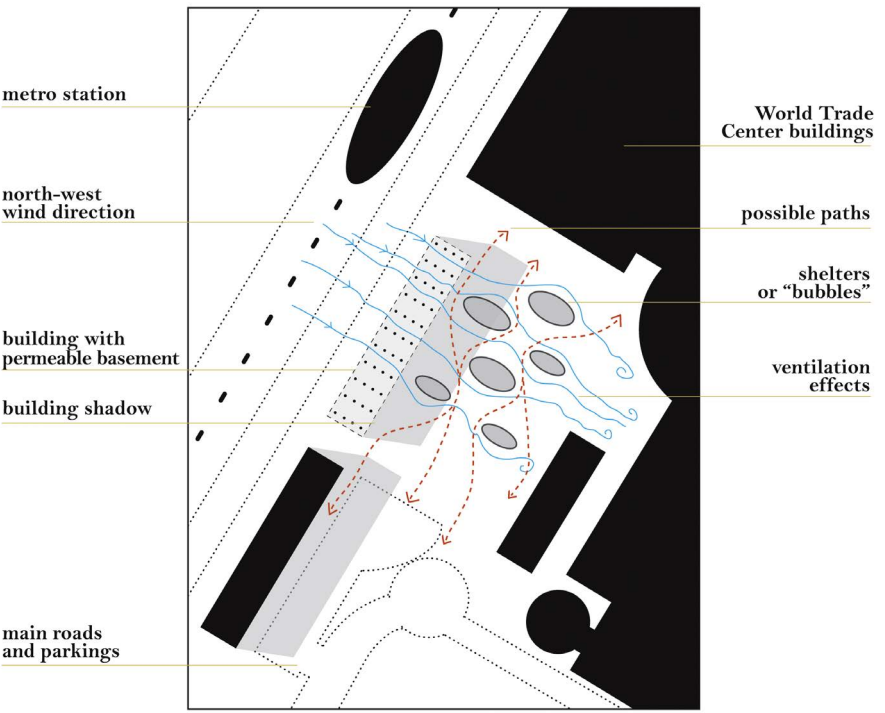

Fig. 5- Arrangement of shelters according to the direction of the main city windy currents and the possible paths position. Drawing by the author (Abita, 2021).

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introduced both outside and inside the shading volumes, in order to foster the reduction of CO2 production and the cultivation of local green species that are adequate for the UAE climate (fig. 6).

The fourth strategy consists in possibly recovering the cultural and architectural traditions of the country. The shading volumes can certainly host meeting and rest spaces, like the Majlis or sitting areas of local houses, establishing with their spatial arrangement and shape a relationship with these traditional structures. However, thinking

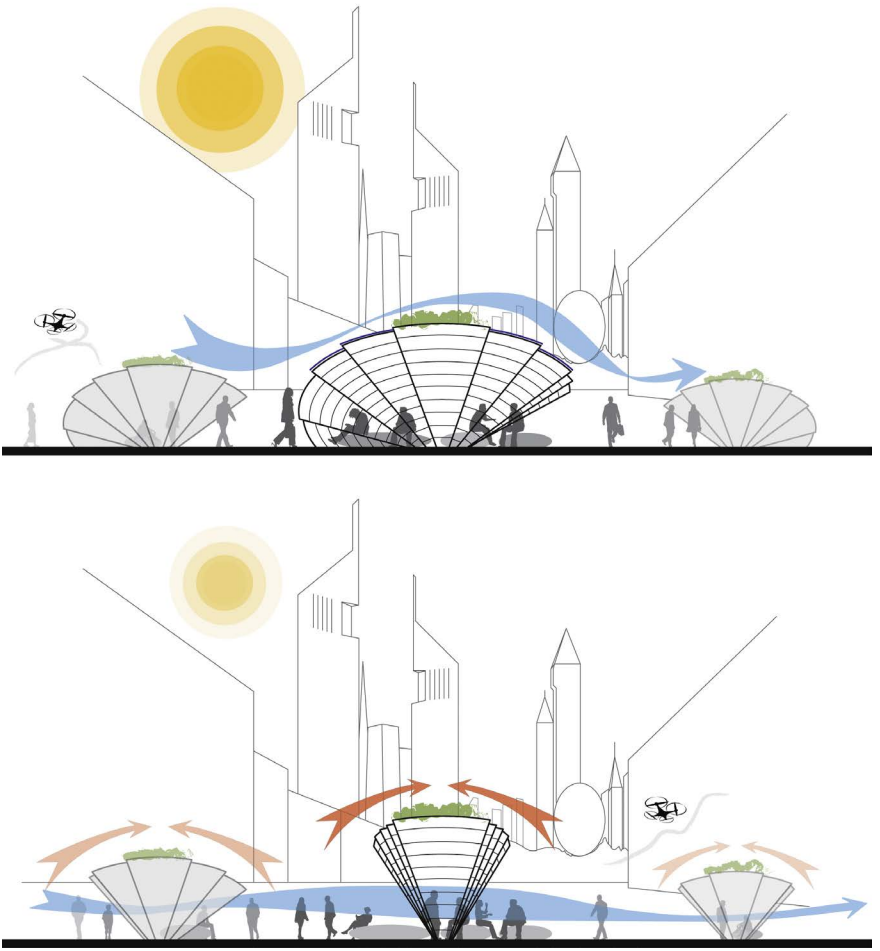

Fig. 6 - Dynamic configurations of the "bubbles" on the basis of sunlight intensity, affecting public space ventilation. Drawing by the author (Abita, 2021).

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to the ancient history of this country, characterised by nomadic populations that were able to survive in the warm environmental conditions of the desert, shading volumes could be conceived as the temporary and movable shelters that were settled in the oasis around a water basin or stream. Steel structures could be suitable also for this design address, indeed, it is possible to conceive frame structures that could be modularly reduced or extended, furthermore, also deployable structures could be used, able to be folded into special structures over or under the ground (Rivas Androver, 2015). The use of dry connections between the construction elements simplify assembly and disassembly operations and allows a variety of spatial configurations (fig. 7).

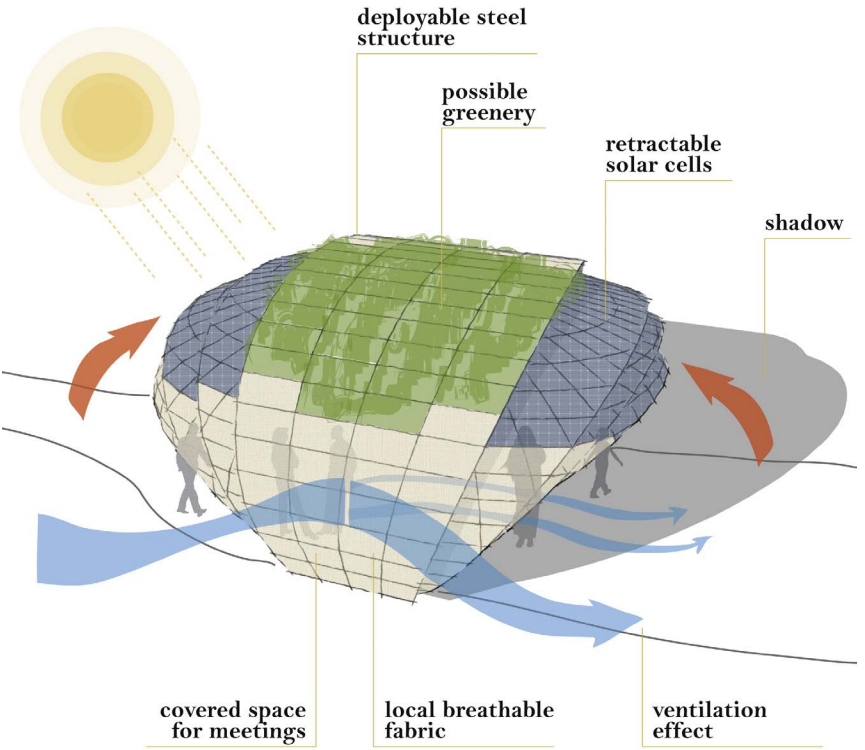

Fig. 7- Main technological features of the public space shelters that foster environmental comfort and sustainability. Drawing by the author (Abita, 2021).

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Conclusion

The experience of the "Mediterranean Urban Design & Regeneration Event" workshop was a valuable occasion to stimulate the comparison between scholars coming from different countries and with various background about the culture of the architectural project. In the working table n. 5, the activities were marked by a continuous and uninterrupted dialogue in which each participant gave his contribution through words, sketches and drawings.

The design strategies developed in the short time available for the workshop and the vision of public spaces with flexible and changeable shading volumes are certainly not sufficient to guarantee a complete formula for the regeneration and refurbishment of Dubai's public spaces, but it represents an attempt to better understand the peculiar features of this metropolis, its needs and history. The tension between tradition and innovation was in fact one of the main topics of discussion at the working table and all the participants were aware that the regeneration of public spaces, conceivable as "pauses" in the extraordinary growing of building texture, also depends on the «preservation of the memory» and the «extension of the architectural identity» (Sosa and Ahmad, 2022).

Notes

1. The members of the working table number 5 were Prof. Lina Ahmad from Zayed University of Abu Dhabi, Dr. Eng. Matteo Abita from University of L'Aquila, Kulthoum Shakhshir from British University in Dubai. The first part of the slogan merged the initials of the introductory design issues (Climate, Morphology, Tradition…) and also the words "Collaborative Metadesign", instead the second part was related to the architectural outcomes illustrated in the paragraph titled "Metadesign strategies".

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The Public Space as Place of the Ephemeral. The Case-Study of the Dubai World Trade Center

Caterina Palestini,Andrea Di Cinzio, Lorenzo Pellegrini, Amedeo Minischitti

Guidelines

In the context of Expo Dubai 2020, the working team I coordinated made up of Lorenzo Pellegrini, Andrea Di Cinzio and Amedeo Minischetti on the case study about the general theme of regeneration and urban design focused the attention on the relationship that can be established between the urban space and the ephemeral architecture as a key to interpretate the site.

The idea of working on proposals related to the concept of ephemeral architecture stems from the very essence of Dubai which can somehow be defined as the city of the temporary, devoid of a historical stratification, the result of cultural hybridizations that characterize it for its excesses and eclectic urban scenes.

In this sense, taking into consideration the contradictions and possible historical-cultural connections that relate Italy, Rome in particular, with Dubai, were examined some ephemeral archetypes which, through iconographic readings, lay the theoretical foundations for reinterpreting the urban scene by immersing themselves in the context of study.

In a journey back in time, the antithetical realities of the historical stratification of the Italian capital are correlated with the multifaceted urban growth of Dubai.

The research, specifically, focuses on the city as a scene and laboratory of urban experimentation, the aims refer in particular, today as in

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the past, to the involvement of the community in the metamorphoses linked to multiple events and needs of the public space.

Considering the flexibility of ephemeral installations, it is possible to generate reusable installations capable of generating suggestions and atmospheres suitable for the transformation of space in a flexible, agile and sustainable way.

Reflecting on how the concept of urban regeneration was interpreted in ancient times, we have taken as an example episodes linked to situations involving city spaces in the Baroque period which, more than any other, managed to interpret the scenic importance and flexibility of ephemeral apparatuses.

By analyzing what happened in the past in open spaces or large public spaces, such as Piazza Navona which in numerous occasions has been transformed for jousts, naumachies, anniversaries, events addressed to the citizens who were involved in collective events, we found the cultural input to provide a historical support by linking it to the timeless spaces of Dubai.

The ephemeral architectures made with reusable materials such as timber, metal structures and fabrics provided temporary installations that allowed to quickly raise architectural scenarios capable of transforming the context by completely innovating it. Full-size urban scenes made it possible to obtain realistic perceptive effects that generated rapid city metamorphoses with elements that from temporary could then be converted into permanent.

Coordinators of these apparatuses were often great architects such as Gian Lorenzo Bernini who, in collaboration with painters and set designers, including Giovanni Paolo Schor (fig. 1), elevated the so-called ephemeral theaters by creating "capricious inventions" also composed of self-propelled structures capable of generating amazement and wonder. The design of ephemeral architectures, purified of Baroque decorations, is called back in the course of history and used in the contemporary with different possible declinations as specified below with quotes and examples.

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From these considerations comes the choice of the design proposal for the open spaces, the large urban voids that are generated between the mega structures of the Dubai World Trade Center. Transit areas that generate flows of connection between the different buildings, crossings with intersections of paths that from mere places of functional transfer can take on the role of rest, recreation, meeting, entertainment with modular structures expressly designed with materials that have a character of flexibility and sustainability.

The idea of creating light, modular, transformable urban architectures therefore underlies the idea of the project conceived to generate quality and urban well-being, through bioclimatic systems capable of improving the microclimate of the city with shaded spaces that host green, seatings, furnitures and possible solutions for temporary events. The project thus takes inspiration from the past to propose contemporary solutions which, like ephemeral installations, can be transformed to offer more distributive solutions for public space.

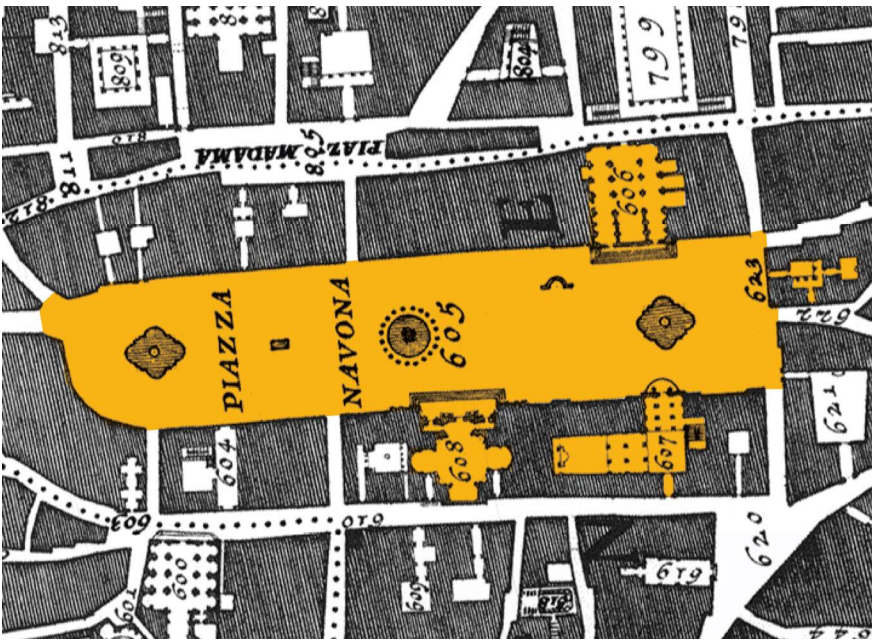

Fig. 1 - Nolli's Plan, 1748. Source: public domain.

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Historical and cultural introduction

"Ephemeral and worthless human things are" the Roman emperor Marcus Aurelius writes down in the Meditationes, his collection of aphorisms from the 2nd century a.D.

This epigram concentrates the consideration the idea of "ephemeral" preserved for millennia before evolving, in recent times, from the blamed epicurean value to the virtuous quality sought after and desired even in the field of architecture.

Pavilions for exhibitions, installations, emergency shelters, projects with low environmental impact and many other examples of contemporary architecture need that feature of temporariness and functionalism for which the term Ephemeral Architecture has gradually been coined.

It is therefore interesting to investigate how the shift in the semantic area of the ephemeral adjective, from a clearly negative to a very positive one, also coincides with a change in the way architecture is conceived in Western countries.

The term "ephemeral" comes from the Greek *ἐφήμερος* (ephḗmeros) and is formed by *επί* that is "above" and *εμήρα* that means "day" to indicate what has the duration of one day. In biology, for instance, the Ephemoptera is a family of insects with a very short life, even one day precisely, while in the astronomical field the Ephemerids are charts on which the position of certain stars referred to a certain location was recorded daily.

In the philosophical and religious field this temporal transience has been interpreted as the temporariness of the life on Earth opposed to the eternity of Olympus initially and of Paradise later. The ephemeral is therefore the human instead of the divine, the material instead of the spiritual, the immanent instead of the transcendent.

In ancient philosophy the ephemeral was targeted first by Plato in the dichotomy between the apparent and real world and then by the Stoics in the fulfilment of the extreme virtue to be achieved with

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the deprivation of ephemeral pleasures. Our Marcus Aurelius was a disciple of this doctrine.

Epicureanism has had little favour in the history of Western philosophy, not in literature, while Platonism and Stoicism have found natural continuation in Christian morality since Saint Augustine who reinterprets Plato in a Christological key. The phenomenon of hermits, from desert monks to stylobates, and monasticism at the beginning of the Middle Ages are the indication of a Christianization of Stoicism, a tout court rejection of mundanity considered an ephemeral distraction from prayer.

From a laical point of view, even philosophy has not been generous with the ephemeral, especially the German idealism which, from Kant to Schopenhauer, has continued to reject the ephemeral passions that distance man from the moral use of his own will with the former and from the knowledge of the real world with the latter. Only in literature Western culture has sporadically celebrated the ephemeral, recognizing its usefulness as a temporary but tangible palliative to the hardness of life on Earth: Lorenzo Il Magnifico sang about the youth, medieval poetry and Renaissance theatre about the love, Decadentism about the alcoholic inebriation. A bit of a revenge, at least in these arts, over the giants of philosophy and theology.

A tangible new appreciation of the term takes recently place in the field of our art, architecture, which rediscovers its fundamental positive meanings: those characteristics blamed by philosophers and ascetics are now encouraged values in our field. A light, temporary and reusable project is a credible alternative to the growing anthropization of the landscape and the consumption of land and non-renewable resources. It is Ephemeral Architecture.

In 2010 Maurizio Unali wrote the definition of this architectural trend for the Treccani Encyclopedia trying to synthesize and bring together theoretical studies and design examples that have unwittingly touched this sphere. The definition is insatiable, almost an article, an essay perhaps since the late decoding of this term necessarily

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implies a reinterpretation of modern and contemporary architecture: Pandora's box has been opened. We actually could divide the broad spectrum of ephemeral contemporary architectural examples into two macro categories.

The first includes projects that are formally inspired by the concept of ephemeral but which, by a technological point of view, are conventional buildings designed to last over time with their foundations, structures, mechanicals and envelopes: an example can be the organic-parametric architecture that often mimics the forms of biological and atmospheric phenomena, or the deconstructivism and neo-deconstructivism whose buildings seem to have to collapse at any moment, or the high-tech architecture which leaves structural and technological elements exposed to achieve a formal lightness also in large buildings such as the Center Pompidou in Paris.

To the second category belong typologically and technologically ephemeral structures such as pavilions, virtual architectures, art installations, theatrical and cinematographic sets, catwalks, carnival floats, corporate flag-ship stores and all projects which are removable, mountable, transformable, modular, physically and visually light, deliberately temporary.

The re-evaluation of these constructive features as values has made it possible to bring back into the architectural field also experiences of the past that the history of this art had relegated, in accordance with the Vitruvian "firmitas" of stone and brick, to a secondary role far from texts.

According to Andrew Hopkins, even the liturgical architectures that have been erected over the course of history to temporarily celebrate important secular or religious events, such as the proclamation of a Pope, the birth of a King, the victory of a war, a religious occurrence ... are Ephemeral Architecture. From ancient times to today, triumphal arches, processions, ceremonial canopies, obelisks and carousels have temporarily occupied public places in western cities. Of these examples, only a graphic or descriptive documentation has reached us

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since most of them were made of materials not designed to withstand time but to run out over the duration of the event, as proof of their ephemeral character. Some of them have been "monumentalized", or reproposed in durable material, petrified over time.

In this context, Caterina Palestini speaks about ephemeral devices in reference to the spectacular machines erected in public squares to celebrate particular events and to the decorative back stages set up in the churches to emphasize a sacrament or a holiday. The former astonished the public by seeking the surprise effect with transformations, explosions, sounds and lights, and the latter were intended to favour and accentuate the religious narrative with optical illusions. Italy was not only a fertile ground for these experiments, as cradle of the Baroque style and the drama, but it was above all the country that, by choosing to commission these works to architects of the calibre of Gian Lorenzo Bernini, Pietro da Cortona, Andrea Pozzo, Domenico Fontana, Ferdinando San Felice and other greats, sanctioned their elevation to architectures.

Considerations towards the project

From Antiquity to the present, the conception of ephemeral varies in its meaning.

In the contemporaneity, the ephemeral takes a new appearance and functionality. Nowadays, the ephemeral concept is well approached to the vision of the contemporary life, that is rapidly changing, as it is highlighted by Leone Podrini in *Materiale e immateriale. L'effimero nell'architettura contemporanea*. The architect says that "the parameters that rules our operating are so changeable and transitional that must be represented by a reality equally changeable and transitory, which has sense just if conceived in the perspective of something that is always new and different". The ephemeral designing process can be an answer to the speed of the social and urban evolution, and it

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can change according to the needs, the functions, and the relations, allowed by the opportunities generated from the urban void.

The Public Space, namely by its nature, could be considered as ephemeral in its way of appearing and in its functions: a place of crossing, entertainment, rest, exhibitions, and much more.

The "class" of "public spaces" could be defined as spaces of the building absence. In these places the architectonic absence leaves the space to the construction of relationships.

People use the void, transforming it from a static state to a dynamic condition, generating in the space a first installation, made of relations and connections. Starting from this "void" condition, this kind of places are suitable to be set up and enhanced, allowing multiple transformations and facilities: cultural, recreational, artistic, institutional, commercial, religious, environmental, etc… in a kaleidoscope of shapes and functions.

Thanks to the never-ending chance of designing relations that "The contemporary ephemeral space is just one: the space of our mind and its free representations".

The ephemeral condition of an installation is in direct relation with the "eventus" (event that already happened or could happen). Then, ephemeral architectures generate an extraordinary fact in the ordinary spatial context; the event is able to create and edit new possibilities and relations in the urban context. According to that, the exhibition space becomes chance to: complaining,emergency, communication, memory, etc.

The architectural, urban and artistic installations in Italy are included in a long tradition, as mentioned above, and underline the possibility of the public space to turn, become "vehicle" of messages and generate new relations.

The ephemeral represents the preferred tool used by Edoardo Tresoldi. His site-specific installations around the world, as "Opera" in Reggio Calabria, "Simbiosi" in Borgo Valsugana, or "La Basilica di Siponto" in Manfredonia, are characterized by two main materials:

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metal mesh and "time". The time is conceived as an essential material because the sculptor creates works between past and present, even linking what is no longer existent. Tresoldi carries out an archaeological and architectural reinterpretation, leading the audience to the "previous" dimension of the things, through an artistic contemporary interpretative key. The ephemeral plays a relevant role in the memory process, bringing back to light and inducing memories in the present. On an analogous process are based the polypropylene installations realized by Christo, where the covering action brings up the memory of something that is no more visible (as "Wrapped Fountain" in Spoleto or "Wrapped Monument" in Milan).

Not only the artistic installations have temporary nature. Many architects have tried different ephemeral experimentations able to generate new relations and possibilities in urban space.

Aldo Rossi, with the project "Teatro del Mondo", makes the Adriatic stage and ephemeral main character. From Venice to Dubrovnik, the Rossi opera depict a dialogue with the landscape, considering the sea its public space and offering it a place of culture. His definition of *"theatre"* explains the concept of ephemeral architecture: "the theatre is very similar to architecture because it regards a story; its beginning, its performance and its ending", as a description of the crossing and dynamic role in the context.

Even in the context of public space, the ephemeral can appear as different devices, installations, or artefacts, often spreading informative messages or talking about cultural, social and environmental emergencies. This happens in the project "Into the Forest", designed by OpenFabric, which is an ephemeral installation which tries to rise the awareness on the importance of nature in urban spaces and on the dramatic effects of the climate change. The examples mentioned are presented as a demonstration of the flexibility of the ephemeral designing, that is able to transmit different typologies of messages or functions. The ephemeral designing maybe, more than other kinds, is suitable to modify the contemporary public space, generating

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new and unusual relations and communicating the contemporary emergencies.

Design proposals and sustainability

Some contemporary scholars recognize the ephemeral concept as the most suitable way to interpret the liquid dimension of our time, in which everything is temporary, fluid, iridescent, ambiguous, and insecure. As written by the sociologist and philosopher Zygmunt Bauman in 1999 in "Liquid modernity": "Every reference point which gave firmness to the world and promoted logic in the selection of life strategies […] and used to be steady, at the moment seem to be in transformation". It is unavoidable that nowadays even the designers adopt a different perspective in their works, talking about "ongoing" and dynamic processes.

The globalization and mass digitization are gradually cancelling the physical boundaries of our planet, making more and more difficult the rooting of the new generations and their recognition in the identity elements of places

The literature describes the United Arab Emirates as an actual globalization laboratory, stage of exchange and discussion among dozens of different nationalities which live together in compliance with religious and cultural traditions. Unprecedent rhythms have animated the development of the city of Dubai, which is crossed by changing flows of people, goods, capital, knowledges, and ideas, that appear fleeting because of their dynamism. The rapid socio-economic and pedagogical transformations also suffer from the current and global issue of the climate change, which urgently requires humanity to adopt a different action model that assimilate adaptive and temporary nature.

Dubai desert climate is characterized by a high moisture level and a medium temperature of about 41 grades (in Celsius). It is well

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known that overheating and hot temperatures have hit even the European countries in the recent times: it is emblematic thinking about the temperature peak reached in Sicily during the summer in 2021 (48.8 °C). Therefore, the framework given by the current and permanent condition of the Middle Eastern city can be considered as a provisional scenario that will involve the rest of the globe in the next years. On this basis, the adaptive strategies, which mainly concern the climate, outline a useful case study. If they prove to be fit, they could represent a reliable projection to apply even in Europe in a near future, depending on the promptness of intervention. The weather conditions hinder the possibility to host collectivity in open spaces; thus, the close spaces in Dubai accommodate numerous functions of various nature. The volumes have been conceived as "building containers" which are able to guarantee climate comfort. Indeed, the main part of the urban functions are in close big buildings physically connected, where is simulated the quality of the open space.

The case study of Dubai, which is relevant in the middle eastern context, is interesting from the compositional point of view for further studies on the flows and their capacity to determine complex space configurations. However, the outdoor spaces and the built elements, which lead from one building to another, are mainly conceived as places of passage and transition. This happens because they are subjected to climate pressions that do not encourage a comfortable fruition.

The concept of the open space reveals the distance from the European vision, which is more oriented to the public space as a resting place and opportunity to develop relations.

In the context mentioned above, the ephemeral architecture can be able to answer to the contemporary need of people, because its flexibility well fit to the changes led by an inexorable process of growth. For these reasons, the design initiatives of the new century should consider this changeable and dynamic vision of the world, trying to identify existent permanent elements as a starting point to activate multiple flexible and performing processes.

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During the session "The Ephemeral Public Space" the working group [1] has carried out a critical lecture and analysis of urban spaces, selected among several study areas, to address issues regarding the development of meta-projectual hypothesis to improve the quality of open public spaces. It has been surveyed the context of transformative strategies of action using ephemeral architectural solutions.

The discussion has showed that the outdoor areas of the building are barely usable by the community, except for fast crossings, because of the lack of conditions of environmental comfort.

The analysis of the study area opposite the Dubai World Trade Center, shows that it is an important landing point of the city, where the space is arranged just to host the outdoor parking, confirming that similar areas use to be not designed on a human scale. The working session has highlighted that ephemeral elements can give a relevant input to exploit the potentialities of spaces, which otherwise could be remain a simple void, without any urban function or role. Further organizing models could be included as integral part of the way of designing urban space that is different from the Dubai's one.

Expanding the interpreting keys to analyze the case study could represent a strategy to promote the urbanization as an open process, as well as it is described by the sociologist Richard Sennett: "an incomplete, errant, contradictory and not linear entity".

It is necessary to recognize the hypothesis that a void space in Dubai can be identified by ephemeral elements. In this way, it could become an integral part of the evolutive process of the urban structure itself.

Using ephemeral architecture in its multiple and flexible configurations could not be limited to an exhibition able to create new suggestions, but even to redesign a space with different functions and meanings, from the crossing to the possibility to extend the interior uses to outside (fig. 2).

Nowadays the Dubai World Trade Center is composed as a complex of buildings used for several functions. The chosen area is in direct continuity with the hall of the volume used for exhibitions,

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events, fairs. The building is conceived as a building container which host temporary setups. According to the proposal of converting open space in flexible way, the devices should be designed to be mobile, customizable, and reconfigurable, with the aim of improving the comfort degrees (climatic, environmental, perceptive, visual, hearing, etc.) and making indoor activities possible even outdoor.

Using the outdoor area of the building as the logical physical extension of interior spaces could represent a useful strategy to get the collectivity "closer" to the urban space. Firstly, it could happen for functional reasons; then, this approach could help to actively modify the space, defining new opportunities. Indeed, the meta-projectual proposal includes modular shading systems, well able to be integrated with the existent elements in Dubai World Trade Center square.

It allows the creation of hierarchies of signs and places, that could be reversible and changeable. The new systems' concept is aimed to identify devices [2] (fig. 3), whose geometry and spatial layout actively support to improve the micro-climate, assessing the ventilation and the reduction of the impact of solar radiation. This performance is

Fig. 2 - Collage of "the ephemeral public space" by A. Di Cinzio, A. Minischetti, L. Pellegrini.

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made possible thanks to the intrinsic properties of the materials used. Among the various functions of the setups expected by the device design, it is relevant to mention the capacity of order the flows of fruition, creating shaded spaces and identifying a meeting place

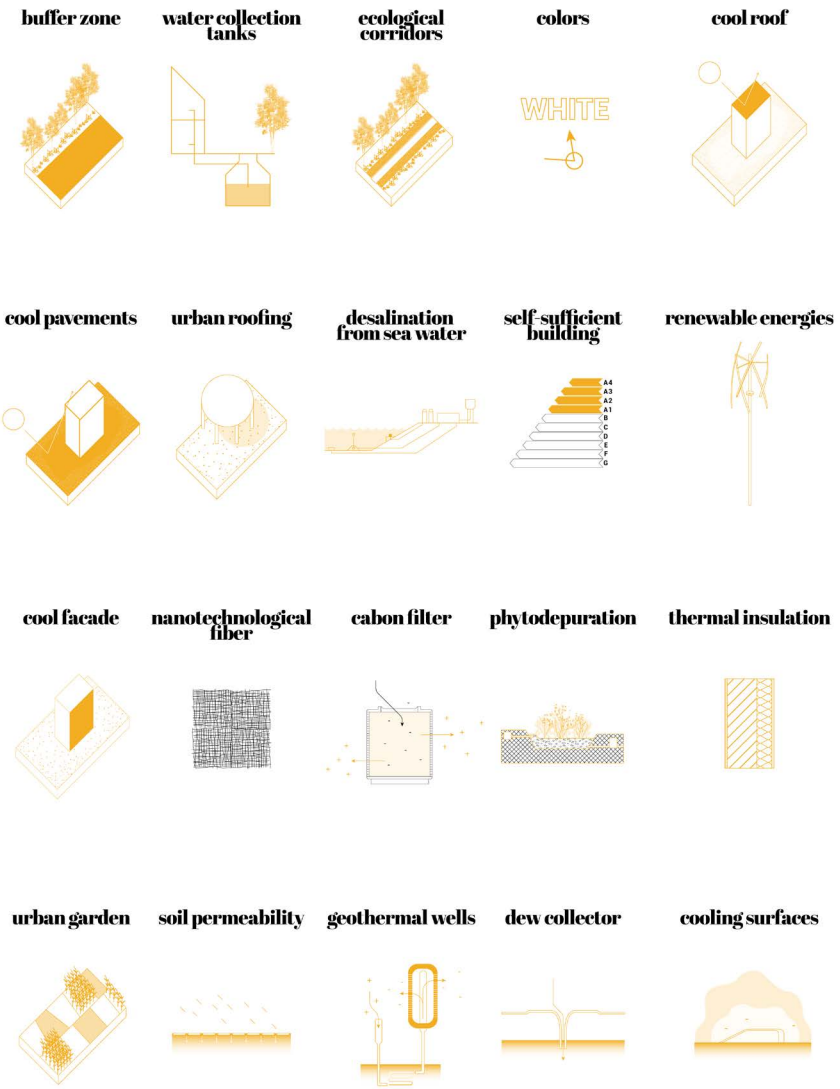

Fig. 3 - Cards representing the different devices useful for an adaptive and resilient public space by A. Di Cinzio.

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for citizens (Fig. 4). Despite of the differences revealed from the discussion on designing approaches, it is undeniable the intention to improve the "health" of the places and the wellness of people who animate the spaces.

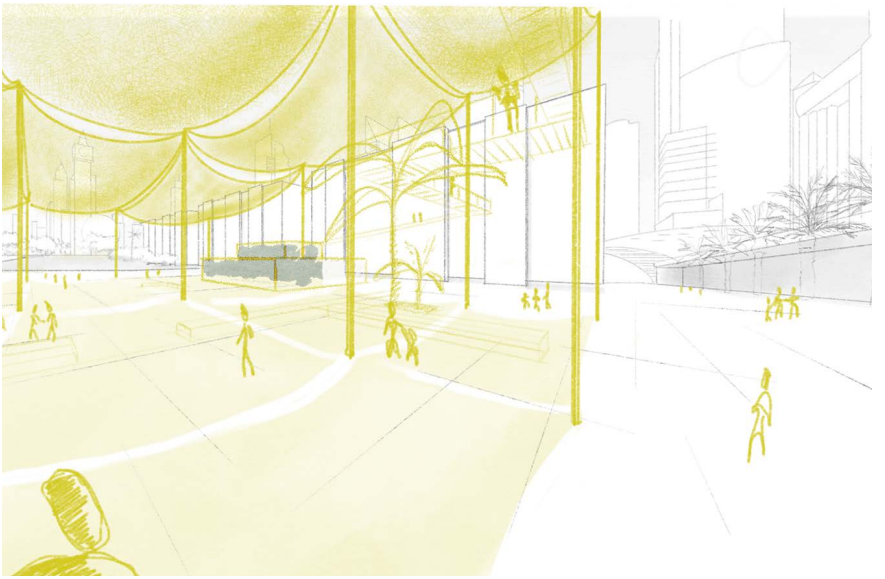

Fig. 4 - Drawing of "the ephemeral public space" by L. Pellegrini.

The definition of "ephemeral" is described as an ongoing concept which is enhanced by the compositional features of the contexts and their traditions. The intangible nature of the concept is the same which characterizes the relations that come out there.

Notes

1. The working group of the session includes: Prof. Caterina Palestini, PhD Student Andrea Di Cinzio, PhD Student Lorenzo Pellegrini and Fellow Amedeo Minischetti.
2. On the occasion of the dubai EXPO, Cards were created representing the different devices useful for an adaptive and resilient public space.

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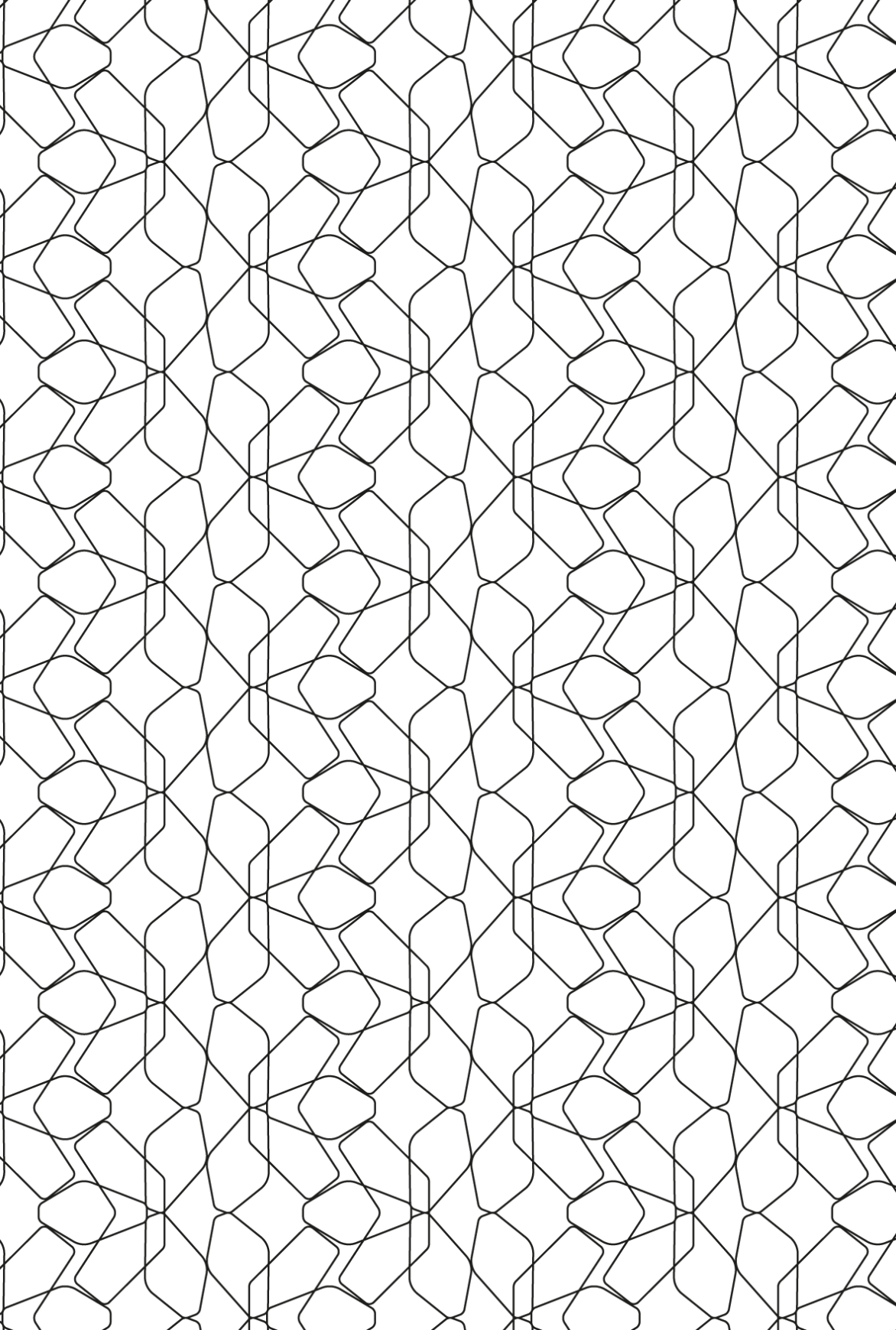

PART 3

Reflections

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Dubai, Forms of No Longer Cities

Domenico Potenza

Premise

Beginning in the second half of the nineteenth century, Universal Exhibitions were used to project, in the mirror of the future, the development, initially of pre-modern and later of modern and contemporary society. In the wake of the first Industrial Revolution, and through the second, and into the third (the ongoing digital revolution), the spirit of global progress is celebrated during international events that have succeeded one another with a certain regularity since 1851 (interrupted only by the two world wars).

In light of the most recent editions, in particular those held during the first two decades of the new millennium, we can consider the Expos a sort of "map of perception" across which we can retrace the clues of a future that, for the most part, is already here.

Albeit with various differences, this definition certainly applies to the two most recent editions, in Milan and Dubai; a sort of confirmation (after Shanghai) of the passage, in hard facts, from European/Western to Asian/Eastern culture that, precisely in this difference, translate diverse expressions of urban cultures both diametral (for some aspects) and simultaneously convergent, above all with regard to the development of the new dimension of metropolitan concentrations[1].

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From Milan to Dubai: two different worlds/approaches to the two most recent expos

On the 1st of May 2015, Italy opened the doors to the Expo in Milan. The event would meet with a great deal of success over the next months, and generate notable mediatic clamour for the (somewhat unexpected) attendance of millions of visitors.
Feeing the Planet: the central theme of this edition was a truly ambitious commitment by the organisers, who chose to draw the attention of the many participating nations to such a radical topic. *Feeding the Planet*, in all of its meanings: both the primary necessities of the Earth's inhabitants, and caring for the Earth, intended as a *living and breathing entity*.

I personally recall being very interested in the initial proposal (advanced by Carlo Petrini, founder of *Slow Food*): a sort of "global garden" in which to grow the world's principal products. I also remember, unfortunately, the widespread delusion (at least among architects and scholars of anthropized space) over the final outcome that, for the most part, failed to meet any of the original intentions. All that remained of the initial project was the parti of the *cardus* and *decumanus* and the large central public space that, at this large intersection, organised the layout of the exhibition pavilions; everything else was not so dissimilar from the many other exhibitions that preceded that in Italy.

When Jacques Herzog (from the architectural practice Herzog & de Meuron) was asked why in 2011 he left the Milan Expo design team, he responded that he no longer recognised the origin of the project and the idea, inspired by Carlo Petrini's suggestion: "[...] the master plan was based on two elements. One: the extreme simplicity of the urban concept, a planetary garden structured like the grid of an ancient Roman city, with a *cardus* and *decumanus* as spatial references for all pavilions and events. Two: a vision for reinventing the concept of the world's fair: instead of individual forms, the country

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pavilions were to be standardised temporary structures. They would be differentiated by content, and not by the ridiculous architectural gymnastics that fille the pages of any design magazine. The first part was realised, because the cardus and the decumanus remained as the urban backbone, but the second was lost. This means that the true vision behind our master plan, following the radical rethinking of the Expo, was not fulfilled"[2].

Little more than six years later, on the 1st of October 2021, Expo 2020 opened in Dubai (delayed one year due to the Covid emergency). The equally ambitious theme selected for this most recent edition (now closed) was *Connecting Minds, Creating the Future*: an almost magical expression, of a broader, multiple and pluriform view, projected onto the dimension of spaces that do not yet exist, but which could truly represent the new reality of living in the near future. The construction of the site itself, was created "from nothing", in the midst of the desert, generated (largely) by the discovery of a relic that legend has it inspired the plan and logo of the event[3].

Dubai Expo was arranged around a large central plaza covered by an enormous multifunctional and interactive dome that became the principal attraction, and the node of the three large petals of the main districts of *sustainability, mobility and opportunities*. The result is a fluid and regular geometry, of primary and secondary paths, that confirm the *floriform* configuration of the parti and govern the layout of the individual pavilions.

Europe/Asia: a comparison between urban cultures

In the short span of time between Milan and Dubai, we can compare the different approaches adopted by these two Worlds Fairs.

I believe the organisation and construction of the Expos in Milan and Dubai contain the principal connotations of two urban cultures: the European, rooted and consolidated in the history of place and its

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layers, and the Arabic, rapidly expanding and constantly searching for a new identity.

The layouts of these two editions, independent of their resulting formal appearance, differ for a number of radical decisions that link, in the most evident manner, the expression of the two solutions to the diverse cultures that produced them and, above all, the diametral nature of the two sites (cities) that hosted them. On the one hand, the layering of signs and history of transformations of the capital of Lombardy built at the edge of the vast centuriation of the Po Valley; on the other hand, the rapid colonisation of the Arabic desert, from Dubai to Abu Dhabi, marked for the most part by the linear infra-structuralisation of recent decades along the northern coasts of the Persian Gulf.

The radial layout of Milan, recognisable in the historical layerings of its circular ring of boulevards, clearly defines both the form of the city's architecture and the development of its new expansions. The figure of the city projects outward to meet the large ring (the current *circle line*) of the peripheral hinterland, home to Expo 2015. This urban structure of this explicit dimension presents the principles behind the growth of the city, intimately linked to the territory in which it is situated.

In Dubai the desert was transformed into a city "[...] the birth of a city is normally associated with the needs of a vast number of people who live in the same place; this was not the case in Dubai, where the reduction of profit from the extraction of oil is compensated by an increase in real estate development. We are witness to a situation where the reasons for the growth of the city are completely new and no longer measurable according to traditional standards. Dubai substantially consists of the sea, the desert and urban development; urban development that was designed move toward the sea, favouring a more ornamental language focused on pleasure and responding to the needs of the city, something that represented an exchange of premises and ideas" (Koolhaas, 2021).

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I believe that within these considerations we can retrace both the principal distinctions not only between the two cities, diverse from one another, but also and above all of the configuration of the places that characterise them and determine the explicit conditions of different ways of dwelling. We must search in the principle of settlement for the reasons behind their forms and functioning.

"The city we observe today is no longer built from the substance necessary for our survival, but from superfluous content, to which we can apply different metaphors. It should come as no surprise that the ground floor of an office park adopts the language of a resort – which now gives form to public space – rather than that of an exchange of ideas. For me the word resort is very important because our model of life in the city is moving form more serious initiatives toward the condition of a resort. A resort is not a place where we live, but where entertainment is the principal activity, and where there are no obligations such as maintenance or other forms of taxes" (Koolhaas, 2021).

The new forms of urban public space, an open debate

These aspects, in particular, were the object of study of a work group that participated in the international workshop held in Dubai, and coordinated by a research team from the Università "G. d'Annunzio" di Chieti Pescara in collaboration with professors, researchers and students from other universities: Abu Dhabi University, American University in Dubai, American University of Sharjah, British University in Dubai, Università degli Studi dell'Aquila, Zayed University of Dubai.

A plural reflection, by different people, and the different attending schools of architecture; at the end of the day on the 1st of November 2021 (inside the Italy Pavilion) the results were revealed in a shared presentation of the topics and themes discussed during the preparatory meetings looking at the key focus points listed below.

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The dimension of time. Space, and public space in particular, recognisable beginning with the signs of time layered within it, those traces of uses, those "wrinkles" of time and that recognisable habit that manages to make "place" also a space. It is design that suggests dwelling, and not vice versa; it is the imprint that distinguishes the identity of a place, and the imprint is nothing other than the representation of the identity of a space. Time, therefore, becomes one of the principal materials of design, which must absolutely be considered in any transformation of urban public space.

The diverse velocities of using the city and urban territories. There exist different ways of crossing, transiting, pausing. They intersect the forms of the city and the communities that inhabit them, sedimenting not only ways of living but also dimensions that are materially recognisable in urban layers. With regards to Dubai, Anna Cornaro notes "[...] it is a city that grew too fast to sediment any identity in its public spaces, a city with a very young past forced to look to the future because it has no means for looking back".

The importance of climate. There has always existed a very close relationship between territories and the forms of architecture and the city; at least this was the case until roughly one century ago. Modernity, in addition to the International Style, also brought forms of globalisation that, by now, above all since the dawn of this new century, no longer distinguish any relationship between buildings and geographic contexts. Materials, forms, technologies are no longer limited by latitude and now appear equally, everywhere, with the same characteristics but wide swings in energy demands and, consequentially, demands on the environment.

The definition of new forms of contemporary public space and its open questions. Do there still exist expressions of forms for contemporary public space? Does public space still exist, as we are accustomed to imagining it, in the dimension of European urban culture? What forms does public urban space assume (today) in our contemporary era and, in particular, in new developing metropolises? The forms of

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public space are, in any case, the result of the "societies" they express but ... are there still differences between "societies" or are they merely the expression of diverse places and/or diverse latitudes (as in this case) ... diverse geographies?

The city has now changed not only its skin, but also its most profound nature; this occurred in America principally and above all in Asia. However, if we look closely, even Europe is not without examples of these mutations. Any ambition to imagine urban public space today as a prefiguration of a defined space is wholly unfounded. The city can no longer be conceived as an organically determined form: in his latest reflections, Rem Koolhaas insists on the disappearance of urbanism "[...] the city has been distorted and expanded as never before in the past; any form of insistence on an original condition will inevitably prove, due to nostalgia, irrelevant" (Koolhaas, 2021).

A necessary appendix under the guise of a conclusion

The day after the workshop in Dubai, we travelled to Abu Dhabi, with a group of PhD students, to visit Jean Nouvel's extraordinary New Louvre. During the drive, little more than one hundred kilometres eastward (from the Expo site), we travelled along the coast, without ever having the sensation of changing cities, given the similarity of the urban concentration in this new Emirate.

In Abu Dhabi, the New Louvre is situated inside a true cultural district, home to other museums designed by some of the world's most leading architects, including: Zaha Hadid's Performing Arts Centre, Tadao Ando's Maritime Museum and Frank O. Gehry's Guggenheim Museum, all still under construction.

Upon arriving at our destination, we were immediately aware of the diverse scale of the architecture facing us, with distinctive forms, capable of expressing, in the most explicit manner, the sense of a building rooted to its site. The Museum is outside the city, in an

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area where the presence of the desert is strong, however, the clear image of a new *medina* and an enormous circular *parasol* instantly reveal the characters of Arabic architecture. Certainly, Jean Nouvel had diverse concerns than those of colleagues working for large real estate companies. His familiarity with the region soon led him to the understanding that the principal factor to be considered was a tropical desert climate, with summer temperatures that reach close to 50°C.

Nouvel clearly understood that people are not equipped to resist a thermal shock of this type, and neither the works of art stored inside. These elementary observations led him to propose a direct device for moderating the excesses of heat, protecting the vast dimensions of the Museum's building under an enormous flattened dome: a radical though highly effective idea, reminiscent of the work of Frei Otto and Buckminster Fuller and their early utopian dreams of covering entire cities (Nouvel, 2019).

The New Louvre presents itself to visitors as a sort of contemporary prototype of the Arab City, comparable with such locations as Fez, Cairo or Bukhara: the same compact disorder of the quarters of the medina, markets and caravanserai closely intertwined in a maze of streets, alleys and open squares, both large and small casual spaces filled with surprises.

However, the greatest surprise is the presence of water that enters into the heart of the Museum and, thanks to large ramps at an urban scale, allow visitors to access it and enjoy its presence from up close... and perhaps even find relief from the tropical temperatures. The entire complex is a sort of island, linked to the land at only two points, dominated inside by a consolidated idea of a piece of the city that welcomes water to give it form and not vice versa.

This is the great difference from the copies of the Palm Jumeirah or Jebel Ali and other projects to come. Water becomes a building material for architecture, and Jean Nouvel gives it form and utilises it both to emphasise the artifice of the volumes that front it, and to create reflections of light that penetrate, sparkling, through the

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Fig. 1 – Abu Dhabi, the New Louvre designed by Jean Nouvel . Photo by Domenico Potenza.

Fig. 2 – Abu Dhabi, the New Louvre designed by Jean Nouvel . Photo by Domenico Potenza.

weaves of the large dome. The New Louvre in Abu Dhabi coincides with the reproposal of a fragment of the Arab city in which we notice above all the power of public space that distinguishes place, giving it the typical identity of a desert culture. I believe that the New Louvre, with all the considerations related to the singularity of its architecture and the skills of its architect, offers a great lesson in urban architecture that should cause all of us to reflect, less for its final result (of exceptional value in its content and forms) and more for the resolutive completeness of an idea rooted in the profound culture of this part of the world.

Notes

1. See the lengthy article by Zheng Shiling in area 110 | expo 2010 Shanghai. The universal exhibition represents the progress of the human race, selecting the best society has to offer, favouring the communication of important ideas and contributing

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to their making them a reality. The Expo is an exceptional experiment for all humanity. Retracing the previous editions, it becomes evident how almost all events selected a theme closely linked to the themes and topics that dominated public debate during their time. The presentation of the avant-garde in every field of human operation and the incursion into future developments they can produce, becomes, at the same time, a manifestation of contemporary ideas and the values on which they are founded. Furthermore, the universal exhibition offers participating countries and companies an ideal occasion for exercising their imagination and creativity that, while assuming unique forms, nonetheless express important universal values.

2. Jacques Herzog continues "We left precisely because this radical idea wasn't given an opportunity. The World's Fairs are a dated and rather boring format, their cultural, technical and political innovation expired with the end of modernity, around 1960. From that moment they became pure entertainment and a waste of money and resources. However, the theme of this Expo, which rotated around how to feed the planet was truly a fantastic opportunity to break the rules and innovate the very concept of the World's Fair: each participating country would have had the same "weight" and would have been perceived only through its contribution to the challenge of producing food sustainably at the global level"
3. A helicopter hovers above the quiet desert dunes. On board, his Royal Highness Sheik Mohammed Ben Rashid al Maktoum scans the uncertain and boundless horizon of this expanse as he searches for a site to host Expo 2020; he would return to this site with a team of scholars to continue the research and identity of this place, entrusted to the recovery of gold relics that inspired the form of the log and the centre of the dome of the Expo site.

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The Characteristics of Dubai's Public Spaces. Some Differences to be Aware Of

Cristiano Luchetti

Introduction

The quality of public spaces in contemporary cities has long been a central theme in architectural and urban design research. In public spaces, the expression of the community and its cultural and social characteristics are manifested. At least in the Western world, these spaces are traditionally the places of exchange, communication, knowledge, and political and creative expression. Therefore, the attention to the development of architectural and urban planning strategies that can increase the importance of the role that such places have within metropolitan entities is fundamental. To fully understand their nature and the differences that can be detected in comparing public spaces present in different geographical areas, I believe we must start with how they are defined and outline their specific characteristics.

Lofland defines, from a morphological point of view, public spaces as spaces where the public "has unobstructed physical and social access" (Lofland, 1988). The characteristics are also other and involve the functions, identity, and use of society from a symbolic point of view. They also represent the people's political, religious, and historical values (Grigorovschi, 2013).

In the Charter of Public Space, one can read: "Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive. Each public

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space has its own spatial, historic, environmental, social and economic features" (INU, 2013). Furthermore, at point 7 in the same document, one can read: "The community recognizes itself in its public places and pursues the improvement of their spatial quality". In the Un-Habitat annual progress report, the importance of this urban typology is emphasized: "Public space as a common good is the key enabler for the fulfillment of human rights, empowering women, and providing opportunities for youth. […] Therefore, a good city should foster social cohesion and build social capital, engaging the community in (their) design, management, and maintenance"(UN, 2018). Already from these few definitions, chosen from a vast literature, one can recognize the character of "public service", which must be a common and dominant feature in public spaces' identity.

Finally, another essential feature concerns the unrestricted use of their use. Public space should not have a profit motive (Urban Gateway). The service, access, and the ability to enjoy these functions should have fundamentally inclusive properties regardless of the social and cultural status of the end-users.

This general classification of properties characterizing urban public spaces seems to extend to all examples regardless of their geographical location and the type of society that will experience them. But is it really like that? I believe that a design approach sensitive to contextual peculiarities must consider conducting an in-depth preliminary analysis to understand possible differences fully. The seminar *Urban open spaces toward the new challenges of adaptability* of which this volume recounts the theoretical and design outcomes, dealing with possible transformations concerning some representative public spaces of Dubai. The Arabian city has long been at the center of the attention of scholars for the role it plays in the global scenario. From many points of view, its urban and architectural development could represent a model to be pursued for the emerging metropolises of the Middle East and Southeast

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Asia (Woods, 2008). Along with its architectural and urban development specificity, Dubai must also be analyzed and understood from its public spaces' peculiar point of view.

Dubai's "public" spaces

The first question to ask is whether the city is really equipped with spaces that can be properly defined as public from a Eurocentric point of view. In our opinion, the answer is negative. As described in other texts, we reaffirm that "in the condition of mono-property of the land, which is characteristic of the absolute monarchy, there is no exchange between public and private entities to obtain economic/spatial benefits. The notion of "public", as an expression of the interest of all the components of society, does not exist. It can be said that, legally, in Dubai, the concept of "public land" is absent. All of the lands are private. Therefore, public spaces are privately owned in the emirate. The only difference that can distinguish them lies in their type of management, which can be governmental or carried out by real estate developers" (Luchetti, 2020). From this point of view, there is no real "free space". A theme already brilliantly addressed by the curators of the Architecture Venice Biennale in 2018 and to which we contributed with research that led us to affirm that "the free space is the place of individual functions that expressed collectively become public. Free space is, thus, the summation of multiple contributions, which, expressed in the space/time dimension, represent a fundamental part of the urban locus" (Luchetti, El Mashtooly and Abouzaid, 2018).

In this light, given the lack of actual public status of collective open spaces, a series of specific characteristics influencing design strategies can be deduced. They must always be taken into consideration, but above all by those who belong to a different

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culture, often only familiar with the notion of public space that we previously described.

First, the notions of gratuitousness and lack of profit in public spaces should be questioned. These properties do not belong to Dubai's spaces because they are always a component of private initiative urban developments, representing almost all projects. Their architectural solution is designed to support the functions contained in the master plans proposed by the developers. For this reason, the most appropriate definition is that of POPS (or POPOS) or Privately Owned Public Space (Kayden, 2000). They constitute the totality of urban spaces designed, built, open and accessible to the public. However, being privately owned and managed, they obey the rules of use, both functional and behavioral, imposed by the owners. They are often of high spatial quality because their attractive role in supporting commercial and/or housing functions is fundamental. In a context characterized by empty and desert urban areas, where there are no pre-existing buildings, public spaces often precede the construction of the real estate project (fig. 1). This strategy is used to define the new

Fig. 1 – Dubai's Al Jaddaf is one of Dubai's areas with no designed spatial connectivity between buildings. Photo by Cristiano Luchetti.

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"place". A new destination that enters the collective imagination by catalyzing the interests of potential investors. For this reason, the project must be innovative and *"spectacular"*. It must be able to face commercial competition.

It should be noted that these projects represent a novelty in the urban scenario of Dubai. Traditionally, given Dubai's hot and arid climate, social life was solely expressed either in parks, along the waterfront, or inside shopping centers. The latter would provide the possibility of indoor social interaction (even if always linked to commercial functions). During the summer months, the weather does not allow for comfortable outdoor activities. The places listed above belong to the same category of POPS that we have already defined. Even the parks and gardens, often open and accessible in Europe, are fenced and require the payment of an entrance fee. The same can be said for the seafront. Even if it provides free admission, it is still managed by the developers who have upgraded it and invested in equipment and services. These peculiarities do not affect the commercial success of these places. In the last few years, given the success of the first projects that offered open-air

Fig. 2 – City Walk is a very popular pedestrianized "public" space especially among locals. Photo by Cristiano Luchetti.

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versions of traditional shopping malls, Dubai has rediscovered itself as a "Walk-in City" (fig. 2, 3 and 4). The society that used the car for any travel and entertainment was enthusiastic about the new spaces exclusively thought for pedestrians. A radical change in

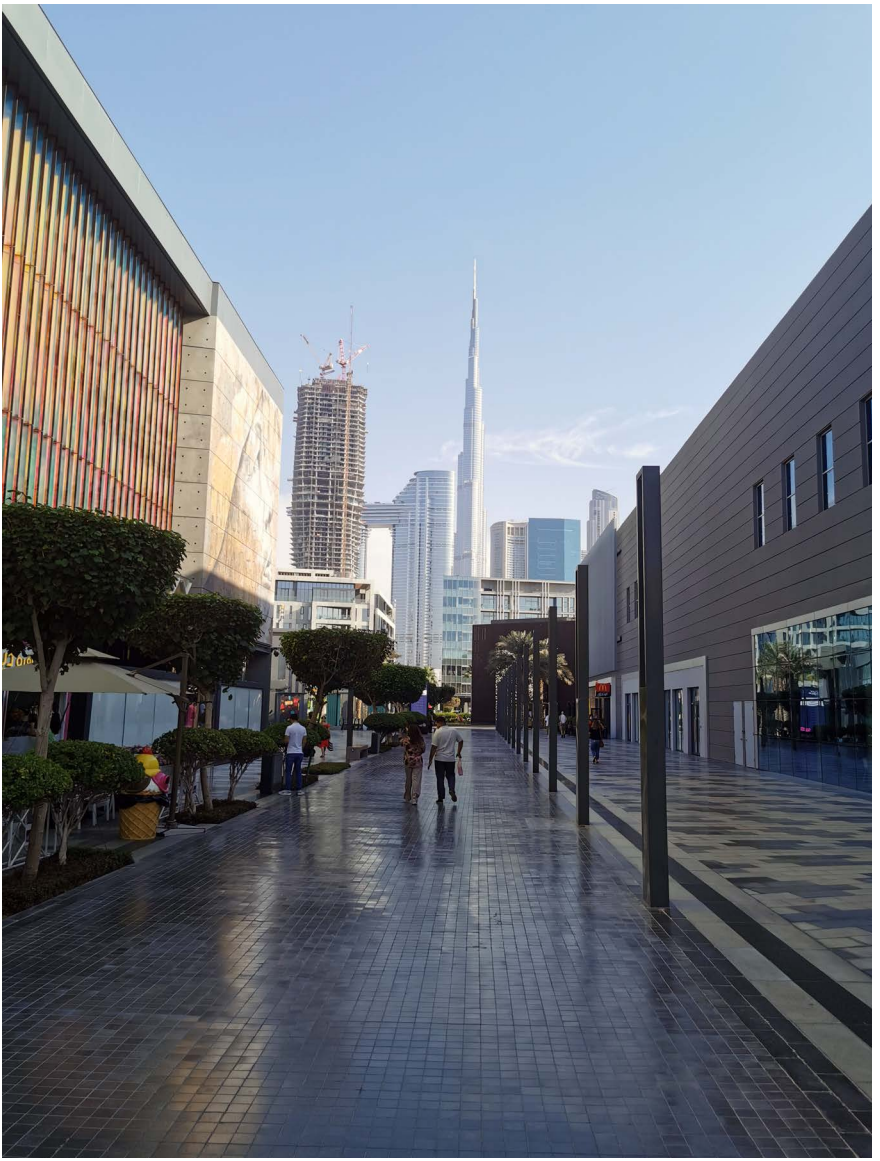

Fig. 3 – Dubai City Walk. View of a main street. Photo by Cristiano Luchetti.

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their lifestyle became a reality. However, it is clear that we should also investigate the implications of public spaces' privatization as we did in another text: "Dubai is, in this light, a true example of a contemporary city of the thousand prohibitions and private

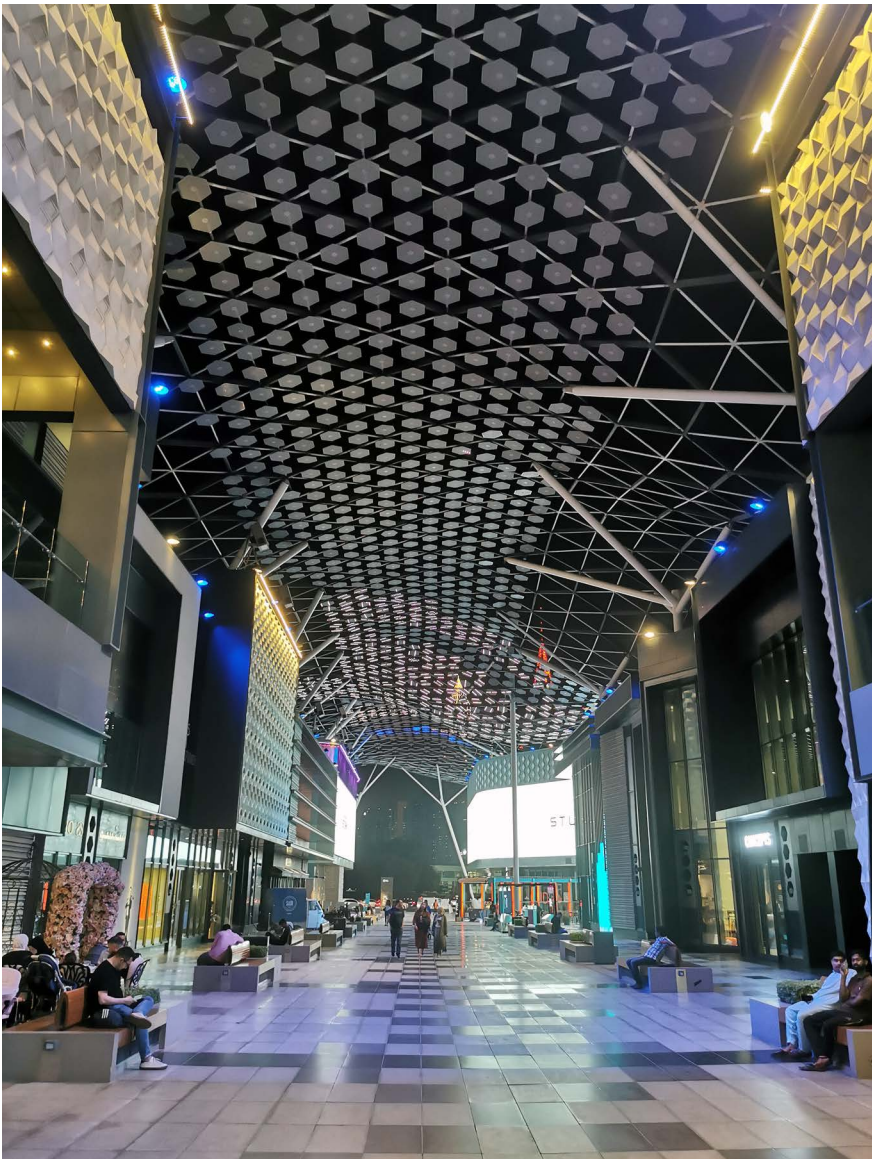

Fig. 4 – Dubai City Walk. An internal view. Photo by Cristiano Luchetti.

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spaces, strenuously defended and impenetrable to that part of society that does not entertain the level of consumerism auspicated by the developers. The actual public space is a rare and precious resource and frequently coincides with the unplanned space. It is, in fact, potentially, the place of the unexpected and the original creativity. It is the place of unpredicted (good or bad) surprises. Dubai's open and pedestrian areas offer anything that can be expected from a glamorous turbo-capitalist society, but they lack unexpected events of the not-designed emotion" (Luchetti, 2019).

Therefore, in this context, the search for public spaces, understood as in the European interpretation must be addressed to all those places that do not receive design attention and do not constitute predominantly commercial interest. From the beginning of the twentieth century until the 1960s, the "squares" of Dubai were places of meeting and social exchange. Then, with the cultural "westernization" in recent years, the value of such urban identities has disappeared and been replaced by the models described above (Ezzedine and Kashwani, 2019). The local population continues to use spaces to fulfill the community's needs of meeting and socialization. They occur mainly in the residual spaces between private homes and between buildings in central areas. However, there is no real public intervention strategy that can guarantee the quality of these resulting spaces because they cannot be attached to commercial operations. Therefore, they are relegated to functional and architectural informality. To underline their importance, however, we should remember that a large portion of the population of Dubai, made up of immigrant low-income workers, has limited access to the urban infrastructures offered by developers. That is why members of this parallel (but numerically dominant) society pour into buildings' interstices, street landscape, under the viaducts, and in all those places where one can meet with a minimum of comfort (fig. 5). Elsheshtawy calls them "central gathering point (s) for

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the cities migrants", which "are easily accessible, and contain a variety of activities" (Elsheshtawy, 2008).

Another fundamental aspect to consider is the climate of this geographical area. The United Arab Emirates territory is characterized by an arid climate with hot and humid year periods. Winter presents more favorable environmental conditions (UNDP, 2007). During specific periods of the year, this climate can become highly hostile and has always been a major issue to deal with by local populations. The extreme environmental conditions have heavily influenced the characteristics of society, lifestyles, and the economy. Without retracing all the changes in history and without remembering how vernacular architecture has absorbed these inputs, we can focus on the aspects that most concern this text. Or how the climate influences the design of public spaces in Dubai. First, we should remind that the public space is used, as in the rest of Arabia, mainly in the evening (Harvard UGSD, 2017) Of course, given these prerogatives, artificial lighting takes on greater importance than in other contexts. It becomes one of the crucial factors to consider during the design approach. Shading structures or devices that increase environmental

Fig. 5 – Immigrant workers sitting along a trafficked road. Photo by Cristiano Luchetti.

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comfort is recommended to extend usability hours. There have been countless design proposals in this sense. However, a solution that allows using open public spaces with an acceptable comfort level throughout the year is not possible. Moreover, when temperatures, as on some days of the year, exceed 50 degrees Celsius, the possibility of intervening in this climate is challenging, if not impossible. Moreover, the future does not appear to be promising. This climatic context will not change except for the worse shortly. Recent studies on the UAE and the Arabian Peninsula indicate that average temperatures have risen and will continue to rise even if not uniformly throughout the territory (UA-MCGE, 2021).

Conclusions

In this text, we have tried to underline some aspects to be taken into account in the design of public spaces in Dubai. The writing is not intended to be exhaustive. Still, it tends to recall only some main aspects that designers from different contexts and cultures may not immediately perceive. The future of the public spaces of the Emirate city represents a fundamental component of its urban scenario. This theme is addressed by a continuous flow of design experiments that are often not capable of being functional to its specific characteristics. Therefore, an in-depth preliminary analysis of its particular properties is essential, starting from the nature of Dubai's sociological, environmental, and urban context.

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Open Space.
Open Program: Towards the End of the "Curated City"

Apostolos Kyriazis

Introduction

Abu Dhabi and Dubai are two of the best cases of new, "oil" cities in the Gulf region, albeit with distinct growth parameters and strategies. Their transformation from local fishing posts to global hubs on a 50year stride makes a constant theme of academic exploration and economic analysis. In reality, this recently celebrated Jubilee is subdivided to specific time sub-frames with special political and economic conditions for each one. Architecture, urban planning and their spatial manifestation follow suite. From an organic, pre-oil architecture, we passed to the modernist urbanities of the early master plans, to post-modern superblock buildings and highway strips, to the spectacle cities of the tertiary sector and to the neoliberal bubbles of public-private partnerships and theme parks.

However, for the last fifteen years, conditions have been volatile enough to raise questions on the longevity of the current models of urban growth and their correlation to a much needed social cohesion. Both the global warming issue and the Covid19 pandemic have assisted in questioning our agony to return to the "normal", to a condition that has led the cities to their current situation (fig. 1). Therefore, one could wonder, what is next?

Could Abu Dhabi – a textbook city – shift its strategy? Could Dubai – that is based on a services' economy – adjust to new pathways? And even if they could, would they actually be willing to do it?

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Fig. 1 – Daily struggle and open space in Abu Dhabi. Photo by Apostolos Kyriazis.

The new Arab city public space; a brief history

The contemporary public space lies in the middle of this discourse, even though it has lost it contextual basis within the new Arab city, as it was drifted away together with the eradication of the pre-oil urban layers. However, it has inherited stereotypical views of the organic Arabic urbanism; the *souq* (street market), the *baraha* (pocket park), the *sikkah* (pedestrian alley), whose properties have been heavily altered today. It has been subjected to a strong gender monopoly deriving from sociocultural norms; a characteristic that is surely depleting with time but not fully left behind yet. It is spatially defined by a unique, one-way privacy filter, the private property plot walls; whilst privacy especially in housing is highly valued or even exaggerated, the public space is often customized and occupied as a transition zone by adjacent users and dwellers.

All transformations that took place within this 50-year stride at the urban form and the social structure are also reflected to

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the public spaces. The pre-oil market and the open spaces have partially been preserved at the remaining neighborhoods of Al Fahidi, Deira, Shindagha (in Dubai) and in old Sharjah, while Abu Dhabi has completely replaced the old settlement except from one building, Qasr Al Hosn, that is now surrounded by the urbanity of the 80s and 90s to the creation of a new context. During those early decades, the street life dominated the stage, as the organized public spaces (such as the *Corniche* and the *Khalifa Park* in Abu Dhabi and the *Zabeel Park* in Dubai) were a place for more official outings and celebrations, manifested by the fact that most of those parks were (and still are) gated with a limited amount of entrance points. Other parks, such as public beaches and the *Mushrif Park* in Abu Dhabi were still gender segregated until recently, while their landscaping usually followed geometrical patterns with rigidly designated areas for play and walk.

The passing of Sheikh Zayed and his succession by Sheikh Khalifa in 2004 not only raised the bar in terms of global aspirations (at least for Abu Dhabi), but also resulted in a series of more extravert public spaces with a special focus on mass tourism, such as the extended *Abu Dhabi Corniche* and the renewed *Mushrif Park*. However, the attention started shifting from the street to the mall. The cities moved from a diffuse, neighborhood-based arrangement of services and public spaces to overconcentration and zoning. The Abu Dhabi master plans of 1991 (by Atkins Global) and of 2007 (also known as the "2030 Framework Plan") endorsed such practices (Bani Hashem, 2019). Distinct housing zones were created for Emirati nationals and expatriates alike, with special free zones allocated for the most affluent of the latter (*Raha beach, Saadiyat island, Reem island, Yas Island*), while all efforts to regenerate the downtown superblocks have failed so far. Densities and land values aligned to those patterns in order to safeguard a vicious circle of real estate control. Tertiary services, especially related to tourism and culture started concentrating to specific areas of

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the city. So did the markets, that empowered and maximized the size and impact of shopping malls, using the extreme climate as an alibi for the marginalization of the on-street retail.

As a result of those policies, the low-density suburbs are saturated by asphalt, the expatriate communities have limited access to public spaces, the waterfront has been privatized and has also restricted (paid) access (Kyriazis and Apostolaki, 2019) and the skyscraper districts such as the *Business Bay* in Dubai and *Reem Island* in Abu Dhabi have been converted into a peculiar "park and ride" zone: The street is dead, according to Rem Koolhaas (Koolhaas and Mau, 1995). It is converted to a road network. Skyscrapers have been disconnected from their context via their podiums (Kyriazis *et al.*, 2021). The same for housing, since the transition from the courtyard house to the detached, "western villa", via the open-plot non-space (Kyriazis *et al.*, 2018). Therefore, the public space became an object, a polyline on a land use map, isolated from its urban surroundings and its social purpose.

The adventures of the open public space through the superficiality of post-modernity and the first glimpses of neoliberalism took a remarkable yet worrying turn during the second half of the 2010s. The cities were saturated by mega-malls with several indoor theme parks and major museums to open in Abu Dhabi soon, such as the *Seaworld*, the *National Museum*, the *Natural History Museum*, and the new indoor Ski center at the *Reem Mall*. Yet there were still several undeveloped urban areas on touristically interesting locations. However, due to fiscal pressure from the oil prices drop, most development options were limited to a public-private partnership model, through familiar developer schemes. *Al Bateen Marina*, *Marsa Mina*, *Hudariyat*, *Yas Bay* and *Al Qana* (in Abu Dhabi), the *Creek Harbor*, *Dubai Walk*, *Ain Dubai* and *La Mer* (in Dubai) are typical developments that combine a wide range of entertainment uses under spectacular – yet anonymous (corporate) architecture and a seemingly flowing public space.

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It was an effort to break the indoor rigidity of the typical mall and transfer a major part of the activities in open air; a possibly necessary risk, given the climatic condition of the region and at the same time the lack of further transformation options for indoor malls (fig. 2).

Are public spaces public?

The formal public space though is often far from public. It is over planned (with spaces that account to very specific uses) which usually leads to informal behavior (at an effort to customize a space that was designed both rigidly and devoid of any feedback and information from the end users). It is also over surveilled, a price that – according to many – cities of the region have to pay in order to enjoy their globally recognized civic safety distinctions. It is exclusive, or

Fig. 2 – An empty plot converted to informal parking at the Business Bay district in Dubai, photographed from the metro line. The vertical and the horizontal are completely disconnected because of the bulky podiums. The street is dead. Photo by Apostolos Kyriazis.

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not inclusive, as it often filters access depending on income (entry fees, sometimes too steep especially for big families), housing (entry only to residents of a development), disabilities (beach accessibility) and ethnicity or rather ethnical grouping (with central Asian immigrants being discreetly taken away from spaces on affluent parts of cities (Kyriazis *et al.*, 2021). Lastly, it is also an oppressing one, as its users may be subjected to additional rules that only apply on indoor, private areas. Photography is indicative on this point: some privately managed, open, public spaces prohibit photography with "professional" cameras, regardless of the lens they use, while allowing mobile phone photography (although mobile phone cameras are equally powerful nowadays). Security personnel often overreact to such cases, that are primarily based on the argument of privacy breaching but often extends to the prohibition of photographing the buildings' facades themselves, with very vague replies to the

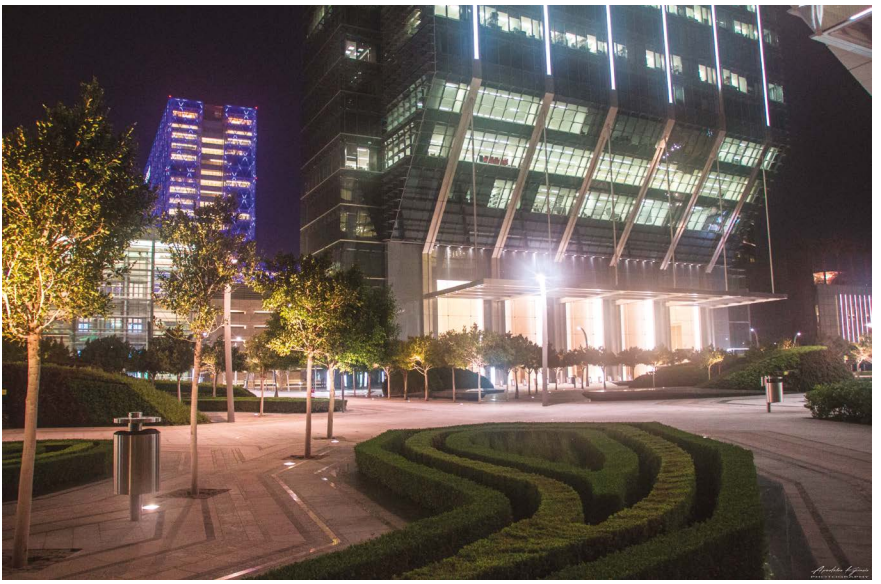

Fig. 3 – A Night view of the Galleria Mall plaza (also known as Sowwah square), designed by Martha Schwartz in 2014. Despite the interesting design proposal, the plaza was barely used and is usually empty, possibly due to its isolated location at the roof of the mall, elevated from the seafront level and disconnected from the street. Photo by Apostolos Kyriazis.

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question "why" (Kyriazis *et al.*, 2019). In a nutshell, ironically, it is not cultural norms that this practice is seemingly moving against, but an illusion of ownership and privileged rights over what should be a common right, a public good. The true consequence though comes in the form of sterile, "surgery room" public spaces. Spaces that are experienced – or are expected to be experienced – exactly like their rendered video representations. Predicted, mechanical, limited behavior, empty of character. Like a theatrical play in a constant playback for all participating actors/users. Directed public spaces. Curated neighborhoods.

The Expo2020 in Dubai may have been the last effort of such a large scale "curated city", of a care-free festival of wishful thinking. Its sustainability narrative, seen under the umbrella of multiculturalism that characterizes the celebrated demographic profile of all cities in the GCC region, even though it is currently endorsed on a non-political, pan-humanitarian, planet-wide agenda, it carries political implications, notions, support and – of course – resistance. So does the public space (fig. 3).

Political space – Informal space

Even though the urban governance models and oversurveillance allow little room for the presence of a political public space, this does not imply its total absence from the new Arab city. It only makes it more elusive. If one excludes the malls and the privately-developed public areas, the remaining choices would be the street and the informal spaces.

The street however has been converted to a "road" since the prevalence of the modernist movement (Gomes *et al.*, 2020), the master plans of the 50's and the 60's and the birth of the vast, "western villa" suburbia in the 90's (as aforementioned here). The road itself, despite its oversurveillance, has been a field of youth resistance and

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of social response to daily struggles, norms and rules (Menoret, 2014 a), maybe more in Saudi Arabia than in the UAE, Qatar, Bahrain and Kuwait, possibly due to the higher amount of local youth within the demographic mix. It may still contain surprises though, such as the continuous transfer of daily uses from the house to the automobile and creating opportunities for socializing and even flirting.

Informality may occur within formal public areas, but it usually takes place in neglected, undeveloped, overlooked spaces of the city, of both public and private ownership. It is unpredictable and everchanging. One has to be either lucky enough or well informed enough to come across. It is an indicator of urban health (Kyriazis *et al.*, 2021) of vibrant social structures, as well as of shortages of public provisions and facilities at the urban scale. As it carries the element of surprise and unpredictability, it is also relatively safe from bias on all socio-demographic properties. Informality provides voice to the voiceless. It enables ethnic and community bonding. It provides stress-free opportunities for participation, action, improvisation and promotion, at cities built upon a poorly acknowledged migrant labor (Wiedmann and Salama, 2019). It is a signal of resistance against an urbanity of rootlessness, of constant change (Elsheshtawy, 2019 b), where expatriates as well as buildings get "recycled", thus eradicating the cities' precious palimpsests. Therefore, it is informality that carries a political charge. Although not the same as the one that other global cities with major historical turmoil in Europe, Africa, and the Americas, such a charge is enough to function as an urban defibrillator for vibrance, governance and social cohesion (fig. 4).

Public space and social sustainability

However, informality is not enough to address the pressing issues on its own. It should be neither theofied nor demonized. It is a comprehension tool that only raises questions. Who does the city

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Fig. 4 – An informal game of volleyball on a carpet terrain by Indian and Bangladeshi people at an undeveloped plot of land in Shabiya, Abu Dhabi. More than 200 frames stacked in one image, thus highlighting action. Photo by Apostolos Kyriazis.

belong to? Who designs and for whom? And how can the urban morphology and the public space adapt and reflect the shifting climatic, cultural and economic conditions?

Given the extreme climatic conditions and the pressing issues of depleting natural resources in the region (Rode *et al.*, 2017), the rich and diverse sociocultural composition of the new Arab cities in the gulf and the willingness to improve and become paradigms within the new urban frameworks of the UN (UN, 2016) in a post-pandemic (Kyriazis, 2021), post-fossil fuel world, Abu Dhabi, Dubai and all cities in the whole region must be able to harness their cultural capital and simultaneously control the forces of neoliberalism. Whilst all discussions on sustainability equally focus on its social component – the human element, it is neoliberal economies, real estate markets and lifestyle-based space producers that limit the discourse on emissions, energy efficiency and green techs, the very fraction of sustainability that is easier to bargain, reach and sell (Koolhaas, 2014). Social sustainability

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though, is primarily reflected through housing and the public spaces and is streamlined and endorsed through more inclusive governance systems that may include more bottom-up approaches and participation-driven decisions (fig. 5)

Fig.5 – A golf course overlooking a high-end residential development under construction at a less-known corner of Yas Island, in Abu Dhabi. An exclusive (both literally and metaphorically) waterfront. Photo by Apostolos Kyriazis.

Closing remarks

The public space should therefore be embraced, but not choked. It has to be program-free, to avoid saturation issues, allow space for customization and incorporate informality as an integral part of its functionality. It has to be democratic, open, inclusive and interacting. Its architecture should evoke passive strategies and address real contextual issues that affect the daily lives of both users and owners. The public space should also return to the street, reactivate the ground floor level and connect neighborhoods, at an attempt to control the scale of things: the scale of urban sprawl, of free time, of mobility, of humane architecture.

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Appropriating the Public Pavement as an Extension of the Family Home: Temporary Urban Typology in Abu Dhabi

Lina Ahmad, Marco Sosa

Introduction

Until very recently, the majority of the urban city development in Abu Dhabi Emirate was mainly manifesting itself on Abu Dhabi Island. Since the country's formation, the city has rapidly grown and expanded, laterally as well as vertically. The city's character is in continuous flux, changing shape, form and appearance with the continuous formation of new districts and the non-stopping transformation of existing ones. Neighbourhoods increased in population subsequently increasing the urban fabric density; a progress that included the high-rise towers and skyscrapers growth, along with land reclamation process causing the coastline to stretch and extend further into the sea.

Abu Dhabi city today is a hybrid metropolis made from varied urban fabrics constructed over the past five decades. The buildings' aesthetic and appearance are very particular. They reflect not only the construction but also their contribution to the city's formation, thus defining the periods of physical materiality and construction methods. Driving through the various neighborhoods, through the spatial experience, appearances, tectonics and materiality, one can identify the approximate time of when urban blocks and building clusters were initiated. This urban growth over time has resulted in diverse urban fabric combining areas of concrete buildings mostly masked with a regional aesthetic, high-rise glass towers of global and

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international style, and several landmarks by renowned architects or consultancy firms. The later includes earlier examples such as: *Abu Dhabi Cultural Foundation* (The Architects Collaborative/1977), *National Theater* (Rifat Chaderji/1977), *Zayed Sport City* (Henri Colboc/1979), *Abu Dhabi Bus Terminal* (Bulgar Consult/1989) and *Abu Dhabi Old Fish Market* (Abad al-Radi/1992) (Menoret, 2014 b).

In addition to several more recent iconic projects such as Capital Gate (RMJM/2011), *Al Bahr Towers* (AHR - formally Aedas UK/2012) and *Abu Dhabi Louvre* (Jean Nouvel/2017).

Theoretical background

Small-incremental interventions with a city's urban structure is a world-wide phenomenon, with origins that trace back to the nineteenth century. Carl Smith in his study of Chicago refers to the city's disorder that gradually emerged to define its urban experience. He states: "reality, city, and disorder became closely related, if not interchangeable" (Smith, 2007). During that time, members from the society implemented small-scale urban improvements within their immediate neighbourhoods, refraining from any attempts to radically alter the city's structure (Kim, 2012). These autonomous small-scale efforts were deemed insufficient and were overtaken by ordered municipal city planning laws, governed by urban planners and architects in the 20th century (Reps, 2012).

The effectiveness of incremental change, and its correlation to the greater part has been debated in history. Jane Jacobs argued for a regulated urban change that is assessed within the context of other urban patterns and municipal activities (Jacobs, 2000). Christopher Alexander advocated for the emergence of individual freedom within ordered structured language (Alexander, 1978). And Lewis Mumford denounced the modernist city and questioned the additive effort of individualistic approach (Mumford, 1968).

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In the more recent years, a number of publications documented small-scale space appropriation initiatives highlighting the direct resident involvement in the improvement of public space. Roy and Rodgers documented Portland's Food Cart Revolution (Rodgers and Roy, 2010). Jonathan Lerner narrated strategies on Tactical Urbanism (Lerner, 2018). And Mimi Zeiger in four series reviewed and reflected upon emerging practices of small-scale interventions (Zeiger, 2018).

In the developing countries, the notion of unofficial public space use has a very different definition, where the unauthorized and unofficial public spaces use is a common witnessed daily phenomenon. It occurs as a direct response to the inhabitants needs in the form of irregular set-ups. It emerges with no consultation, nor does it comply to any pre-set managing rules. Its attributes respond solely to their creators needs in that particular time of their formation for the specific needed duration of the performed activity. As such, it can be argued that these spaces are not fully understood by the visitors and the observes, who are alien to the particularities of the derived local settings. A published report by UNHABITAT in 2012, included 11 cases study narratives reflecting on and describing the impact of placemaking processes (PPS, 2012).

Methodology

The field of study is contextualized to the geographic of Abu Dhabi Island excluding all other parts of Abu Dhabi Emirate. The excluded areas include service oriented industrial zones in Mussafah and Mafraq along with their integrated residential sectors; both located at the outskirts of Abu Dhabi Island. As such, the low to mid social group who work as service providers and generally exhibit a different notion of temporary space use are excluded from the study.

In addition to the locality, three main attributes were identified as common dominators used to identify temporary urban typolo-

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gy: To be situated on the public street and freely viewed by public street passers; To be position adjacent, or in close proximity to an inhabited residence; and To have a sense of identifiable order in the arrangement of its elements.

The authors conducted a general survey to identify a zone to conduct the study. The data was collected through direct-passive observation and content analysis, paired with a field dairy and photographic records following an unobtrusive research methodology. The collected data was then further mapped and analyzed. The theorem and derived proposition were subsequently tested through applied project implementation. The presented research is in two folds; Defining the setting and Observation and content analysis.

Settings and demographics

The city zoning developed throughout the years leading to the creation of the Abu Dhabi 2030 plan; a vision developed by Abu Dhabi Urban Plan Council for the city's 25-year development program. The 2030 land use framework reinforces the current functional distribution, where the land use across the west coast is allocated for private development. This specific typology designation has had a direct impact on the adjacent urban areas, zoned to be retained at low density, residential in function and limited to three-floor height. Thus, creating a buffer zone between the high-rises and the private palaces.

The UAE is multi-cultural society characterized by high ratio of foreign to local population; approximately 11% Emiratis to 88% expatriate (UAE/GP, 2022), out of which 12% are from the Arab region. Majority of the Arab expatriates moved to the UAE in the late 70's and early 80's, attracted by the opportunity to be part of a much-needed work force. They differ from the Western and Asian expatriates by having shared customs with the local Emirati, com-

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promised in the common language and religion. Their temporary residence has been masked by successive generations growing, working and residing in the country.

Ephemeral organizations

This research study sheds lights on those urban organizations within Abu Dhabi city that escaped the defined boundaries and merged to become a dynamic part of the streetscape. The uniqueness of today's local residential houses stems not from their luxurious looks, but rather from the adjacent spaced out, seemingly unordered, yet carefully placed elements forming different urban settings. This uniquely formed urban typology illustrates an exclusive method that inhabitants seem to have devised as a way of integrating their particular social customs and cultural needs into the concrete structures they occupy (fig. 1).

Fig. 1– Unofficial occupation settings. Photo and draft by Lina Ahmad and Marco Sosa.

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Though at time sometimes, these elements appear as permanent settings, their characteristics are masked by the constant shifting of need, usage, increase or decrease of space. The nomadic transitionary lifestyle of the region's past is reflected in the loose feel of the architecture of the objects. There is an ambiguity in purpose and form. The physicality of the object is not a perfect solution, but a vessel to facilitate an activity, a narrative or an occurrence to take place. It yearns spontaneity of use and misuse.

Observations and content analysis

Walking or driving through the surveyed zone has a very different feeling to the urban areas within Abu Dhabi city centre. This zone is located towards the west side of the island, and for successive years have acted as a buffer. It is characterized with a lower urban density resultant from the height limitation on the surrounding urban fabric, and subsequently lower population. While the width of the roads and parking designated areas remain similar, the roads in the lower density areas are much quieter as the scale of the built environment becomes more personal. It subsequently changes the relation and spatial feeling of the pedestrians. From high-rise towers to three or four floor height dwellings, this alteration in height to width ratio drastically changes the spatial experience, shifting the overall perception and the thoroughfare scale, thus directly affecting peoples' occupation, street usage, space perception and relation to the urban settings.

Houses in these areas, unlike their peer high-rise towers, have experienced a general slower pace of development and urban regeneration. Their occupants have resided in them for generations, thus appropriating and adapting them through time. In this area, it is much more enjoyable to experience the city on foot. One is able to slow down and meander between the alleyways (known as Sikah in the local Arabic language), gardens, front yards, and the formed in-between spaces

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(known as Barahaat in local Arabic language). Every now and then, it is possible to hear the sound of children playing, cockerels crowing, parrots singing and chickens making cackling noises, something that has a very strong resonance to the past and provides a warm content to modern living.

The less polished feeling and layers of use radiate the notion of time passage. As one deviates from the main road to the periphery streets, a different form of urban elements starts to pop out at unequal intervals; a group of chairs, shaded structures, swings, slides, water fountains, gazebos, chairs and sofas. These elements are scattered yet somehow grouped, unrelated yet form a setting, and are arbitrary yet seem to be carefully selected and arranged.

The residences of these areas mainly fall into two groups: middle class Emirati population and Arab professional expatriate families, both who seem to have broken the often-perceived notion of privacy and extended their occupation to the public realm unofficially claiming it, thus masking the street with a unique character and adding to it a very particular essence. Astonishingly, these unofficial occupations remain unnoticed to the passers on the main street, possibly due to their periphery location. Nevertheless, surrounding sub-street organization respectfully conforms to boundaries they set.

The tectonics, materiality and object selection all suggest the ephemerality nature of these settings. Yet, majority of them have existed there for quite some time. Their apparent transitory state responds instead to the seasonal change; not used during the extreme summer months when the temperatures can reach up to 48 degrees Celsius with 80% relative humidity (NCM, 2018), and utilized in the winter. These structures act as extended parts/spaces of the house and are treated with the same care and given equal attention. The spaces are exposed to the passing public and are occupied differently depending on the background of the residing family. For the Emirati household, they tend to be mostly used by the men of the family. Whereas for the other Arab families who have a different notion of privacy, it is

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possible to see different genders and ages occupying these spaces. Both groups are generous and hospitable to guests and passers, but the majority prefer to refrain from appearing in photographs.

The inhabited zones transition from being totally private (the space inside the house or behind the boundary fence), to semi-public space (the appropriated areas within the public realm), to public (the pavement and the street). Some of appropriated settings are demarcated with a physical barrier, a small fence, a mount or a bush. While in other instances, a sense of an invisible boundary projects an unspoken respect of privacy. Passers and pedestrians do not stare, jump over or walk onto these spaces, unless they are invited by their inhabitants.

Mapping occurrences along a defined trajectory

The surveyed zone was taken as a case study to analyze the forms and map the occurrences of the unofficial occupation settings. Marking their positions, the observed urban typologies of (un)temporary structures were classified to nine typologies (fig. 2):

A. Outdoor Majlis (a local Arabic words that means a living area): Built elements or vegetation is used to define the boundaries of this zone. The outdoor area is roofed and / or fenced, setting a clear definite none trespassing boundaries, yet maintaining the visual connection with the adjacent public street.

B. Fenced Zones: Confined boundaries clearly marking the demarcation line, either using mesh like material or linear planted vegetation. This maintains transparency, allowing visual connectivity but restricting access.

C. Outdoor-Indoor Majlis: Areas constructed from traditional tent materials and are climatically controlled. Though located in the public domain, they are private zones with a clear marked separation and a defined entrance. They demarcation suggests a clear physical segregation while preserving the visual connectivity.

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D. Informal Sitting Areas: Settings allowing various gatherings or get-together spaces, are conceived from the collation of various elements and intuitive organizations. They used elements vary from those associated with the traditional arabic settings – carpet and cushions, to an arrangement of sofas, or an organization of chairs around a table.

E. Scattered Pieces: Isolated chairs, sofas and benches in the street usually with their backs oriented to buildings walls or fences providing opportunities for observation and contemplation. This typology could be defined as interactive as though it belongs to the structure it is leaning against. It is the only typology that invited the public to sit and pause without the feeling of trespassing.

Fig. 2 – Typologies identified along an urban mapped trajectory of a surveyed path. Photo and draft by Lina Ahmad and Marco Sosa.

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F. Water Sources: This links back to an old Islamic tradition where providing public water to the passers was considered a high-rewarded act of generosity. The forms by which water is provided vary from stand-alone coolers to embedded sources that form part of the fence design.

G. Stocks: Cages and areas appropriated for pets and poultry, typically regarded as an uncommon sight within the city.

H. Children Play Areas: This includes slides, swings and trampolines positioned either as stand-alone elements or on an area zone that is often marked by a carpet or grass.

I. Gardening: Either elements that are appropriated or areas that are hoarded for vegetation growth.

Conclusion

Despite the specific locality and geographical specificity of the made observations, the authors recognize that these spatial conditions are not exclusive. Their aesthetic and language have traces encountered in other communities across different parts of the world. These traces are recognized through their unique typology derived from their form or material, arrangement or construction technology.

For example, on the road running north from the Dead Sea, there are spaces that are used as a truck drivers makeshift praying spaces. Maurice Mitchell questioned if these spaces are "repeated (there) or in other similar locations" (Mitchel, 1998). He continues, "the one-off sheltered local prayer stop might become a type well known alongside desert lorry routes". The statement implies an architectural language recognized by the users and possibly repeated in many other parts of the world.

Another example is the construction of fishing placements in Barcelona breakwater. The forming of carefully positioned structures as places to sit and rest. The uniqueness of these elements comes

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from the ownership demarcation process, painting the place white. In addition to protecting the metal from corrosion, the white surfaces indicate a possession and communicate a space belonging to a particular fisherman. Roman Domenech refers to this action as: "This reflects a simple, effective local tradition which has been learnt" (Domenech, 1996).

The collated observational research connotates the possible notion of space activation through the injection of human-scaled activity into a public space; a theorem on place-making person-centered design methodologies first addressed by Relph in 1976 (Relph, 1976) and Canter in 1977 (Canter, 1977). It is the rearrangement of the domestic elements that connects to the inhabitant need and preferred use and way of space occupation. Functions generated or defined by the placement and appropriation of familiar setting and the objects physical presence.

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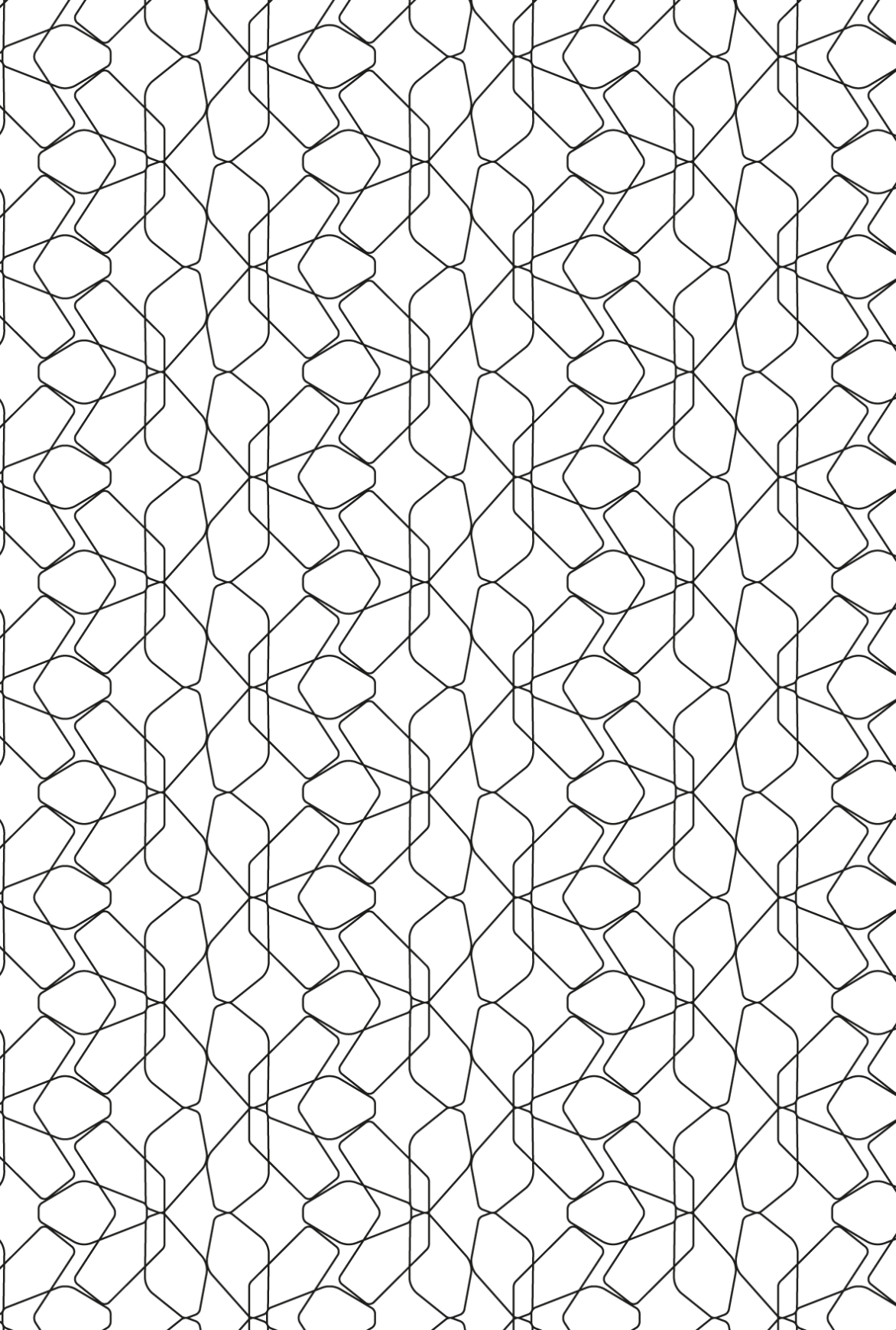

PART 4

Afterwords

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Afterwords

Massimo Angrilli

Introduction

A discussion around open spaces and "public" spaces in a city like Dubai, the global capital of capital-ism and neoliberal urbanism, seemed to me a sort of "stress test" for these concepts. Many factors, including the climate and the socio-economic system, seem to strongly influence the policies and planning of public spaces. Even the history of the Arab city and the marginal role that open spaces play in social life, shaped in large part by religion and the practice of prayer, make such a discourse difficult.

It was therefore foreseeable that the discussion and the works of the Mediterranean Urban Design & Regeneration Campus (MU-DRC) would concentrate, in the preliminary phase, on the attempt to focus on the specificities of a context culturally and geographically so different from the western city. With the invaluable support of fellow professors at the UAE universities, some points were quickly clarified, from which subsequent arguments were made. It may therefore be of some interest to summarize, at the end of this volume, the points discussed dur-ing the meeting held in the Italian Pavilion of Expo 2020 in Dubai.

Five key points of discussions

A first point of discussion concerned the ownership status of public spaces in Dubai, spaces that are almost entirely privately owned, al-

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though partially open to public use. Known in the literature as POPS (Privately Owned Public Space) these spaces are subject to rules, regarding uses and behaviors, dictated by the property. Some typical characteristics derive from it, such as access restrictions, often due to user selection (based on wealth and ethnicity) and other times the willingness to pay an entrance ticket; restrictions on personal and political expression; the rules on clothing, especially concerning the female gender, subject to strict dressing codes, such as the one that requires the wearing of abaya and hijab or niqab. In some of these POPS, in particular in the shopping malls, the so-called "courtesy policies", which govern behavior and clothing, are reinforced by the constant presence of security officers and closed circuit cameras (CCTV Cameras).

Connected to the first point, the second concerned the constant control of the behavior of the local population (turning a blind eye to those of tourists), which are leading to the sterilization of public space, purifying it of all those factors that make it a vital and dynamic component in a city: freedom of access and use, inclusion of users from all geographic origin and social backgrounds, the presence of accessible commercial activities (and not only for very wealthy customers) and places for socio-cultural exchange, and others. Without these components, a public space is configured as a parody, where it is not possible to exercise one's citizenship rights but only to stop and admire the obscene ostentation of luxury (Sardar, 2013).

A third point that was immediately observed, thanks also to the inspections carried out during the stay in the city, is the progressive and unstoppable interiorization of public spaces in commercial containers, equipped with very efficient air conditioning systems and all the comforts particularly appreciated by the city users, as well as the population from the UAE. The success of shopping malls is also partly due to the fact that the Emirati community considers them safe spaces, because they are subject to controls, and morally acceptable for their wives and daughters (Reichenbach, 2015). The

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corridors and cafes of the malls thus become substitutes for spaces for socializing, where you can spend time with friends, in a protected and controlled environment. Promiscuity with visitors, tourists and expats is also an added value, which offers a further reason of interest for those who want to enjoy a moment of relaxation by the stringent rules of conduct, without however breaking the rules.

In these indoor and domesticated spaces, where the distinctions between the private and public spheres are blurred, the achievements of Arab modernity are celebrated: climate comfort, consumption and the anxiety of control and security.

A fourth point that emerged from the discussions at the tables concerned the disappearance of the street in its role as a primary element in the network of public spaces, as well as a connecting corridor. For Marcel Roncayolo the street was the public place par excellence, where public alludes not only to the owner statute and the manager, but also to the collective and free use that can be made of it: "Sauf dans des conditionsassez exceptionnelles, la voie publique est l'endroit où tout le monde peut se retrouver, quelles que soient les origines or les occupations et dans une certainine mesure, le règles de conduite"(Roncayolo, 1993).

Roncayolo compares this vision with that formulated later by Modernity, which produces, through the separation between the different flows of vehicular and pedestrian mobility, the segregation of public space and the consequent failure in terms of relational potential. "Ce que l'on a vécu, à mon avis, avec la crise du Mouvement moderne, suite à sa tentative de ségrégation des espaces de circulation, c'est l'impossibilité de créer des espaces de circulation, c'est l'impossibilité de créer des espace de fréquentation. A partir du moment où la circulation automobile était isolée, le logement s'y retrouvait opposé. Entre les deux, on ne savait pas ce qu'on faisait. Une sorte de no man's land s'établissait there where the y avait auparavant une interférence. Je crois que c'est l'un des grands drames"(Roncayolo, 1993).

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Precisely this specialization and separation of vehicular flows has caused in Dubai, as in other metropolises, the progressive disappearance of the street intended as a primary element of public space. Moreover, the safety and ostentation requirements of one's social status also push the local community (with the exception of foreign workers and expats) to use private cars for all journeys, carefully avoiding public transport, which is considered unsafe, as well as unbecoming for women.

A fifth point clarified during the preliminary discussions concerned the functionalist and modernist matrix that inspired the planning of the metropolis. The principles on which the infrastructural networks were conceived, the distribution and location of the buildings privilege concepts such as the hierarchical ordering of roads; the prevalence of individual vehicle mobility; the direct connection of large equipment with the main communication routes; the reduction of the spatial density and corresponding increase of the heights etc.

The Dubai model and the anti-traditionalist approach

But to understand how the city under our eyes has given shape to its public spaces, we need to look at the recent past and at what has been defined as the "Dubai Model", as described in this book by the essay by Apostolos Kyriazis and by Lina Ahmad and Marco Sosa.

A model that, throughout the Eighties and Nineties, was a real laboratory for urban planning that declaredly aimed at renewing the image of the city in the Middle East, clearly detached from the clichés of the Arab city, made of low-rise, high-density tissues that represented Arcadia and tradition. One of the most striking gestures of the liberal and anti-traditionalist approach to urban planning of the emir-ate was expressed with the construction of the artificial island of Burj al Arab, a sort of offshore urbanism (Petti, 2008) motivated by the need to establish a casino disliked by the religious communities of Saudi

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Arabia on a soil that was not the sacred ground of Islam, a heterotopia necessary to avoid religious conflicts between the small emirate of Dubai and the Saudi emirates and to hold together the principles of Islam and those of turbo-capitalism (Ibidem, 2008).

If we try to put to work, in the description of public spaces in Dubai, the three categories of outdoor activities that, according to Ian Gehl, normally take place in public space, that is, the "necessary activities", the "optional activities" and "social activities", one would be led to say that in Dubai only the first category, that of necessary activities (ie the daily tasks and duties that the people concerned are required to do), take place in public spaces. On closer inspection, not even all of them, since some of them, such as going to school or work, take place indoors in cars, taxis and (for the less well-off) in public transport. For the rest, that is optional activities, such as walking or sitting on a bench in a park, and social activities, namely those activities whose performance "depends on the presence of other people in the same public spaces" (Gehl, 2012, p. 26) are very rare and limited at certain times of the year and day, when the climatic conditions are more favorable, or, as we have seen, confined to in-door spaces such as commercial malls, losing important attributes, such as freedom and spontaneity.

So from this brief reconstruction Dubai emerges more and more as a city made to measure for real estate companies, constantly moving away from what the past represents, where public spaces take on new roles and meanings, gradually becoming a product for the use and consumption of tourists: a well-kept space from which to admire the extravagant architecture (and from the Guinness Book of Records) and the luxurious shops windows.

The metaprojects explorations

Understanding all these differences compared to Western cases was fundamental to launch, as part of the Expo 2020 event, the meta-

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project explorations at the work tables (see Angelucci & Basti in this volume). The explorations focused on two pilot areas, located close to two shopping centers, the Dubai World Trade Center and the Mall of Emirates. At present these spaces are almost completely devoid of functions, with the exception, in the case of the World Trade Center, for some dehors which, despite being equipped with shading systems, are mainly used in the evening and night hours, when the attenuation of the heat allows the stay outdoors.

Looking back at the results of the work tables, some recurring ideas can be grasped, which can nourish a design vision for Dubai's public spaces.

One of these ideas is linked to the use of temporary installations, aimed for example at "ordering flows, creating shaded spaces and outlining meeting places for citizens" (Palestini, Di Cinzio, Pellegrini, Minischitti), installations that also offer the opportunity to reconfigure spaces, redesigning and enriching them with new functions. Ephemeral installations can become devices for connecting indoor spaces with outdoor spaces, obtaining a continuum that, with the right climatic comfort conditions, can expand the potential of one and the other. A hypothesis that would considerably reduce the gap, now clear, between internal spaces of comfort versus external spaces of discomfort. A gradual transition would also be advantageous for the well-being of people, as it would avoid the sudden change in temperature between outside and inside (and vice versa), which today can reach, and sometimes exceed, 20 degrees.

Another recurring idea concerns devices for improving external thermal comfort, which is sometimes realized with the use of passive systems, such as solar shading and plant materials (which however have limitations due to climatic conditions and water shortage), and sometimes with active systems, such as evaporative cooling devices, with or without nebulizers. In the experimentation conducted by Virginia Lusi the meta-design proposal concerned the "schematization of a cooling device consisting of fans that generate air movement

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thanks to the energy deriving from solar panels (shading + pv). This device, once installed on the ground, will be able to strengthen the air flow, capture solar energy, improve the thermal comfort of the open space, so as to allow easier conviviality of people and open towards a different experiential dimension". Also the plantation, according to Matteo Abita, could be a useful practice to enhance the comfort of the open space: "Plantations should also be introduced both outside and inside the shading volumes, in order to foster the reduction of CO2 production and the cultivation of local green species that are adequate for the UAE climate".

These solutions cannot be conceived simply as technological additions to the space, but must be an integral part of its design, as happens for the Miroir d'eau in the Place de la Bourse in Bordeaux: an installation designed by Atelier Corajoud consisting of a mirror of artificial water 3 cm high which periodically transforms into a gigantic urban air conditioner. Thanks to 900 nebulisers, the water is vaporized, visually transforming the space with a fog effect which, in addition to being suggestive, is also cooling.

Another idea that is worth exploring is that which looks to public spaces as family friendly spaces, introducing equipment characterized by a certain flexibility in use, which can perform uses such as those of catering or leisure. This strategy would make it possible to create elements of attraction capable of activating "city walk" processes, as already observed in other areas of the city (see Luchetti in this volume); moreover, as Valentina Ciuffreda states in her essay, "it would put this area in a different functional relationship with the city, overcoming the only decorative role it covers to date and transforming it into a new hub of regeneration".

But the problem with the open space in Dubai is not only that one of thermal discomfort, there is also a cultural problem and the real challenge is how "to create a livable and contemporary open space in observance of local cultural traditions now at risk of an increasingly predominant globalization" (Giulio Girasante).

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Finally, the idea of informality, discussed in this book by Apostolos Kyriazis, which in turn calls into question the ideas of improvisation and unpredictability, is an element that would give a voice to inhabitants with fewer rights, enabling connections and bonds between communities, offering opportunities for participation and inclusion. These ideals, although in contrast with the control objectives that characterize urban government, seem to put the social component back at the center, today present only in informal spaces, such as streets and spaces of minor importance.

All these proposals require, to be implemented, a paradigm shift in the design and management of public spaces in Dubai, a change that must be affirmed by university teaching and supported in professional training, but above all it must invest the decision making sphere and to this purpose events such as that of the Expo and, in a small way, of the Mediterranean Urban Design & Regeneration Campus can have their own importance.

This publication, and above all the network of universities that has been set up, want to help indicate a possible method, that of dialogue and confrontation open to all, without prejudices and without a priori convictions, around a project which in the relationship with places must each time assume a posture of empathic listening and emotional as well as intellectual understanding.

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Mediterranean Urban Campus for Regeneration at the Dubai 2020 Expo

Urban Open Spaces toward the New Challenges of Adaptivity

edited by Filippo Angelucci and Antonio Basti

Adaptivity of the urban open spaces to face the climatic, socio-ecological, multicultural and health challenges, raises questions with multiple design implications, which cannot be solved only with the functional, formal, and technical rethinking of the space.
A real adaptivity of the urban open spaces can only result from an informational redirection of the project aimed at raising the integrated capabilities of nature, individuals, organizations, and spaces. This is an interpretation of designing that involves a substantial rethinking of scenarios, visions, and concepts, in terms of plural projection of multiple, flexible, and reversible responses. It is also a new condition of the design experience that can only develop through an interdisciplinary and choral practice, based on comparison and continuous dialogue between different design knowledge and living cultures.
This volume collects the results of the Mediterranean Urban Campus for Regeneration project, that was selected by the Italian Ministry of Foreign Affairs among the initiatives carried out at the Italy Pavilion of Expo 2020 in Dubai. All the activities were conducted by an international universitarian team of professors, researchers, and PhD students.
Today, the metropolis of Dubai is characterized by an extreme climatic-environmental conditions and, at the same time, by an almost infinite capacity to regulate the living spaces through the most innovative technologies. The theme of adaptive design of open urban spaces has been contextualized in some case-study areas of Dubai. The results of the metadesign, debate, workshop and comparison process between the participants outlined a complex framework of different development trajectories, both for the designing innovation of the urban open spaces, and for the launch of new teaching methods of architectural, technological, and urban project. This experience has made it possible to identify issues, approaches, and design criteria – on urban and building scale – potentially replicable also in the Mediterranean contexts that are today affected by an exacerbation of climatic phenomena, such as the rise in temperatures and the consequent need to overturn the consolidates axioms and design practices. For these reasons, the experience of the Mediterranean Urban Campus for Regeneration can represent a useful anticipation of operating methods to be transferred on the Italian urban territories. Reflecting on these issues means understanding how the university research can take an active role in the development of studies and scenarios to support the operational actions at the land and local level.

Filippo Angelucci, architect, PhD on Environmental Design, is Associate Professor of Architectural Technology at the "G. d'Annunzio" University of Chieti-Pescara. His research activity concerns the technological and environmental innovations for the design of the in-between spaces as relational, process, and performative interfaces at landscape, urban, and building scale.

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