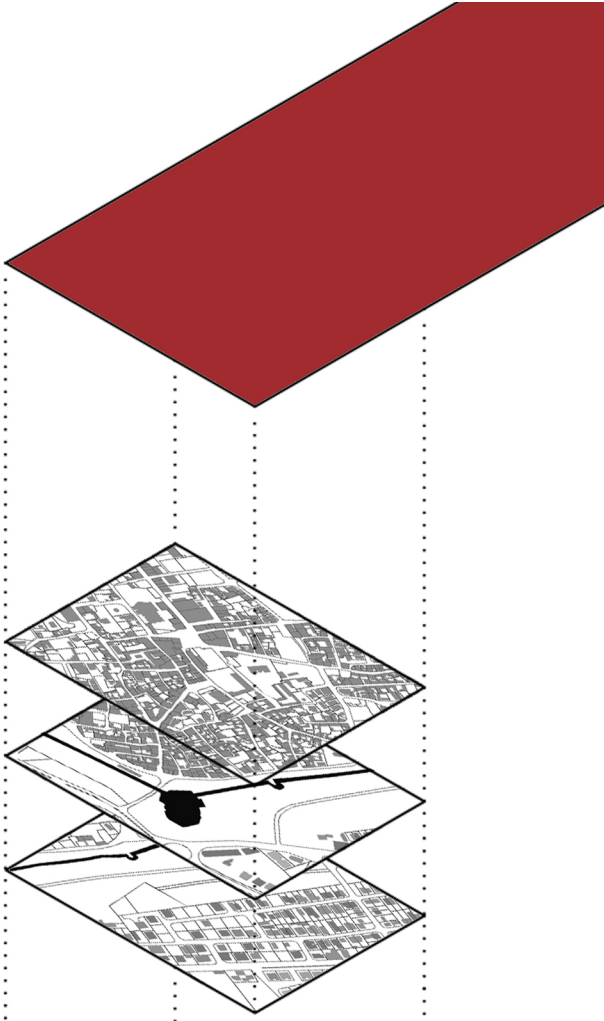


Journal of Urban Research and Development

https://ojs.emu.edu.tr/index.php/jurd

Vol.2 No.1
Fall 2021

In this issue:

Topics:

Urban Space
Construction Development
Urban Morphology
Sense of Place
Streetscape Mapping

Eastern Mediterranean University Press

Journal of
Urban Research and Development

Fall 2021
Volume 2
Number 1

ISSN (printed): 2822-2806, ISSN (online): 2718-0697

Corresponding address:
Journal of Urban Research and Development
Eastern Mediterranean University
Famagusta, Northern Cyprus
(Via Mersin 10 - Turkey), 99450
Phone : +90 392 630 2588
Fax : +90 392 630 2865
E-mail : jurd@emu.edu.tr or sebnem.hoskara@emu.edu.tr
Website: : https://ojs.emu.edu.tr/index.php/jurd/index

Cover Art and Design:
Aminreza Iranmanesh

ISSN (printed): 2822-2806

ISSN (online): 2718-0697

Journal of
Urban Research and Development

Fall 2021 Volume 2 Number 1

Journal of
Urban Research and Development

Fall 2021
Volume 2
Number 1

Editorial

Challenges to the Environment

When the Journal of Research and Development was launched in 2020, we aimed to enrich existing research on urban-related issues that focus on theoretical contributions in the field and integrate praxis relevant approaches - contributing to urban development in different scales. Especially research that could have a direct impact on achieving the Sustainable Development Goals (SDGs) set by the United Nations in 2015 are essential to learn from and adapt to other relevant cases.

We intend to publish research from diverse disciplines that discuss topics affecting societies and the environment, contributing to challenges that we are all in now. Climate change, urban poverty and injustice, uncontrolled urbanization, and reduction of natural spaces and resources are just some of the challenges we face in our century.

The ongoing Covid -19 pandemic revealed that we must rethink city life in general and the urban spaces. The crisis has shown us that there is a need for change – change in how we deal with our natural and built-up environment, change in how we design and plan our public spaces. It also showed us that we should not take the way we used to live in the cities for granted. We are still haunted by the pictures of empty public spaces in major world cities since the Covid-19 pandemic had appeared in 2019. No one could have imagined an empty Piazza San Marco in Venice or Trafalgar Square in London. Ali A.Alraouf, in his recent publication 'The new normal or the forgotten normal: Contesting COVID-19 impact on contemporary architecture and urbanism', mentioned correctly that crises also present opportunities for cities*. In this sense, inventing new and maybe unorthodox solutions to re-design and enliven urban spaces might be one of the new challenges for urban planners and architects. Approaches to face these challenges considering cultural and local values, best practices, and societal concerns are crucial for a better-quality urban environment and sustainable development.

In our second issue, we introduce research from different perspectives on urban-related issues such as planning for liveable cities, examining urban form in geographical and cultural context, resource management and the importance of production of social spaces in the public spaces.

Nikos Salingaros provides an insight on how Design Pattern Create Human Scale and urges the need for more human-scaled urban design to create humane living environments.

The research of Ilenikhena L. and Adindu Ch. focuses on the need for more awareness and adoption of Value Management techniques in construction projects in Nigeria in order to sustain construction resources.

Abaee M. and Oliveira V. are exploring the contemporary urban landscapes in Tehran, Iran by creating a morphological framework through Morpho methodology.

The research of Erkan Öcek, R. explores the human behaviour in the public space, in particular play, in relation to Sense of Place and the social space.

Özgür M. and Akpınar I. explore the relationship between urban space and everyday life by applying alternative mapping techniques in the neighborhood Moda, Istanbul.

We hope that you enjoy the second issue of Journal of Urban Research and Development (JURD) and the topics provided were interesting to you. Furthermore, we would like to invite you to contribute to the future issues of the JURD with your respected research.

Editors
Journal of Urban Research and Development (JURD)
Eastern Mediterranean University
Urban Research and Development Center

Rules for Urban Space: Design Patterns Create the Human Scale

Nikos A. Salingaros

Departments of Mathematics and Architecture, The University of Texas at San Antonio, San Antonio, Texas 78249, USA.
Email: *salingar@gmail.com*

Journal of Urban Research and Development
2021, Vol. 2 4-16

https://ojs.emu.edu.tr/

Abstract

Urban geometry and details can help people enjoy healthier lives, and to live them more fully. The failure of postwar Industrial Modernism was made obvious by psychological illness experienced during the COVID-19 lockdown. A new toolkit for adaptive design combines the patterns of Christopher Alexander with recent results from perception science. Understanding people's interaction with urban space selects from among two opposing design options. A science-based approach uses updated traditional design tools to humanize our cities. Societies that adopt these rules focus on boosting human health and emotional well-being as their priority. Older pre-industrial techniques — long condemned and suppressed for stylistic reasons — prove to be far superior for human psychology and long-term health. The opposite approach of image-based design, however, suppresses human feelings. Extractive global construction creates spaces that nobody wishes to use.

Keywords

Urban Space, Plazas, Design Patterns, Human Scale, Adaptability.

Introduction

This paper describes how to improve the design of urban spaces. It is a plea for human-scaled urban design as a reaction to the image-oriented city formed of iconic structures and stylish urban spaces. The city's "life" depends upon its pedestrian spaces in front of, around, and next to buildings. Planners are not normally taught why urban space is an essential ingredient of a living city. Nor is anyone else in the chain of the regulatory system that oversees urban interventions. Industrial Modernism destroys useful public space, by making its detailed geometry hostile and unfriendly, so that users get little emotional nourishment from their immediate surroundings. The radically different design toolbox presented here could launch a new era of welcoming public space in cities.

All traditional societies recognized the central role that public space plays in the happiness and health of urban dwellers. Timeless rules for designing urban space that optimizes human well-being, discovered independently and implemented throughout the world and across cultures, were abandoned, then forgotten in the push to prioritize the car city. With a growing realization of two disasters — the declining health of residents, and unsustainability — UN-Habitat has tried to resurrect those forgotten practices (Mehaffy, 2021). The newly-recognized value of public space in a city's cultural and economic development demands new (or re-discovered) urban design tools.

Social behavior and interactions are emotion-driven, facilitated by biological responses to environmental stimuli. A geometry that is comfortable to experience tells us we are in the right place. The feeling of well-being is due to information interacting with the geometry of the environment (Ortiz et al., 2017). This unconscious mechanism of a user's engagement depends upon dynamic behavioral interactions. People need to be reassured by seeing

organized complexity, otherwise the brain slips back into a default vigilant state. Whenever that happens, we don't feel safe in that place and are too anxious to engage socially — thus wasting the public space.

Christopher Alexander warned designers of the harmful effects of environmental geometries that stress the user (Alexander, 1979: p. 114): "The build-up of stress, however minor, stays within us. We live in a state of heightened alertness, higher stress, more adrenaline, all the time. This stress … becomes a huge strain on the system. Since the organism's capacity to enter the stressed state is already partly 'used up' because it is perpetually in this state, our capacity to react to real new problems, dangers, and conflicts goes down, because the organism is constantly exhausted by the perpetual state of stress." This constant stressor comes from the wrong mathematical qualities of the post-war built environment.

Concepts mostly new to urban planning such as biophilia (Kellert et al., 2008; Salingaros, 2015), complexity (Jacobs, 1961; Salat, 2011; Salingaros, 2018), eye-tracking and visual attention simulation scans (Lavdas et al., 2021; Salingaros and Sussman, 2020), fractals (Batty and Longley, 1994; Crompton and Brown, 2008; Salingaros, 2013; Taylor, 2021), networks (Alexander, 1965; Mehaffy and Salingaros, 2015; Salingaros, 2005), neuroscience (Ruggles, 2017; Sussman and Hollander, 2021), and deep symmetry (Mehaffy and Salingaros, 2021; Salingaros, 2020a) offer us a healthier way of designing a city. The applied basis for these principles is derived from scientific inquiry and experiment.

The existing design framework known as "Pattern Language" relates intimately to these innovative developments. The pioneering handbook by Alexander and coworkers (Alexander et al., 1977) codified and summarized practical design relations extracted from built urban fabric, stated as socio-geometric "patterns". Michael Mehaffy and coworkers recently followed up with a new collection (Mehaffy et al., 2020). Design patterns evolved over centuries or millennia, but needed to be discovered as embedded in complex configurations, then documented (Leitner, 2015; Salingaros, 2017). Whereas mainstream architectural and urban design ignores design patterns, computer scientists enthusiastically adopted the concept as a useful means of organizing complexity (Cunningham and Mehaffy, 2014).

A city that aims to accommodate pedestrian life has an overriding need for socially-attractive public spaces (Efroymson et al., 2009; Jalaladdini and Oktay, 2012). This rule is summarized in a new design pattern (Mehaffy et al., 2020).

- New Pattern 2.3: PUBLIC SPACE SYSTEM. Lay out every city, and every increment of a city, as a system of inter-connected public spaces, large, medium and small, including streets, squares, parks, and the public areas of buildings. Make these spaces walkable and pedestrian-friendly, with attractive destinations at frequent intervals. Assure that every residence is within 200 meters of an active public space.

In an age of virtual design tools and computer games modeling urban growth, reversing antisocial planning practice is easy. Look at how a spontaneous city forms in the open spaces of post-war housing projects — either virtually, or where this has actually happened on the ground (Salingaros, 2021). The result is a distribution of open spaces all linked together. The state technocrats' vision of "efficient", isolated housing blocks sitting in vast concrete plazas or lawn is in reality a most inefficient typology. Geometry needs subdividing into a distribution of smaller scales to become "alive". Yet urban space also has to be protected from invasion, semi-surrounded by walls having sufficient architectural detail and visual interest to endow a sense of "life" to that space (Salingaros and Pagliardini, 2016).

Paths create the life of public space

We comprehend urban space by taking the paths that crisscross it. A public space is a receptacle of multiple pedestrian paths that coalesce. The open space should accommodate an infinite variety of possible cross-paths and not restrict pedestrians to a single narrow path. Where a person chooses to walk is strongly influenced by the surrounding information field — and depends upon the entire surroundings. Visually attractive goals unconsciously draw a pedestrian to move in a particular direction (Zacharias, 2001). Information embedded in the building façades, or other objects such as trees, helps to create a sense of psychological security that encourages the experience of walking in the open.

A Pattern Language (Alexander *et al.*, 1977) anticipates two notions later used by writers on biophilia: "refuge" is a psychologically safe space where we feel free from threat; whereas with "prospect" we see locations some distance away that attract us (Browning *et al.*, 2014; Kellert *et al.*, 2008; Ryan *et al.*, 2014). These two psychological states are fruits of human evolutionary development. Therefore, every portion of the spatial environment along a path must offer refuge so that a person feels safe while negotiating that journey. At the same time, a prospect offers us a range of goals for our journey, inviting us to leave our comfortable refuge and move toward them.

Three Alexandrian design patterns link emotionally-usable public space to paths, as presented here with my own summaries (Alexander *et al.*, 1977):

- Pattern APL 114: HIERARCHY OF OPEN SPACE. Satisfy the feeling of having one's back protected by a solid structure (refuge), while being able to see out to the world (prospect).
- Pattern APL 120: PATHS AND GOALS. Compose a path as a sequence of intermediate destinations. Flow is governed by the body's instinctive movements and psychological reactions.
- Pattern APL 121: PATH SHAPE. A successful path is also a welcoming space for people to linger in if they are not in a hurry.

Interactions with the built environment determine human behavior, often in surprising ways. People tend to avoid exposed open space and prefer to walk along its protected edges or perimeter boundaries (Salingaros, 2005: pages 32-33). Ann Sussman and Justin Hollander (2021) discuss this mechanism of *thigmotaxis*, defined as how animals move in response to edge conditions. Research finds that not just humans but organisms going back in evolutionary times avoid open spaces and stick to protected edges. The edges help us feel safe; they also efficiently orient and create a "mental map" of our surroundings.

The body's intuitive response — an unmistakable visceral feeling reacting to hormones and nerve signals — decides whether the environment is safe or not. The human perceptive system is exquisitely designed to detect variations in the quality of our surroundings. We adapt our behavior accordingly. A spatial configuration, translated subconsciously into an intuitive assessment of where we are, can be evaluated only in person, directly, using all of one's senses. Our perceptual system is the only qualified and dependable judge of whether being in a spot is good for us. Such judgments cannot be made from pictures, architectural drawings, intellectual arguments, or others' opinions.

Life couples us to the structures we inhabit, therefore the whole physical setting directly influences the actions of the individual user. Pedestrian movement is determined to a large part by the complex information field to which we are exposed at any moment (Lavdas, Salingaros and Sussman, 2021; Salingaros, 2005; Zacharias, 2001). We may, as ambulatory animals, have the freedom of choosing where to walk, but unconscious forces are far stronger than is usually realized. Adaptive design takes into account our changing visceral responses as a result of movement — the dynamic versus the static nature of information, which are entirely different.

Wayfinding depends on our perception of changing environmental information. Markers and signals help us navigate a space by continuously reinforcing how we are drawn to flow through it; or, conversely, signals hinder our movement with psychologically confusing cues (Lyons Stewart, 2015). People respond intuitively to the information patterns of floors (Salingaros, 2014: Chapter 7). Visual floor patterns engage us and strongly influence the direction in which we move forward, making it easier to stay on the path. Floor surfaces that are too plain visually lose any psychological utility and do not help to guide circulation and movement.

Ignoring neuroscience, conventional architectural practice imposes paths as abstractions on a plan, using blank paving, or with irrelevant visual patterns that violate the flow. Artistic intent trumps human nature. People get disoriented because the architect did not adapt the design to help direct the movement naturally (Lyons Stewart, 2015). Ambiguous or even contradictory signals come from the designed environment as we move. Deterministic paths by which we are forced to navigate spaces can be disturbing — often generating the sensation that we would rather walk elsewhere but are thwarted by obstacles blocking our passage.

Instead of designing public space as a container of spontaneously-generated pedestrian paths, an architect determines the plan of a plaza artistically in the studio. This naïve approach, indicative of how the profession has lost touch with reality, doesn't work. "Design" is limited to playing with the aerial view of an open space inserted between buildings. Then, as if by magic, pedestrians are supposed to walk exactly where the architect intends for them to do so (the "reverse-causation fallacy"). Of course, that will never happen in practice, which is why most post-war public spaces tend to feel dead and remain unoccupied.

The "fifteen-minute city" is permeable to pedestrian flow

Families locked down in their apartment or house as a result of the COVID-19 emergency have suffered severe psychological stress, and the children have suffered the most. It became evident that modernist planning disconnects interior from exterior spaces. The cementification of contemporary cities, with the elimination of easily-accessible local green spaces and parks has had catastrophic effects. But intimate contact with nature turns out to be essential for human health (Aresta and Salingaros, 2020).

People will use a plaza situated at a point in the pedestrian network where multiple flows cross. The geometry channels flows on many different scales. A functioning urban space is a complex node

concentrating pedestrian paths from the surroundings. If a plaza is the only open space within a large urban region, people might actually come to it, but a geometrically "hard" design and hostile urban furniture will compel people to detour around it. Dreary, unused contemporary plazas, observed the world over, ignore the logic of pedestrian flows. Three new design patterns help to ensure the emotional quality of the pedestrian experience (Mehaffy *et al.*, 2020).

- New Pattern 2.1: WALKABLE MULTI-MOBILITY. Make walkability a pervasive characteristic of the city, with special emphasis on the 400M through street network, and the mixed residential areas within this network. Coordinate the walkable network with other modes of travel, including well-distributed multi-modal hubs for public transit.
- New Pattern 4.2: PEDESTRIAN SANCTUARY. Lay out the streets within the principal through streets as slower, narrower and more irregular lanes. Do not attempt to optimize for flow, but deliberately give the priority to pedestrians through design.
- New Pattern 4.3: NEIGHBORHOOD SQUARE. Create neighborhood squares adjacent to neighborhood through streets, and at nodes where commercial activities are present or likely. Place them where climatic and other physical conditions make sitting there attractive.

Successful urban space defines a pedestrian catchment region (Pafka and Dovey, 2016). Use depends critically upon three independent factors: (*i*) having a pool of pedestrian activity in several surrounding blocks to draw from; (*ii*) informational interest that attracts people to the space; and (*iii*) street and sidewalk design that permits easy pedestrian access to the plaza through its permeable perimeter. Surrounding paths bring pedestrians to cross the plaza, and street furniture accommodates users who are channeled to walk towards and cross into the public space. Anything inside the plaza that is likely to attract users visually is of secondary importance to the paths: even a statue of General José Olivaro — Glorious Hero of the Revolution! — is not enough.

Adaptive design accommodates all human spatio-temporal scales. Through its physical design and placement in the wider network, an urban space should invite people in a hurry to cross it (2 min) instead of taking a parallel external path. This process corresponds to "catchment" of local pedestrian flow, diverting it to feed the plaza through emotional attraction, not by an imposition of the architect's will. While traversing the space, people's attention should be drawn momentarily yet repeatedly to architectural details in the surrounding façades (2 sec), and to possible greenery in the square. Other users must be attracted to stroll at a more leisurely pace (10 min), and some to sit down and relax (15–30 min). Families with young children should feel welcome to stay (30–60 min or longer).

To guarantee the "feeding" of the urban space, mixed-use buildings three blocks deep surrounding the plaza have to supply potential users: this span correlates with a 5 minute walk. Some of those pedestrians will naturally walk alongside the plaza, and people will choose to cross the urban space, but only if the environment and path structure are welcoming. A percentage of those users might decide to linger. There is a distribution of time periods for different users, or even for the same user on different occasions: to stay for anywhere from 1 minute to 1 hour (Pagliardini, Porta and Salingaros, 2010).

Envisioning the plaza or park as the nucleus of a roughly circular pedestrian catchment region, a 5-minute walk on both sides together with the time it takes to cross the urban space (2 minutes) brings us close to the 15-minute city (Duany and Steuteville, 2021; Krier, 1977; 2009; Moreno, 2020; Moreno *et al.*, 2021; Scruton, 2008). This "new urbanist" concept for restructuring cities devastated by industrial-modernist fancies is now enjoying a welcome comeback, especially after the world experienced the shock of the Covid-19 lockdown. The defining feature is a mixed use, walkable urban fabric. But single-use zoning in the surrounding blocks severely restricts the number of users and their frequency throughout the day.

Urban space needs to be protected from encroachment by parked cars and vehicular traffic. Utilize wide and raised sidewalks, arcades, bollards, etc. to protect the pedestrian, direct the traffic, and keep cars outside the pedestrian realm. We could provide tangential vehicular flow to "feed" the plaza, but at the same time make it impossible for cars to enter and take it over. Restrict vehicular flow to one or two sides maximum, otherwise an urban space entirely surrounded by roads is effectively cut off. The essential concept here is to plan for easy access and transit for pedestrians, but access with very restricted transit for vehicular traffic (Salingaros, 2005; Salingaros and Pagliardini, 2016).

Alexandrian patterns define attractive urban space

"Living" space envelops and nourishes us. This primal, biological sense of space goes far beyond strict utility. Urban spaces are the "neural nodes" of the city, connecting the flows that bring it to life. Evidence-based properties of living spaces exist on a much

deeper level than we normally design for. Many designers paradoxically reject this toolbox because of ideological prejudice. Modernist-trained architects study traditional urban fabric but fail to implement the informational structure of older buildings when designing something new.

A Pattern Language (Alexander *et al.*, 1977) defines urban spaces that invite users (Leitner, 2015; Salingaros, 2005; 2017). I list some of these urban space patterns here: for copyright reasons, the following summaries are my own. The reader is urged to consult the original statement for each numbered pattern, which includes research material giving detailed supporting arguments and/or scientific validation.

- Pattern APL 60: ACCESSIBLE GREEN. People will only use green spaces when those are very close to where they live and work, accessible by a pedestrian path.
- Pattern APL 61: SMALL PUBLIC SQUARES. Give public squares a maximum width of approximately 60 feet (20 m). Their length can vary. The walls enclosing the space, whether partially or wholly surrounding it, should make people feel as if they are in a large open public room.
- Pattern APL 106: POSITIVE OUTDOOR SPACE. The built structures partially surrounding an outdoor space, be it rectangular or circular, must define a concave perimeter boundary, making the space itself convex overall.
- Pattern APL 119: ARCADES. Use an arcade on one edge of urban space to link all building entrances along that side of the block. The space under the arcade is a crucial transition region between indoors and outdoors.
- Pattern APL 122: BUILDING FRONTS. Avoid building setbacks and instead build up to the urban space or sidewalk. This requires re-writing modernist zoning codes that impose setbacks.
- Pattern APL 124: ACTIVITY POCKETS. The success of urban space depends on what can occur along its boundaries. A space will be lively only if there are pockets of activity all around its edges.
- Pattern APL 171: TREE PLACES. Trees shape social places, so shape buildings around existing trees, and plant new trees to generate a usable, inviting urban space.

An enveloping and reassuring space will be readily used. A pedestrian should feel comfortably "embraced" by public space (Alexander, 2005; Salingaros, 2005). Our body signals with either a fight or flight reaction (in unwelcoming urban spaces) or, under the appropriate circumstances, it could tell us that staying and experiencing this particular environment is healing (Ruggles, 2018; Sussman and Hollander, 2021). Biology contradicts the popular architectural images linking contemporary design to fashion, ideology, innovation, politics, progress, style, etc. Our body reacts the way it has evolved to do so, and it's time for design professionals to learn this basic fact.

No architect or planner talks about the "life of the site" nowadays, since that concept contradicts Industrial Modernism. The long-neglected adaptive approach shapes geometry to enhance emotional "life", and relies upon perceiving, then liberating the essential configurations inherent in the site (Neis, 2017; Salingaros, 2020b). People only care for what they love: the basis for a profound sense of urban community. We love something we have created and shaped, hence active user participation leads to a deeper sense of ownership than simply buying a place (Alexander, 1979; 2005).

The living city needs a connected "necklace" of public spaces in a range of sizes according to an inverse-power (fractal) distribution: one or two large open spaces, several of intermediate size, and very many local public spaces of quite small size. Open space in spontaneous cities evolves into a complex morphology, an organic process that reveals concentrated left-over space around buildings to be a mistake (Salingaros, 2021). The distributed morphology of urban space flies against industrial simplification, where a large open space surrounds isolated large-footprint buildings. Post-war planning creates deficient urban space — too much of it, but never used because it has the wrong geometry.

Industrial Modernism makes large-scale open space too exposed to feel comfortable in (so as to look nice on a photo), and eliminates intermediate spaces such as arcades (porticoes). Even where arcades are built, the industrial aesthetic sets inhumanly large dimensions — the pedestrian feels exposed and vulnerable rather than safely protected by the structure. Humane urbanism opens up to and welcomes the user, whereas Industrial Modernism is invariably hostile to the pedestrian. These antagonistic goals oblige dominant architectural culture to reject documented design patterns for urban space from its design toolkit, which is image-based (Salingaros, 2005).

After the Second World War, modernist-trained urbanists obsessed with industrial production quietly took control of the planning profession. They changed the urban codes to guarantee that all cities evolved towards strict industrial-modernist typologies. This was a tremendous victory for those who desired the formalist city for ideological reasons (and perhaps from

misguided good intentions). New codes were written by lawyers, and now those laws tie the hands of adaptive architects and urbanists, so that it is illegal to build humanly-adaptive environments. This type of zoning is not reformable. It will have to be ignored — which is illegal — or be totally rewritten.

The network creates engaging urban space

A successful, usable urban space defines a giant outdoor room open to the sky (Alexander, 2005; Salingaros and Pagliardini, 2016). It is necessary to surround the open space with psychologically attractive façades, perforations and folding of the built fabric, plus a host of fixed activities. A welcoming urban space envelops its users and provides a feeling of psychological reassurance. People are drawn to the texture, tectonic balance, composition, color, and ornamentation of building façades bounding an urban space (Lavdas, Salingaros and Sussman, 2021; Salingaros, 2005; Salingaros and Sussman, 2020).

It's the open space that's most important, hence the role of buildings is to define and enhance public space, not the other way around. And yet, stand-alone buildings have gained the center stage for the media and the public. Abstract "signature" projects reject traditional path-based patterns of human use, leaving the morphology of the adjoining/surrounding space to chance. That approach misunderstands how living cities function through users interacting in and with the open spaces. Professionals jettisoned the traditional spatial vocabulary that worked successfully for so long, and accepted amorphous urban geometries as a new design paradigm (Buras, 2020; Millais, 2009). Standard industrial-modernist typologies that degrade the urban experience should henceforth be abandoned.

Observations of use over time reveal urban space success (Council of Europe, 2012; Efroymson *et al.*, 2009; Jalaladdini and Oktay, 2012). Relevant design patterns should be applied to plan new pedestrian environments, and to diagnose and repair urban spaces that are seen to repel rather than attract users (Neis, 2017; Salingaros, 2020b). Contemporary industrial-minimalist building fronts fail to provide this welcoming attraction for users to linger in a space's interior. Above all, a network of linked urban spaces is a necessary condition for a city to be alive — in the sense of encouraging positive and varied human activity and interaction (Mehaffy *et al.*, 2020).

- New Pattern 6.1: PLACE NETWORK. When planning a building, a street or other parts of an environmental structure, conceive of them as part of a tapestry of places — a place network. Work to articulate these places as part of a continuous network with many connections, and many points of modulation of connection: doors, windows, gates, hedges, fences and other structures.

A new plaza inserted into an older living city, if done correctly, can be fed by existing networks. Inserted into a new city, it's often dead space. Why? Because pedestrian networks make urban space work (Salingaros, 2005; Salingaros and Pagliardini, 2016). Historical plazas provided a pedestrian "catchment" as the principal reason for their success. Living urban spaces define the collector nodes of the pedestrian network, and other transportation networks should add to (but do not destroy) circulation channels. Any new construction that is conceived in isolation — as a stand-alone design — has not evolved in context, and consequently cannot effectively plug into existing pedestrian flows. Or the urban setting around a new plaza contains hardly any pedestrians.

Organic growth results in a recognizably complex urban footprint (Salingaros, 2005; 2021). This organized geometrical complexity is a consequence of how the self-organizing city functions as a dynamic complex system that actually metabolizes (Peponi and Morgado, 2021). A living city's street network is interspersed with public spaces of many different shapes and sizes. A spontaneous settlement grows according to local economic and social forces, evolving its "in-between" spaces (Salingaros, 2021). Free from top-down controls, informal urban forms develop through a process of self-organization.

Mainstream urban practice is insufficiently developed to realize this; yet a diagnostic tool for finding the wrong geometry is to immediately suspect any simplistically-ordered urban plan. If building footprints and connective networks obviously lack fractality (a distribution of elements of different interlocking sizes), then that region lacks essential adaptivity, which represents a planning problem. Informal, spontaneous settlements provide a laboratory for studying the adaptive evolution of urban form. Where formally-trained planners see only disorder in self-building, sensitive urbanists recognize instead a marvelous adaptation to multiple flows and forces.

The vital importance of informationally-rich façades

Built structures surrounding the urban space — in their architecture and situation — are a major factor determining its use. This characteristic is totally independent of the plan. Perceiving the urban plaza as a harmonious whole depends very strongly on specific informational properties of the surrounding building façades (among other criteria). Ordered complexity shown on a building's front is created by mimicking

the structural rules of life forms, and is thus expressive of life itself (Alexander, 2001-2005; Lavdas, Salingaros and Sussman, 2021; Mehaffy and Salingaros, 2021; Salingaros, 2005; 2015; 2018; 2019; 2020a; Salingaros and Sussman, 2020). The opposite guarantees a deadening environment.

Three new design patterns are relevant here (Mehaffy *et al.*, 2020).

- New Pattern 11.4: FRAMING. Do not try to clear out and simplify a design when there is a natural frame around it — whether that is vegetation, a portion of another building, columns or other interruptions. Instead, work with these elements as frames, and use them to make the experience more powerful.
- New Pattern 15.2: HUMAN-SCALE DETAIL. Create a generous number of elements that are human-scale, i.e. 1 meter by 2 meters or less. Make sure that many of these elements are structures that people are physically familiar with, e.g. roughly human-proportioned windows, hand-crafted patterns, etc.
- New Pattern 15.4: COMPLEX MATERIALS. Avoid large expanses of perfectly flat, smooth panels of metal and glass. Use complex materials that have subtle structural characteristics that can be perceived at human scales.

This is the key message of the present paper — the geometry of the environment couples with the user's neural system via unconscious emotions to influence behavior and decisions in public spaces. Alexander already summarized this vital process early on: "*The fact is, a person is so far formed by his surroundings, that his state of harmony depends entirely on his harmony with his surroundings.*" (Alexander, 1979: p. 106) There are specific design elements for buildings fronting urban space: architectural style plays a central role. To get close to achieving positive emotional engagement with the user, surrounding façades should exhibit the following geometrical features:

1. Employ scaling symmetry, where the different scales of ordered structure relate to each other through magnification (a characteristic of fractals). Use visual patterns nested within other patterns, including fractals generated by recursion and Cellular Automata (Taylor, 2021).

2. Build up organized complexity into "deep symmetry", in which many different patterns on smaller scales coordinate through symmetries to produce a coherent whole. Superimpose traditional geometrical patterns such as reflectional, translational, and rotational symmetries in a coherent manner (Mehaffy and Salingaros, 2021).

3. Emphasize the vertical symmetry axis, because our body evolved in gravity and connects to the vertical. Avoid extensive horizontal or diagonal elements on buildings, since those give rise to feelings of anxiety. Arches are fine, because they are reflectionally symmetric across a vertical axis.

4. Use color abundantly, interesting in itself in every occurrence, and also creating large-scale color harmony. But colors reminiscent of death (grey concrete, black or dark brown surfaces) and colorless surfaces upon which the eye cannot focus (transparent or translucent glass curtain walls, reflective metal) are negative, whereas welcoming colors reminiscent of our natural environment, flowers, and fruit (rich and pastel colors that humans find psychologically nourishing) are positive.

5.Welcoming façades require interesting (neither minimalist, nor random) materials, attractive details, and ordered articulations to draw the pedestrian's attention. Industrial Modernism undid all of these biophilic design factors — essential for human engagement — that are inherent in traditional materials.

A minimalist design approach removes cognitively necessary signals from the built environment. When people are forced into such environments they eventually become emotionally numbed, which is terrible for their body. Compulsory cultural acceptance and social pressure from the media to love alien, disturbing spaces, and to fear color suppresses but cannot erase people's innate feelings of unease. The insipid global uniformization joined to a ruthless profit motive exploits design ideology that dismisses human health. Living in an inhumane city, citizens lose their instinctive power to react to their surroundings (Buras, 2020; Millais, 2009).

Specific architectural qualities attract human beings to approach and enjoy experiencing the environment from every distance. For example, our sensory system has evolved to cope with gravity, and is set up to subconsciously recognize faces and forms with bilateral vertical symmetry; hence skewed forms generate alarm and physiological distress. Without a vertical axis of reflectional symmetry, a person could experience nausea caused by the inner ear's mechanism for vertical orientation. Our biological warning reaction at unbalanced diagonal forms cannot be changed or unlearned. Any symmetry axis is fine on a

floor pavement, but an explicit or implicit vertical axis on a façade or entrance is essential for sensing stability.

Ideological motivations for designing "hard" plazas

Design rules for creating usable, welcoming urban spaces are found in historical examples that still attract users (Buras, 2020; Salingaros, 2017). Attractive parks and plazas from around the world fill with people during many hours of the day. Alexander (Alexander *et al.*, 1977), Jan Gehl (Gehl, 1987), and William Whyte (White, 1980) performed pioneering work to determine which urban squares are actually used, and why. Jane Jacobs described the spatial complexity of the living city (Jacobs, 1961). Adaptive urban fabric reveals itself from observed human movement and reactions, not its abstract design. When a park or plaza is surrounded by minimalist façades lacking the appropriate geometrical complexity, there is no emotional attraction (Lavdas, Salingaros and Sussman, 2021; Ruggles, 2018; Sussman and Hollander, 2021).

Adaptive design through patterns tries to predict the socio-geometric forces that a structure will generate if built in a specific location. Hopefully, those are going to be harmonious and not anxiety-inducing. Let's begin by stressing the importance of color, curves, detail, fractals, plants, sunlight, symmetries, etc., known together as "biophilic" qualities, and documented in this design pattern (Mehaffy *et al.*, 2020).

- New Pattern 2.4: BIOPHILIC URBANISM. Incorporate biophilic properties and their components into urban structures at all scales, down to the details, including buildings and ornaments.

Biophilia, connective networks, and fractal qualities characterize a "soft" urban plaza, such as the older *La Rambla* strip in Barcelona. Bushes, trees, old-fashioned benches, lamps with detail, human-scale street furniture, umbrellas and canopies, and ornamented 19th Century kiosks make the ensemble fractal and highly biophilic (Salingaros, 2015; Taylor, 2021). The pavement's designs are varied, and the biophilic effect is multiplied several-fold by the flowers and fruits presented for sale. This is not merely a romantic idea or pretty tourist picture; it is an essential enhancement of the living quality of place through biophilia and the fractal hierarchy of scales.

The opposite design rules were consistently implemented in post-war planning (Efroymson *et al.*, 2009; Jalaladdini and Oktay, 2012). All of the essential biophilic elements listed above were removed with a vengeance in the crusade to "modernize" urban spaces. Ideological design is careless of human well-being, and when backed by the myth of modernization, it is a prescription for keeping people away. Yet people became passive consumers of alien urban typologies spread by those in power. New urban plazas awarded with architectural prizes remain empty, except for stray dogs and vagrants.

A plain slab pavement with strict rectangular geometry, no trees, no kiosks, and no embedded visual patterns could be either starkly desolate, or contain a menacing abstract sculpture, severe and uncomfortable "design" benches, and lamps boasting an industrial-minimalist look. This hostile style of urban furniture further reduces the biophilic qualities of the experienced space. New plazas conceived as giant sculptural abstractions also tend to be situated in the wrong places in the network of pedestrian flows, so that the surrounding path structure does not feed users into and across the space.

Most important to its success, Barcelona's *La* Rambla is "fed" by dense pedestrian urban fabric along both sides. A "hard" plaza could work as a transit space, i.e. just another very wide pedestrian street. This presupposes attractive pedestrian destinations all around the plaza's perimeter, so that paths conveniently cut across the plaza. Piazza San Marco in Venice is of this category. Because of its size, Piazza Navona in Rome is mostly a transit space, yet it also includes attractive destinations with its three fountains. But inserting obstacles in an effort to make the space "interesting" destroys transit plazas. Abstract sculptures, useless changes of level, or pools of water placed unintelligently block the most enticing pedestrian paths.

Why are Barcelona's new plazas uncompromisingly "hard"? Supposedly, those designs expressed pent-up sentiments that were freed by the ending of the Franco dictatorship. Socio-political forces included frustration, reaction to oppression, the urge to provide public platforms for expressing the new freedom, etc. But deeply-felt political resentment should not demand an unfriendly geometry! An image that deliberately opposes a much "softer" typology has been accepted emotionally, without any rational thinking. Even in today's totally changed socio-political dynamic, nobody dares to upgrade those unused plazas using traditional solutions to create a more humane environment: they are terrified of anything that reminds them of the hated past.

Stop prioritizing the auto-dependent city: it permanently perverts life

Beginning in the 1920s, the city was optimized for rapid vehicular movement. Along with the invasion of cars and trucks, auto-dependent urban components devoured the city: gasoline stations, open car parks,

garages, car dealerships, car washes, drive-through take-out restaurants and coffee shops, drive-through pharmacies, strip malls, giant surface parking lots surrounding big-box stores and commercial malls, etc. These urban typologies displace pedestrians by occupying a tremendous amount of ground. Surface transportation creates space that is no longer walkable and eliminates intimate human contact from the physical city (Efroymson *et al.*, 2009; Jalaladdini and Oktay, 2012; Salingaros, 2006).

Incredibly, modernist-trained planners do not reflect on how thoroughly vehicular transport substitutes for urban space. It is a monumental trade-off that altered life on earth, and our way of perceiving the environment. Speed blurs and dematerializes the world. Human-scale detail, ornament, and structural coherence are not experienced from a car, hence they become irrelevant. Commercial advertising jumped up in scale from modest lettering to huge signs, creating a visual cacophony that competes for our momentary attention. What make the greatest impact are large-scale forms and flashy, shiny structures to draw our attention from a distance as we drive by them.

By changing the way human beings interact with the built environment, cars drastically restructured people's existence. Highways and open parking lots define urban morphology all over the world today, replacing emotionally-nourishing urban spaces. The perspective of driving to a building ignores how that building meets the pedestrian at ground level (it usually doesn't!), and validates the illusion of monstrous structures such as skyscrapers. Judging buildings from a non-human distance distracts people, making them focus on the skyline and forget about the disappearance of usable public space.

Nevertheless, some commercial developers discovered lately that human beings still prefer a human-scale environment. Small-scale profit-driven development reversed decades of top-down urban destruction. The tremendous success of retrofitting urban pedestrian zones that compete with indoor malls has reversed a decades-long trend. Hopefully, cities in the developing world that are getting ready to bulldoze their nicest human-scale environments (copying dismal planning mistakes from 70 years ago) will learn from this experience and work instead to retain those places.

Design philosophy needs to be radically re-oriented before creating a newly humanized environment. Sustainability occurs naturally out of design by patterns (Mehaffy, 2021). Such a change requires great conviction and courage to implement, and to stand up to destructive, unsustainable practices by authorities. A quote from Theodore Dalrymple (2021) is apt:

"I once lived *in a city not famed for its beauty, to put it mildly, but which possessed one or two gracious areas and some buildings of magnificence. They, naturally, were the first to be destroyed by the reforming council, and if not outright demolished, were at least definitively spoilt by the erection of huge and horrible buildings next to them. An area of real elegance was spoiled in the name of social engineering."*

Two contrasting design paradigms rely upon completely opposite geometries for their buildings and urban space networks. A fascination with "design purity" removes everything but the largest scales, which are inadequate to define a complex humane environment. Bollards, colonnades, and arcades, which Industrial Modernism deemed to be "geometrically impure", introduce fractal structure at smaller scales. But that is precisely the point: urban elements coordinate on all scales, while privileging the human scale. Lacking traditional solutions for creating intermediate spaces and protective semi-permeable borders, a city becomes dangerous and deadening.

Experience warns us to mistrust the interventionist and megalomaniac projects of extractive globalism, given their proven record of upsetting natural balances (Salingaros, 2021). We can learn from the opposite of iconic and signature urban projects, which remove us totally from biological reality. Adaptive land use in urban settlements is to be found in the spontaneous building traditions of people around the world. Minimizing energy usage pushed societies to build and maintain a pedestrian city. Several authors support this idea — Stephen Mouzon describes how true sustainability arises from locality, modest scale, and re-use (Mouzon, 2010).

The fantasy of progress by means of early 20th-Century industrial-modernist images continues to seduce politicians, however. The exciting "look" of the superficially fashionable, new, and shiny wins instead of a far more adaptable, human, and sustainable design during competitive selection. What looks futuristic, industrial, and minimalist replaces older (yet perfectly functional) urban fabric that only requires regular repair to last for centuries. Healthy urban components — including working plazas — are condemned because they look "old-fashioned", whereas vast economic power implements typologies that create emotionally-cold, inhuman, and unsustainable places.

The architectural press brands as "backward" those few cities and countries that attempt to assert their heritage and traditions privileging the human scale, bravely resisting the global building industry's destructive onslaught. Complicit architects justify entrenched ideological choices made in the 1920s

(Salingaros, 2017). Colluding architectural academics attribute an imagined redemptive value to futuristic designs, and teach this prejudice to impressionable students. They ignore scientific evidence that identifies those industrial-modernist typologies as causing anxiety, psychological stress, and as repelling people from urban space.

Understanding that life comes from the geometry

There exists a market for good design and human-scale urban spaces. Attractive urban space is indispensable on a campus (Neis, 2017; Salingaros, 2020b). Proposed alternatives to standard design methods involve little or no additional financial investment. Some developers already know that they can be more successful with good (adaptive) design than with bad (image-driven) design. It's simply a matter of understanding what is healthy versus what is "trendy". In the case of government projects, these alternative design methods guarantee a more humane result. Politicians who align themselves behind an innovative human-scale methodology better serve the interest of their constituents.

Implementing urban innovations based on design patterns holds the greatest hope for a humane future for the world's cities. The present image-based paradigm can be changed by adopting a superior method with practical outcome. People with the power to push for change became accustomed to building cities in a standardized but often inhuman way. Starting from a rigid ideology, the system attempted to mold human nature to suit a very narrow conception of the world. After decades of experts telling decision makers that building with post-war industrial typologies was the only way to make cities, it requires sustained effort to appeal to basic intuition and common sense.

Shared public space enhances human well-being as well as encouraging beneficial social outcomes. Attractive public space holds the key to urban vitality and healthy societal interactions (Council of Europe, 2012). Nevertheless, previous documentation of this tends to miss the geometrical basis for designing usable public space. It is essential, but not enough to recognize a working public space that creates the living heart of a neighborhood: without a scientific toolkit at hand, the reasons for its success remain elusive. Designing a new park or plaza is still a hit-or-miss undertaking. And subsequent remodeling could destroy living structure.

Implementing abstractions detached from human feedback is a planning approach that eliminates usable urban space, "designed" according to a psychologically alien model (Lavdas, Salingaros and Sussman, 2021; Mehaffy, 2021; Mehaffy and Salingaros, 2015; Salingaros, 2005; Salingaros and Sussman, 2020). A linked set of design practices based on industrial priorities, beneficial to the construction industry but hostile to users, has become institutionalized. This corpus of non-adaptive design tools defines the urban design curriculum. Planning codes adopted after World War II discourage or legally prevent the creation of human-scale public spaces in the city.

Both commercial and government forces act to suppress public space for different motives (Agbo, 2020; Goldstein, 2017; Mela, 2014; Zaprianov, 2012). Parks and open spaces are dismantled for private development; or the government does the same thing in order to control and rule out public gatherings. Special interests extract profit from privatizing public space so as to manipulate users into consumerism. Their tactic is to build private commercial spaces while erasing public space. Historic spaces are thereby wiped out, while new parts of a city — or even entire new cities — are deliberately planned to contain no public space at all.

Conclusion

Creating attractive public spaces in our cities implements rules already documented in two books of design patterns: *A Pattern Language* (Alexander *et al.*, 1977) and *A New Pattern Language for Growing Regions* (Mehaffy *et al.*, 2020). This paper discussed how to apply design patterns in combination, giving the necessary background to understand how and why they work. Even though architectural and planning culture dismisses such design tools as "old-fashioned", recent results from neuroscience validate them in their entirety (while repudiating established design and planning rules that have devastated public spaces).

Open spaces in a living city — not just some isolated public square — have to follow specific rules. We have the knowledge to build a wonderfully humane living environment, once the majority of players understand the advantages of doing so. Forces shaping urban form should generate the human scale, abandoning design prejudices that created inhumane cities. Society was deceived into judging a rendering only by its imageability, ignoring the real-world consequences for human life. Implementation of monstrous ideas occurs partly for the economic profit of a ruling elite, and partly out of paternalistic good intentions divorced from science.

Three goals lead to cities better adapted to human sensibilities and uses:

1. *Research*: Scientific reasons lie behind healthy city form and urban processes. Much of this information is readily available, even though the profession ignores it.

2. *Education*: Learn from evidence and facts, and protect design knowledge from ideology and special interests linked to corruption, greed, and inertia.

3. *Application:* Convince decision-makers to build human-scale cities and to resist fashion or the unthinking copying of outdated models.

Recent examples where this program was implemented successfully all use traditional design typologies. Those commercially-driven projects turned out to make large profits for their investors. Small-scale developers have built the best projects. Traditional architectural forms were employed together with form-based urban codes extracted from older, living urban fabric. After an initial reluctance of government permitting boards, those innovative projects went through. Resistance came primarily from architectural academia, which mounted a desperate effort to discredit neo-traditional developments.

Whenever large money and power interests fuel speculative construction, city shape conforms to abstract images. Recognizing those forces and re-directing them towards a more adaptive and healthier built environment is a matter of life and death for our cities. Mainstream urbanism follows a reductionistic and unscientific conception of land-use, driven by utopian schemes of shaping how other people should be forced to live. Such cities are unsustainable, and represent ticking time-bombs that will become unusable because they are too expensive to run.

Acknowledgments

Expanded from a Keynote address at the *International Urban Design Conference*, Eastern Mediterranean University, Famagusta, Cyprus, 10 December 2020. Thanks to Michael Mehaffy and the Sustasis Foundation for permission to quote several patterns from *A New Pattern Language for Growing Regions*. This paper includes re-worked material from "Why we hug the edge of open spaces", *Metropolis*, 29 September 2015; and "Eight city types and their interactions", *Technical Transactions – Architecture, Politechnica Krakowska*, Poland, Volume 2 (2017), 5–70.

References

Agbo, M., Jr. (2020). Public Protests and the Urban Legacies of Colonialism and Military Dictatorship in Nigeria, *ArchDaily*, 6 November.https://www.archdaily.com/950764/public-protests-and-the-urban-legacies-of-colonialism-and-military-dictatorship-in-nigeria

Alexander, C. (1965). A City is Not a Tree, *Architectural Forum*, Volume 122, No. 1, 58-61 and No. 2, 58-62. Reprinted in: *Design After Modernism*, Edited by John Thackara, Thames and Hudson, London, 1988, pages 67-84. https://www.patternlanguage.com/archive/cityisnotatree.html

Alexander, C. (1979). *The Timeless Way of Building*, Oxford University Press, New York.

Alexander, C. (2001-2005). *The Nature* of *Order*, Books 1-4, Center for Environmental Structure, Berkeley, California.

Alexander, C. (2005). *The Nature of Order,* Book *3: A Vision of a Living World*, Center for Environmental Structure, Berkeley, California.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I. and Angel, S. (1977). *A Pattern Language*, Oxford University Press, New York.

Aresta, M. and Salingaros, N. (2020). The importance of domestic space in the times of COVID-19, originally written in Spanish and published in *Plataforma Arquitectura*, 6 May 2020. https://www.plataformaarquitectura.cl/cl/938788/la-importancia-de-la-forma-del-espacio-domestico-en-tiempos-de-covid-19

Batty, M. and Longley, P. (1994). *Fractal Cities*, Academic Press, London.

Browning, W., Ryan, C. and Clancy, J. (2014). *14 Patterns of Biophilic Design*, Terrapin Bright Green, New York. http://www.terrapinbrightgreen.com/report/14-patterns/

Buras, N. H. (2020). *The Art of Classic Planning: Building Beautiful and Enduring Communities*, Belknap Press/Harvard University Press, Cambridge, Massachusetts, USA.

Council of Europe (2012). *Public Space and* Landscape*: The Human Scale*, Futuropa, No. 3, Strasbourg, France. https://rm.coe.int/090000168093e66c

Crompton, A. and Brown, F. (2008). A statistical examination of visual depth in building elevations, *Environment and Planning B: Planning and Design*, Vol. 35, 337-348. https://www.researchgate.net/publication/23541665_A_statistical_examination_of_visual_depth_in_building_elevations

Cunningham, W. and Mehaffy, M. (2014). Wiki as Pattern Language, *Proceedings of the 20th Conference on Pattern Languages of Programs (PLoP13)*, Monticello, Illinois, USA (October 2013). https://www.researchgate.net/publication/320346419_Wiki_as_Pattern_Language

Dalrymple, T. (2021). Kitsch and Our Taste for the Ugly, *New English Review*, 18 June. https://www.newenglishreview.org/blog_direct_link.cfm?blog_id=71209&Kitsch%2Dand%2DOur%2DTaste%2Dfor%2Dthe%2DUgly

Duany, A. and Steuteville, R. (2021). *Defining the 15-minute city*, Public Square, CNU, 8 February.https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city

Efroymson, D., Ha, T. T. K. T. and Ha, P. T. (2009). *Public Spaces: How They Humanize Cities*, HealthBridge – WWBB Trust, Dhaka, Bangladesh. https://healthbridge.ca/images/uploads/library/Public_Spaces_How_they_Humanize_Cities.pdf

Gehl, J. (1987). *Life Between Buildings*, Van Nostrand Reinhold, New York.

Goldstein, A. (2017). Destruction of Public Space, the Right to the City, and Authoritarian Durability in the Middle East, *The World Mind*, Vol. 27, No. 3, 8-11. https://edspace.american.edu/theworldmind/2017/02/27/destru

ction-of-public-space-the-right-to-the-city-and-authoritarian-durability-in-the-middle-east/

Jacobs, J. (1961). *The Death and Life of Great American Cities*, Vintage Books, New York.

Jalaladdini, S. and Oktay, D. (2012). Urban *Public* Spaces and Vitality, *Procedia – Social and Behavioral Sciences*, Volume 35, 664-674. https://www.sciencedirect.com/science/article/pii/S1877042812004478

Kellert, S. R., Heerwagen, J. and Mador, M., editors (2008). *Biophilic Design: the Theory, Science and Practice of Bringing Buildings to Life*, John Wiley, New York.

Krier, L. (1977). The City Within the City, *A + U*, Tokyo, Special Issue, November 1977, 69-152. https://applied.math.utsa.edu/~yxk833/KRIER/city.html

Krier, L. (2009). *The Architecture of Community*, Island Press, Washington. Older edition: *Architecture: Choice or Fate*, Andreas Papadakis, Windsor, UK, 1998.

Lavdas, A., Salingaros, N. and Sussman, A. (2021). Visual Attention Software: a new tool for understanding the 'subliminal' experience of the built environment, *Applied Sciences (MDPI)*, 11(13), 6197. https://www.mdpi.com/2076-3417/11/13/6197

Leitner, H. (2015). *Pattern Theory*, CreateSpace, Amazon.

Lyons Stewart, B. (2015). *Flooring Psych*, Architectural Design Psychology Press, San Anselmo, California.

Mehaffy, M. W. (2021). Health and Happiness in the New Urban Agenda: The Central Role of Public Space, *Sustainability*, Vol. 13, Issue 11, 1-12. https://www.mdpi.com/2071-1050/13/11/5891

Mehaffy, M. W., Kryazheva, Y., Rudd, A., Salingaros, N. A., Gren, A., Mehaffy, L., Mouzon, S., Petrella, L., Porta, S., Qamar, L. and Rofè, Y. (2020). *A New Pattern Language for Growing Regions: Places, Networks, Processes*, Sustasis Press, Portland with Centre for the Future of Places KTH Royal Institute of Technology, Stockholm and UN-Habitat. http://npl.wiki/assets/home/index.html

Mehaffy, M. and Salingaros, N. (2015). *Design for a Living Planet*, Sustasis Press, Portland, Oregon, USA and Vajra Publications, Kathmandu, Nepal.

Mehaffy, M. and Salingaros, N. (2021). The surprisingly important role of symmetry in healthy places, *Planetizen*, 8 March. https://www.planetizen.com/features/112503-surprisingly-important-role-symmetry-healthy-places

Mela, A. (2014). Urban public space between fragmentation, control and conflict, City*, Territory and Architecture*, Volume 1, Article Number 15. https://doi.org/10.1186/s40410-014-0015-0

Millais, M. (2009). *Exploding the Myths of Modern Architecture*, Frances Lincoln Limited, London; 2nd Edition, Mijnbestseller.nl, Rotterdam, 2019.

Moreno, C. (2020). *Droit de Cité*, Éditions de l'Observatoire, Paris, France.

Moreno, C., Allam, Z., Chabaud, D., Gall, C. and Pratlong, F. (2021). Introducing the "15-Minute City": Sustainability, Resilience and Place Identity in Future Post-Pandemic Cities, *Smart Cities*, Volume 4, No. 1, 93-111.https://doi.org/10.3390/smartcities4010006

Mouzon, S. A. (2010). *The Original Green*, Guild Foundation Press, Miami, Florida, USA.

Neis, H. (2017). From a Pattern Language to a Field of Centers and Beyond, in: Stark, W., Vossebrecher, D., Dell, C. and Schmidhuber, H. *Improvisation und Organisation*, Transcript Verlag, Bielefeld, Germany, 2017, pp. 143-166. https://doi.org/10.14361/9783839426111-008

Ortiz, M.A., Kurvers, S. R. and Bluyssen, P.M. (2017). A review of comfort, health, and energy use: Understanding daily energy use and wellbeing for the development of a new approach to study comfort, *Energy and Buildings*, Vol. 152, 323-335. https://doi.org/10.1016/j.enbuild.2017.07.060

Pafka, E., Dovey, K. (2016). Permeability and interface catchment: measuring and mapping walkable access, *Journal of Urbanism. International Research on Placemaking and Urban Sustainability*, Vol. 10, No. 2, 150-162. DOI: 10.1080/17549175.2016.1220413.

Pagliardini, P., Porta, S. and Salingaros, N. (2010). Geospatial Analysis and Living Urban Geometry, Chapter 17 of Geospatial *Analysis And Modeling of Urban Structure and Dynamics*, Bin Jiang and Xiaobai Angela Yao, Editors, Springer, New York, 2010, pages 331-353. https://www.academia.edu/188975/Geospatial_Analysis_and_Living_Urban_Geometry

Peponi, A. and Morgado, P. (2021). Transition to Smart and Regenerative Urban Places: Contributions to a New Conceptual Framework, *Land*, Vol. 10, No. 1, 2. https://doi.org/10.3390/land10010002

Ruggles, D. H. (2018). *Beauty,* Neuroscience*, and Architecture: Timeless Patterns and Their Impact on Our Well-Being*, Fibonacci Press, Denver, Colorado.

Ryan, C. O., Browning, W. D., Clancy, J. O., Andrews S. L. and Kallianpurkar, N. B. (2014). Biophilic Design Patterns: Emerging Nature-Based Parameters for Health and Well-Being in the Built Environment, *Archnet-IJAR: International Journal of Architectural Research*, Volume 8, Issue 2, 62-76. https://archnet.org/publications/9767

Salat, S. (2011). *Les Villes et Les Formes*, Hermann, Paris.

Salingaros, N. (2005). *Principles of Urban Structure*, Techne Press, Amsterdam, *Holland* and Sustasis Press, Portland, Oregon, USA.

Salingaros, N. (2006). Compact City Replaces Sprawl, Chapter in: *Crossover: Architecture, Urbanism, Technology*, Edited by Arie Graafland & Leslie *Kavanaugh*, 010 Publishers, Rotterdam, Holland, pages 100-115.http://www.academia.edu/188203/Compact_City_Replaces_Sprawl

Salingaros, N. (2013). *Unified Architectural Theory*, Sustasis Press, Portland, Oregon, USA and Vajra Publications, Kathmandu, Nepal.

Salingaros, N. A. (2014). *A Theory of* Architecture, 2nd Edition, Sustasis Press, Portland, Oregon and Vajra Books, Kathmandu, Nepal.

Salingaros, N. (2015). *Biophilia and Healing Environments*, Terrapin Bright Green LLC, New-York. http://www.terrapinbrightgreen.com/report/biophilia-healing-environments/

Salingaros, N. (2017). *Design Patterns* and *Living Architecture*, Sustasis Press, Portland, Oregon. Published free online by *Architexturez*, 2021. https://patterns.architexturez.net/doc/az-cf-220737

Salingaros, N. (2018). Adaptive Versus Random Complexity, *New Design Ideas*, Volume 2, No. 2, 51-61.

http://jomardpublishing.com/UploadFiles/Files/journals/NDI/V2N2/SalingarosN.pdf

Salingaros, N. (2019). The biophilic healing index predicts effects of the built environment on our wellbeing, *JBU — Journal of Biourbanism*, Volume 8, No. 1, 13-34. http://www.biourbanism.org/the-biophilic-healing-index-predicts-effects-of-the-built-environment-on-our-wellbeing/

Salingaros, N. (2020a). Symmetry gives meaning to architecture, *Symmetry: Culture and Science*, special issue on Geometry and Architecture, edited by Vilmos Katona, Vol. 31, No. 3, 231-260.https://journal-scs.symmetry.hu/abstract/?pid=796

Salingaros, N. (2020b). Planning, Complexity, and Welcoming Spaces: the Case of Campus Design, Chapter 18 of *Handbook on Planning and Complexity*, Edited by Gert de Roo, Claudia Yamu & Christian Zuidema, Edward Elgar Publishers, Cheltenham, UK, 2020, pages 353-372. Edited extract from: N. Salingaros (2018). Campus Design, 10-part series for CNU Public Square, *Architexturez*, 2021. https://patterns.architexturez.net/doc/az-cf-220733

Salingaros, N. (2021). Spontaneous cities: lessons to improve planning for housing, *Land (MDPI)*, Vol. 10, No. 5, Article 535, 1-15. https://www.mdpi.com/2073-445X/10/5/535

Salingaros, N. and Pagliardini, P. (2016). Geometry and Life of Urban Space, Chapter in: *Back to the Sense of the City*, 11th Virtual City & Territory International Monograph Book, Centre of Land Policy and Valuations (Centre de Política de Sòl i Valoracions), Barcelona, Spain, pages 13-31. http://upcommons.upc.edu/bitstream/handle/2117/90890/CH00_CONTENTS%20INTRO_geometry.pdf

Salingaros, N. and Sussman, A. (2020). Biometric pilot-studies reveal the arrangement and shape of windows on a traditional façade to be implicitly 'engaging', whereas contemporary façades are not, *Urban Science*, Volume 4, Issue 2, article number 26, 1-19. https://www.mdpi.com/2413-8851/4/2/26

Scruton, R. (2008). Cities for Living, *City Journal* (Spring 2008). https://www.city-journal.org/html/cities-living-13088.html

Sussman, A. and B. Hollander, J. B. (2021). *Cognitive Architecture: Designing for How We Respond to the Built Environment*, 2nd Edition, Routledge, London, UK.

Taylor, R. P. (2021). The Potential of Biophilic Fractal Designs to Promote Health and *Performance*, *Sustainability*, Volume 13, Article 823. https://www.mdpi.com/2071-1050/13/2/823

Whyte, W. (1980). *The Social Life of Small* Urban *Spaces*, The Conservation Foundation, Washington, D.C.

Zacharias, J. (2001). Pedestrian Behavior and Perception in Urban Walking Environments, *Journal of Planning Literature*, Volume 16, No. 1, 3-18. https://www.researchgate.net/publication/247126296_Pedestrian_Behavior_Pedestrian_Behavior_and_Perception_in_Urban_Walking_Environments

Zaprianov, D. (2012). Is the Destruction of Urban Structures a Form of Violence? *E-International Relations*, June 15. https://www.e-ir.info/2012/06/15/is-the-destruction-of-urban-structures-a-form-of-violence/

Exploratory Study on the Adoption of Value Management for Construction Development Projects in North Central Nigeria

[1]Lilian Ilenikhena, [2]Chinedu Adindu

[1 and 2] Department of Project Management Technology,Federal University of Technology, Minna, Niger State, Nigeria.
Author mail: lilyilenz@gmail.com
Co-Author: chinedu.adindu@futminna.edu.ng

Journal of Urban Research and Development
2021, Vol. 2 17- 29

https://ojs.emu.edu.tr/

Abstract

The dearth of input resources in construction development has necessitated the adoption of value management (VM) techniques for the optimization of available construction resources. This exploratory study assesses the level of awareness, level of adoption, and the prospects and challenges of Value Management in selected states of North Central Nigeria. The study involved descriptive survey research methodology in which structured questionnaires were purposively administered to a study population of 80 construction industry stakeholders in the nation's states of Niger, Nassarawa, Kogi, and the Federal Capital Territory. 59 valid questionnaires were retrieved representing 74% response rate. Mixed technique involving descriptive and inferential statistics were employed in data analysis. Study's findings revealed a general low awareness and low adoption of VM techniques in Nigeria construction projects. Considering prospects, the study recommends increased awareness of VM through government policies, academic curriculum emphasis, and capacity building by professional bodies.

Keywords

Construction Development, Projects, Nigeria, Value Management

Introduction

The concept of Value management (VM) emerged during the Second World War as a result of deficiencies arising from use of crude materials and manpower. General Electric (GE) company, then directed some members of staff, namely- Lawrence Miles, Henry Erlicher, and Jerry Leftow, to seek for alternative materials and human resources without compromise on performance - cost, quality and utility (Vitalis, Agbaeze, Joseph,& Solomon, 2019).The problem of balancing functionality with cost constituted the greatest challenge to Miles and his colleagues, as the primary objective of their employer -General motors (GE) was to ensure high quality and functionality at least cost, owing to input material scarcity, that period in history (Kassa, 2018). Value management concept according to Kissi, Boateng, & Badu (2016), seeks to explain the interdependence and nexus between functionality and cost.The prospects of efficiency and value propelled several organisations to explore the use of VM in their routine operations and processes. The perception was that VM adoption in organisations led to better solution to customer needs while also meeting predetermined organisational goals and success factors (Bruno, Fadhlin, Zuhaili, & Wallace, 2018).

According to Walker & McDonald, 2013; Rangelova, 2014, recent years has been characterised with a rising quest of value for money as a measure for assessing the performance of projects at the various stages of construction development In developing countries there are trends suggesting the use of value management techniques to reduce the high costs of projects and utilize valuable resources to promote construction development without reducing the desired

function while also adding value to the project (Mishra, 2019). Value management is a function-oriented technique and an effective management tool for attaining improved design, construction and reduced cost wastages in various aspects of construction Luvara (2017). According to Maznan (2012), the confused perception of value management is due to the lack of knowledge on the subject matter and further buttressed that although, value management and cost reduction exercises have some similarities, the methodologies employed, the objectives and goals are different in many ways.

According to Ayodeji (2012), the practice of value management has not been fully adopted in Nigerian construction industry as only very few numbers of value management workshops have been organised on the subject while many were concluded prematurely. This assertion is collaborated by the earlier study of Olanrewaju (2007), which observed that VM has also been implemented in Nigeria's construction industry to an extent. Olanrewaju (2007) empirical study showed that the awareness level among a study population of some construction industry personnel were quantity surveyors (36%), engineers (30%), architects (11%), and estate managers (19%) respectively.

Ogunsanmi (2014) based on VM findings in Nigeria advocates the needs for a V M awareness campaign in the nation's construction industry in order to imbibe the practice for future projects. On the part of the project organisation, VM confers enormous benefits including clarity of business decisions, understanding of end-user needs, better understanding of goals by team members, improved internal communication and networking among project team members, increased understanding of organisational success factors (The Institute of Value Management, 2008). Thus, organisations that apply VM stand to gain from its enormous value-driven potentialities. In particular, VM adoptions enhanced staff motivation, promotion of skills and innovation, ensured collectivity of ideas and synergy (Ndu, Agbaeze, Arisi-Nwugballa, & Okwo, 2019). A delphi study conducted by Ojo & Ogunsemi (2019) assessed the critical drivers of value management in Nigeria's construction industry. The study revealed the following as the major drivers of VM- adequate understanding of the benefits of VM, higher/postgraduate studies on VM techniques, and possession of previous experience about VM.

Problem Statement/ Justification of Study

The Federal Government of Nigeria in 2007 proposed that procurement of public assets and services must be through the application of value for money standards and practices in order to improve project delivery. Unfortunately, despite this pronouncement, there exists a plethora of irrelevant and abandoned projects that lacks sufficient value due to the non-adoption of value-oriented project management techniques in the construction industry. Ogunsanya (2015) states that infrastructure deficit is one of the country's current challenges and underscores the need for government being the biggest construction industry investor to use its limited resources optimally and in a manner that delivers maximum value for money. Value Management (VM) has been proposed as a potential mechanism for delivering functional and sustainable construction projects (Manolaidis, 2012). Ahmed (2016) study states that the problem of most construction projects usually involves change, which can be related to the seeming conservative system of political governance and economy of Nigeria. Many countries across the globe have embraced VM as critical competency to ensure value for money in their capital development projects including product manufacturing. Oke (2015) declared that VM is a very useful tool especially in developing countries like Nigeria in providing value for money for clients and in the enhancement of savings in construction cost. Many concluded studies on the adoption of Value Management abound at national level. Nigeria is a nation made-up of six (6) geo-political zones, comprising viz: North East, North Central, North West, South East, South South, and South West. This study is unique in the sense that it concentrated its energy on a single geopolitical zone, the North-Central, which is home for the centre of governance- The Federal capital territory (FCT). Hence, it was crucial to conduct a study on the level of awareness, prospects and challenges of value management technique in this major geo-political zone. The result from studies in this zone will serve as a reference point for policy enactments on VM at regional level. Also, this study considering its novelty and specific attributes may spur further research, and replication of study in other five geopolitical zones. An aggregation of the respective regional study outcomes may generate informed decisions at national scale. This study is therefore very unique and original since it is perhaps, a pioneer research on VM adoption in the construction industry at regional level. Hence, a justification for the study.

Aim of Study

In view of the above, this study aims at assessing the status of the value management awareness, level of implementation at project development stages, and the prospects and challenges of VM in Nigeria's Construction industry.

Objectives of Study

1. To assess the level of value management awareness in construction projects in North-Central Nigeria
2. To examine the extent of value management application in construction project development cycle in North-Central Nigeria
3. To evaluate the prospects and challenges of value management adoption in construction projects in North-Central Nigeria

Literature Review

Value Management - A review of Concept and Global Application in the Construction Industry

The construction industry in recent decades have recognized the need to accomplish sustainable related-targets based on evolving concepts (Zuofa, 2017). Oke (2015), states that Value management plays a great role in delivering economic sustainability in construction by achieving value for money when properly implemented. Viewed from a service perspective, Rangelova & Traykova (2014) describes VM as a mechanism that compares and evaluates the decisions made by clients and customers at the different developmental stages of a project. Rangelova & Traykova (2014) further stated that VM emphasizes better quality, positive business image, and value driven profitability. The core principles of value management emphasize the functional and operational performance of projects, without loss of quality at the least possible cost.

Karim, Rahmin, Adawiyah, Danuri, & Mohammed (2014) asserts that VM is gaining tremendous ground the globe as a best practice tool for project cost reduction without forfeiture of quality and performance.

According to Ogunsanmi (2014), value management concept has been applied to many project endeavours including but not limited to hardware, building, civil, commercial and military engineering works, highways, water and waste treatment, health care, and other environmental services, whenever value and functional improvements are required.

VM competency has thus, become a prerequisite for public and commercial projects in many parts of the globe. For example, construction firms operating in Hong Kong have applied VM techniques to reduce costs and improve the quality of projects (Fong, 1999). Various studies also indicate the use of the value management techniques outside the USA where it originated (Ndu, et.al,2019), for instance Australia, Indonesia, Korea, Europe, Australia, Hong Kong and Japan (Fong, 1999), France, Germany, Japan and Australia (Kelly, 2001).

According to Srinath (2003), there is evidence of successful application of VM techniques to all types of construction, from buildings to offshore oil and gas platforms, and for various types of clients from private, industry to governmental organizations worldwide. Mansour (2015) highlights the application of VM in a seven-storey building of the Institute of Pathology, New Delhi, India which resulted into cost savings of 8%; and a cost savings of 6.6% for a higher secondary school building project in Najafgarh, New Delhi, India. The US Department for Transport (DfT) made VM adoption compulsory for projects costing USD100,000 or more. VM is also mandatory for US government projects ranging from 2 million USD (Kaur, 2012). Also, the South Korea Ministry of Land, Transport and Maritime Affairs directs the application of VM technique on projects costing KRW 10 billion or more (Kim, Lim, Kim, & Cheon (2010). Additionally, Karim, et.al. ((2014) study revealed a directive from the Japanese government to its project-based parastatals to adopt VM technique on projects with cost, ranging from JPY 175 million, similar to that issued by the Government of Australia on projects ranging from 5 million AUD.

Inspite of the apparent infancy of VM in Malaysia, the Economic Planning Unit (EPU), through Circular 3/2009 authorised all public projects exceeding RM50 million to undertake a mandatory VM study in order to achieve cost optimisation (Jaapar, Maznan, & Zawawi (2012).

Sari (2015) stated that almost all of real estate development practitioners in Surabaya (a city in Malaysia) confess that they applied value management in their real estate projects. There is also an increased adoption of VM technique in India and South Korea through aggressive sensitization programmes in the print and electronic media complimented with focused group talk shows, seminars, workshops (Vitalis, et.al, 2019).

Value Management Awareness in the Nigerian Construction Industry

Value Management has been termed as an excellent tool for projects but its use has waned in recent years due to perceived inadequate support by government agencies and various relevant entities (Luvara ,2017). The scholar further stated that for over three decades, value management methodology has had a notable history as an effective savings mechanism and decision-making tool for agencies and construction projects.

Nnadi (2018), asserts that VM is useful in handling construction risks and uncertainties that may arise during in the course of a project, whereas,
Aigbavboa (2016), declares VM as a business strategy tool to determine if the construction of a facility will render the best function at the least possible cost.

Charles, Nasiri, & Hammad (2017); Aghimien , Oke, & Aigbavboa (2018), variously aver that although VM competency has gained so much grounds in the fields of architecture, building technology, quantity surveying, construction management , project management, and in engineering construction disciplines; its major emphasis is the striking of required balance between function and cost without compromise on quality and safety. Charles,et.al (2017) and Aghimien, et.al (2018) added that VM underlying principles can be extended to other sectors like manufacturing and industrial processing. Oke, Aghimien, & Olatunji (2015),Verhoef, Doorn, & Dorotic (2015) remarked that the perceived delineation of VM to project disciplines is unfortunate and not deliberate. Ogunsanmi (2014), opines that the level of awareness of VM concept by construction practitioners is slightly higher than the unaware, but observed that the adoption is less, in practice.

Vitalis, et.al. (2019) declared that a typical Nigerian organisation lack the culture of value management for competitive advantage. According to Vitalis, et.al. (2019) the non-existence of significant worth administration unit in most organisations is indicative of the leadership inability to acknowledge the aggressive nature of present day businesses in the face of current day realities. Olawuyi (2009) study, also revealed that the practice of VM is not rampant amongst construction practitionals in Nigeria. Ajator (2004) advocates that the Nigerian construction industry should imbibe a value management culture when delivering public sector projects to ensure cost optimization.

In a bid to ensure that the practice of value management was standardised, a guideline for implementation was published for construction industry stakeholders (Jaapar, 2012). Value analysis and assessment constitute to ensure projects deliver expected value. Ogunsemi (2015) states that value management is in most cases practiced in the form of an in-depth workshop usually conducted by an independent experienced team acting as clients' consultants.

The aforementioned studies amply corroborate the assertion that 'performance of construction projects is improved and optimized' by the process of value management. Aigbavboa (2016) advise that construction practioners orientate themselves with VM practices and strive for its full adoption and implementation in construction projects to achieve best value; while Luvara (2017) opines that efforts should be made to create awareness of VM in the construction industry through the introduction of value clauses in the Conditions of Contract, to support value management.

Value Management Adoption in the Nigerian Construction Industry

Till date, the use of value management in Nigeria has been limited (Ndu, et.al, 2019). The Nigerian construction industry occupies a leading position considering its socio-economic importance in employment generation, contribution to the nations' gross domestic product (GDP), as well constituting a fulcrum to the take-off of other sectors of national economy. Value management has not been fully embraced in the Nigerian construction industry, and just a few value managements workshops have been implemented (Oke, 2015). Aghimien (2018) argues that construction professionals have a considerable expanse of knowledge as regards VM practice, however, the level of usage of the practice is on the average. Oke (2015) states that VM aids in achieving functional projects and urges Nigerian construction industry practitioners to be well-informed with the discipline to enhance competitive advantage.

Studies by Oke and Ogunsemi (2011) revealed that concepts of value management and value engineering are practiced minimally in the construction industry in Nigeria.

Aghimien (2015) states that VM implementation aims towards achieving a more effective design, identification of alternative construction methods, and favourable adjustments to the construction timeline.

Hayatu (2015) suggests that value management begins from its application at the strategic phase of the project, as it is the stage in which the need for the project is justified and its scope and objectives are well understood by the value team. Rangelova (2014) opined that the most appropriate time to implement VM is in the early development phases on a project and that optimal benefits will be attained when applied on larger and more complex projects.

Ogunsanmi (2014) states that the implementation rate of value management in the construction industry is based on rare occurrence, and in most of these instances external teams are consulted to implement the methodology for the project life cycle. Aghimien (2015) observed that value management identifies and removes unnecessary costs associated with projects, hence leading to maximum cost saving.

Saifulnizam (2011) notes that the involvement of contractors and application of VM at early stages of a project provides greater opportunity to enhance project delivery through knowledge sharing between the contractor and the value management team at critical junctures.

Ashworth (2000) states that the application of value management during concept development and the initial design stages helps to minimize time with the ability to significantly influence project deliverables,

however, findings by Coetzee (2009) reveals that certain practitioners tend to mislead clients by declaring that the project will be value managed upon initiation without having the technical know-how to apply the methodology.

Wandahl (2003) viewed value management as a concept that promotes effectiveness and efficiency which are key indicators of innovation and development, while, Ashworth (2005) asserts that in order to gain the maximum benefits from VM, it is important that at least half of the participants be drawn from outside the immediate project management team as it helps to ensure that decisions made by the project team are appropriately reviewed, and divergent ideas stimulated.

Prospects and Challenges of Value Management in the Nigerian Construction Industry

Al-saleh (2010), states that there is potential for applying VM to deliver sustainable value- driven construction.The most direct benefits derivable from VM are improved plans and budgets as a result of the identification, evaluation and justification of all resources needed, rather than a deliberate increase or decrease in the budget (Sieben, 2010).

Ahmed (2016) states that implementation of VM brings about the simplification of methods and procedures, thus resulting in minimal recurrent cost and efficiency in processes, better communication and understanding of the projects objectives, and creation of opportunities for clients to formally participate in the processes. Aghimien (2018) declared that some of the benefits of the adoption of VM are; ability to identify possible complications early, eliminating unnecessary designs, reduce waste, and ensuring that the project is delivered in the most cost-effective way. Olanrewaju (2013) identified further benefits of VM adoption as reduction of project failure, lower cost, shorter completion time, improved quality, functionality, better performance, enhanced safety and product reliability.

Olawunmi (2016) reiterates that VM enables the process of cost reduction and achieveing value for money, timely identification of uncertainties, challenging assumptions and developing innovative design solutions, enhanced value or benefits for end users, assessment of future probability, reduction of abandoned project, competitive edge for contractors/practitioners.

According to Oke and Ogunsemi (2011), the following are the perceived benefits of incorporating value management into Nigeria construction projects: encourages use of local materials in construction, adoption of new construction techniques/innovation, cost effectiveness, aids conflict management, improves work quality, and gives the true worth or value of money to the clients.

Challenges facing the construction industry include non-completion within time, budget, and to the required quality; hence, clients of the construction industry are oftentimes dissatisfied with quality of services provided (Olatunji, 2006).

Aduze (2014) states that the lack of government legislation and policy, client's negative reception, and lack of knowledge about VM are some of the factors impeding the application of VM in Nigeria. Oke (2015) also states that despite the existence of value management for decades in the construction industry, a major challenge to the adoption and application of the technique, is the lack of proper understanding by concerned professionals. Liu (2005) study outlined the following challenges of VM adoption: lack of national value management standards, insufficient time for implementation, inadequate knowledge, lack of qualified practitioners, defensive attitude of other professional teams, extended project completion duration, and interruption to normal work schedule. Olawuyi (2009) avers that a key limitation to the implementation of value management can be attributed to the low awareness of the utilization of the relevant techniques amongst practitioners in the construction industry.

According to Abidin, 2007; Fan, 2007; Noor, 2015, factors that impend the application of value management are broadly classified into practical barriers and behavioural barriers, namely; lack of awareness about VM, misperception about the integration of sustainability and VM, passive behaviour among VM practitioners, lack of training and education in VM, high cost of VM study, procurement and regulatory issues.

Al-yami (2010) states that barriers of implementing value management include; lack of information, leadership, time, awareness and client commitment. Kim (2016) notes four components of VM challenge, namely; lack of qualified personnel to implement VM, inherent difficulties in VM workshops, lack of awareness of VM, and lack of VM application documents.

Olawunmi (2016) outlined that factors influencing the implementation of value management in Nigerian construction industry as; inadequate training and education, the lack of receptiveness to new ideas, and lack of proper regulatory framework.

Ogunsanya (2015) study also revealed that the following factors have impacted negatively on the adoption of value management in the Nigeria construction industry: unstable economy, government policies, professional incompetence, and poor management.

Methodology

The study is a descriptive survey research with structured questionnaire as the research instrument. The population frame comprised four major construction industry stakeholders including construction companies, construction consultancy firms, construction client organizations., and construction finance companies, located in four selected states of Nigeria's North Central geopolitical zone, namely- Niger, Nasarawa, Kogi and the Federal Capital Territory. The organisations involved in this study represent a cross section of small to medium organisations with ownership structure ranging from private to public corporations, with a retained workforce ranging from 8 - 35 on permanent employ. The organisations are involved in private and public sector projects in the areas of mass housing provisioning, industrial buildings, office complexes, recreation centres, roads, bridges and highway engineering, etc. 60 % of the organisations undertake projects limited to the North-Central geo-political zone, while 42% of the firms have operations extending beyond the geo-zone. . The states were purposively selected from the seven states that make up the north -central geopolitical zone. The questionnaire solicited responses from a study population of 80 Nos construction industry personnel judgementally selected from 5 No professional groups comprising -architects, quantity surveyors, engineers, builders, and estate managers. The possession of professional registration in a chosen specialization was a stated prerequisite for selection in the study. Each of the four states studied, received 20 Nos questionnaires, which was subsequently distributed to the 5 No professional groups in the employ of the four construction stakeholder organisations. The essence of the registration requirement was to ensure that only professionally qualified construction personnel gave informed opinions on responses sought, to avoid frivolous submissions considering the high premium placed on this research. A total number of 67 questionnaires were retrieved from the 80 respondents, out of which 59 were successfully completed, with 8 No questionnaires discarded on grounds of confusing, multiple, inconsistent, and mutilated entries, hence, an 74% success rate. The return rate was deemed adequate and consistent levels prescribed by Bowen, Cattel, Edwards, & Jay (2010), Perera, Hayles & Kerlin (2011), while Moser & Kalton (1971), stated that response rates lower than 30-40% are subject to bias and of little value. Thus, the study's return rate was considered adequate and representative of the sample population, and could reasonably form basis for data presentation and analysis, conclusion and recommendation for policy. The questionnaire comprised two major divisions, namely- respondents bio-data, and enquires related to study objectives. The later solicited responses on the level of awareness of value management in the construction industry, the extent of value management adoption at different stages of a project development cycle, as well as the prospects and challenges of value management in construction projects. Themes used in this study were developed from robust literature review of related studies, and extracted from test results of pilot studies conducted on a focused group. The study metrics employed the Likert 5-point scale which solicited responses on the extent of agreement to identified variable factors under measure, from 'low' to 'high' viz- For objective No.1: to a no extent, to a fair extent , to a moderate extent, to a considerable extent , to a great extent. For objective Nos 2 and 3, the response scale was: strongly disagree, disagree, undecided, agree, strongly agree. Both descriptive and inferential statistics were used in the study analysis with the aid of statistical package for social sciences (SPSS), version 10.0. Cronbach Alpha Test (CAT) was also conducted on the study to ascertain research instruments reliability. Also, Shapiro-Wilk normality test (SWT) was conducted in order to determine the normality of the data gathered. CAT yielded 0. 921.This coefficient was adjudged high and eminently attests to the reliability and consistency of the survey instruments. Also, SWT conducted on the 59 valid samples (in this case, less than 2000), yielded 0.0015, thus, satisfied Ghasemi & Zahediasi (2012) requirements for sample size normality. Observably, this study's methodology followed procedures established by earlier studies of Olanrewaju (2007), Ghasemi & Zahediasi (2012), Olanrewaju & Anahve (2015), Aghimien, Aigbavboa, Ncobo & Thwala (2019). Analysis for this study also followed the pattern established by Olanrewaju & Anahve (2015) study, employing Average Relative Index (ARI).

Thus,

$$ARI = \frac{\sum_{i=0}^{5} aixi}{5\sum_{i=0}^{5} xi} \qquad (0 \leq \text{ARI} \leq 1)$$

Defined, thus:

ai =the index of a group; a constant expressing the weight given to the group;

xi = frequency of response; i = 1, 2, 3, 4, 5, x1, x2, x3, x4, x5, corresponding to a1=1, a2 =2, a3=3, a4 =4, a5 = 5 (a constant expressing the weight given to the group) respectively.

0 (zero) = lowest possible score, whereas,

1 (one) = highest possible score.

This study lasted six (6) months from the point of questionnaire issuance by mid-April, 2019 to response retrieval by early October, 2019. Access to online survey was severely impeded by the poor network and internet connectivity constraints for construction personnel working in remote locations across the selected states of Niger, Nasarawa, Kogi and the Federal Capital Territory, in the North -central geo-political zone. This was a major limitation to the study as the researchers had to physically distribute and retrieve questionnaire from remote and geographically dispersed locations with attendant logistic challenges.

Table 1. Demographic features of the respondents (Construction Professionals) (Source: Authors' Field Survey, 2019)

		Frequency	**Percentage**
Gender	Male	44	74.58
	Female	15	25.42
	Total	**59**	**100.00**
Experience	0-4	8	13.56
	5 - 9	13	22.03
	10 – 14	16	27.11
	15 – 19	10	16.95
	Above 40	12	20.35
	Total	**59**	**100.00**
Level of Education			
	HND/ First degree	34	57.63
	Master's degree	10	16.95
	PhD degree	4	6.77
	Others	11	18.65
	Total	**59**	**100.00**
Disipline	Engineer	16	27.12
	Quantity Surveyor	10	16.95
	Architect	12	20.34
	Builders	14	23.72
	Estate Managers	7	11.87
	Total	**59**	**100.00**

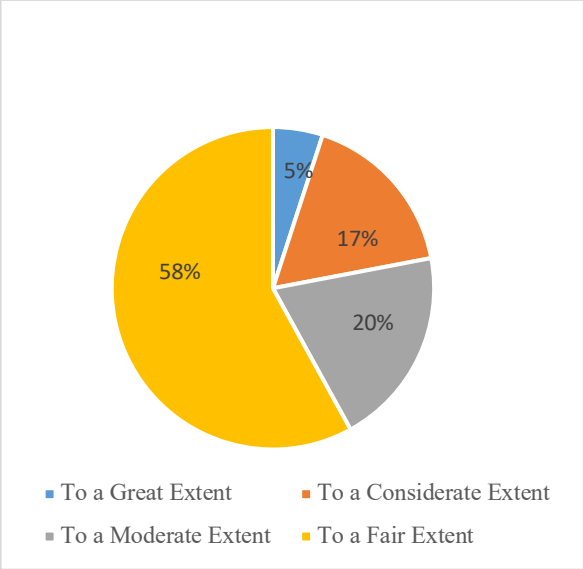


Figure 1. Extent of Value Management Awareness in Nigeria Construction industry (Source: Authors' Field Survey, 2019)

Results and Findings

Objective 1

To assess the level of value management awareness in construction projects in North-Central Nigeria.

Discussion of Findings

Figure 1 of the study's results shows that 3 out of 59 respondents representing 5% are greatly aware of value management concept, 10 respondents representing 17% were considerably aware, 12 respondents representing 20% are aware to a moderate extent and 34 respondents representing 58% are aware to a fair extent. In sum, the results of the study show a relatively low-level awareness rate of VM in Nigeria going by the results of this study corroborate the earlier findings of Luvara (2017), who opined that efforts should be made to create awareness of VM in the industry. Liu (2005) study also avers that inadequate knowledge constituted challenge to VM adoption. Studies by Olawuyi (2009) further corroborates, having stated that a key limitation to the implementation of value management is attributed to the low awareness of the utilization of the relevant techniques amongst practitioners in the construction industry. Also, various studies by Abidin, 2007; Fan, 2007; Furthermore, Noor, 2015 noted lack of knowledge as a major factor militating the application of value management in the construction industry. Al-yami ,2010 study and research conducted by Kim (2016) also revealed lack of awareness of VM as a major factor constraining its adoption in construction projects. The study's finding and those of other scholars variously indicate that construction industry stakeholders urgently need to up-scale the current low awareness level of VM technique as only 22% of the respondents are considerably aware and this is well below the minimum permissible awareness level of 50%. The poor awareness rate in the current study clearly underpins the fact that not much have been achieved overtime in addressing this problem, and as such, a fundamental challenge to construction industry stakeholders.

Objective 2

To examine the extent of value management application in construction project development cycle in North-Central Nigeria.

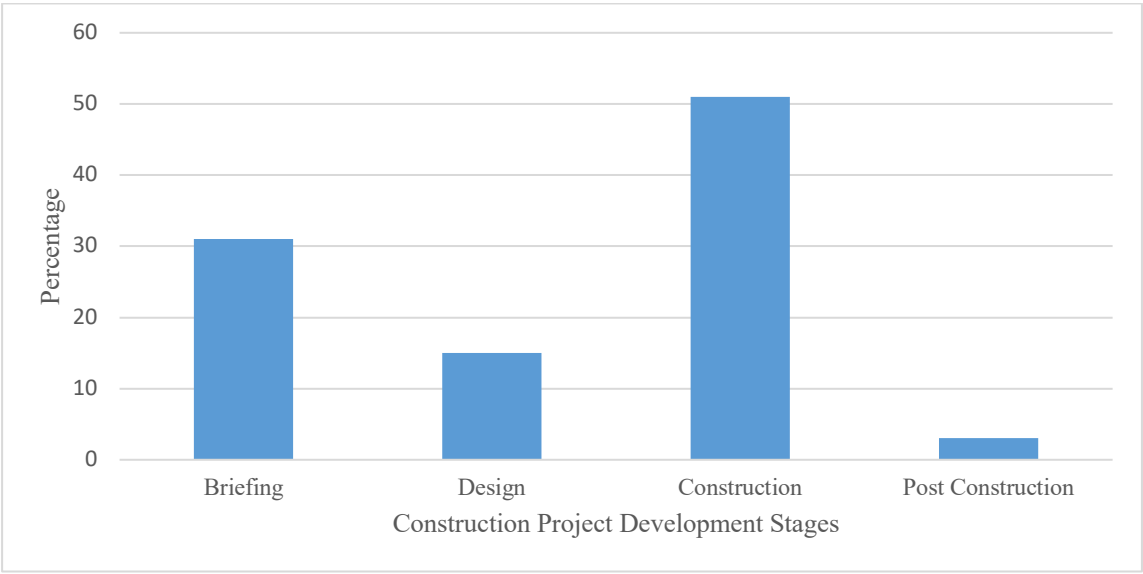


Figure 2. Response on extent of Value Management application in construction project development cycle in North-central Nigeria (Source: Authors field survey, 2019)

Findings of figure 2 shows that 31% of respondents adopt value management at project briefing stage, 15% at project design stage, 51% at project construction stage and 3% at post construction stage. The results of the study indicate a general low-level adoption of value management at the various stages of construction project development cycle in Nigeria, especially at the design and post construction stages. Ashworth (2000) stated that the application of value management during concept development and the initial design stages, will improve value, minimize time and effort, with the overall ability to significantly influence project deliverables. Liu (2005) study apparently explains the relatively low adoption of VM at project initiation stages covering the project briefing and design stages, which in the current study recorded 31% and 15% respectively. Going by Lius' proposition, the poor adoption of VM recorded at all stages of construction development cycle, could apparently be explained by the poor interest shown by clients on its adoption for the execution of their projects. The study's results also align with Ogunsanmi (2014) study which stated that 'although the level of awareness of the concept of construction practitioners is slightly higher than the unaware populace, the methodology has a lesser rate of adoption to practice'. If this declaration is anything to go by, the apparently low adoption statistics of VM as recorded across all stages of the construction development is somewhat expected. The results of the study further aligns with the poor level of awareness of VM earlier shown and variously corroborated by previous scholars. Hence, the need to vigorously improve awareness for improved adoption of the technique in the nation's construction industry.

Objective 3

To evaluate the prospects and challenges of value management adoption in construction projects in North-Central Nigeria.

Table 2. Prospects of implementing Value Management in construction projects in North -Central Nigeria (Source: Authors field survey, 2019)

Identified Prospects of Value Management adoption in Nigeria Construction Industry	**Level of Agreement**						
	1 Strongly Disagree	**2 Disagree**	**3 Undecided**	**4 Agree**	**5 Strongly Agree**	**Weighted Total**	**Ranking Position**
Improved functional requirements	0	0	6	37	16	246	3rd
Improved value and quality of project	0	0	9	30	20	247	2nd
Increased engagement of project team	0	0	12	20	27	251	1st
Development of a multi-disciplinary approach	0	0	7	37	15	244	4th
Reduction in irrelevant cost	0	0	14	32	13	235	6th
Improved stakeholder satisfaction	0	0	8	33	18	246	3rd
Timely identification of risk/uncertainties	0	0	9	40	10	237	5th
Promote Creativity /innovation amongst project team	0	0	6	39	14	244	4th

Table 2 above identified 8 no major prospects of VM implementation in construction projects in North-Central Nigeria. Each of the five (5) metrics namely: Strongly Disagree, Disagree, Undecided, Agree, and Strongly Agree, were used to assess the strength of respondents on the extent to which the identified variable factors constitute prospects for VM implementation in the geo-political zone. The results show that of the 8 no identified major prospects studied, increased engagement of project team (WT-251), and improved value and quality of project (WT-247) ranked 1st and 2nd respectively. The study also revealed that improved functional requirement and improved stakeholder satisfaction had a tie, each with a weighted total (WT) of 246 and ranked 3rd. Oke and Ogunsemi (2011) averred that VM promotes team work, and also enhances quality performance of construction projects. By this, the prospects of increased engagement of project team, and improved value and quality of project which ranked 1st and 2nd respectively in the study's results are further corroborated. The prospects of 'improved value and quality of projects' which ranked 2nd underscores the strategic importance of VM prospects for value

addition. Oke (2015) stated that VM is a very useful tool in providing value for money for clients and enhance great saving of construction cost especially in developed countries. VMs potential for improved functional requirement and improved stakeholders' satisfaction , which tied at 3rd position, aligns with the research findings of Aghimien (2018) which stated some of the benefits of VM as including - ability to identify possible complications early, and Ahmed (2016) which posited that VM aids in creating opportunities for improved communication between parties.

Table 3. Challenges of implementing Value Management in construction projects in North- Central Nigeria (Source: Author's field survey, 2019)

Identified Challenges of Value Management implementation	**Level of Agreement**						
	1 Strongly Disagree	**2 Disagree**	**3 Undecided**	**4 Agree**	**5 Strongly Agree**	**Weighted Total**	**Ranking Position**
Lack of awareness or knowledge of Value Management	2	4	9	31	13	226	6th
Organizational resistance to change	2	3	5	34	15	234	3rd
Lack of qualified value management practitioners	5	5	5	29	14	211	9th
Time Consuming and delay factors	4	3	11	26	15	222	7th
Fear of incurring additional cost due to value management study	7	4	9	30	9	207	10th
Inadequate training and management support	4	0	4	43	8	228	5th
Lack of commitment to implement value management	2	3	9	39	6	217	8th
Inadequacy of VM emphasis in tertiary education curriculum/ relatively weak advocacy by professional bodies	2	2	4	45	6	277	1st
Stakeholders resistance to its introduction and implementation	2	0	12	26	19	237	2nd
Lack of collaboration amongst project team/stakeholders	1	4	8	33	13	230	4th

Results shown in Table 3 examined 10 no. factors that constitute major challenges in the implementation of value management in construction projects in North-Central Nigeria. Similar response metrics to those of Table 2 were used. The 5-point Likert scale assessed the strength of respondents' agreement on the extent to which the identified variable factors constitute challenges to VM implementation in the geo-political zone. The results of the study showed that inadequacy of VM emphasis in tertiary education curriculum/ relatively weak advocacy by professional bodies as a combined factor ranked 1st with a weighted total value of 277. This result is variously corroborated by studies which are underpinned to education curriculum and/or professional bodies, namely- Aduze (2014) -lack of knowledge about VM, Oke (2015) -lack of proper understanding by concerned professionals, Liu (2005)- inadequate knowledge, lack of qualified practitioners , Olawuyi (2009)-low awareness of the utilization of the relevant techniques amongst practitioners, Abidin, 2007; Fan, 2007; Noor, 2015 - Lack of Training and Education in VM, Al-yami (2010) -lack of qualified personnel to implement VM, inherent difficulties in VM workshops, lack of awareness of VM and lack of VM application documents, Olawunmi (2016)- inadequate training and education, Ogunsanya (2015)- professional incompetence, and lack of proper regulatory framework.

Stakeholders resistance to VMs introduction and implementation ranked 2nd with a weighted total value of 237. This result is corroborated by studies of Luvara (2017) which stated that value management has been termed an excellent tool for projects, but its use has waned in recent years due to perceived inadequate support by government agencies and various relevant entities. Stakeholders resistance to VMs introduction and implementation is further supported by studies of Ogunsanya (2015) - government policies, Olawunmi (2016)- lack of receptiveness to new ideas, misperception about VM, and Aduze (2014) - client's negative reception.

Organizational resistance to change ranked 3rd, with WT value of 234. This study result is averred by Olawunmi (2016) study which stated - Lack of receptiveness to new ideas and passive behaviour among VM practitioners constitute key challenges of

VM implementation in Nigeria construction industry. Al-yami (2010) study also corroborated 'organisational resistance to change' by listing organisationally related challenges of leadership, time, awareness and client commitment to VM. The result of the study as shown in Table 1 however, revealed that although 'Lack of awareness/ knowledge of VM' as a identified variable factor ranked a far 6th position, the results can be attributed to certain explanatory factors like those of 'inadequacy of VM emphasis in tertiary education curriculum/ relatively weak advocacy of VM by professional bodies'. It could therefore be deduced that the respondents were more concerned with the cause rather than the effect, hence the seeming remote ranking of lack of awareness/ knowledge of VM against its causative agents of inadequacy of VM emphasis on tertiary curriculum /lack of advocacy by professional bodies.

Conclusion

Inspite of the positive impacts of VM adoption in the construction industry across the globe, the major challenge in Nigeria construction industry is the low awareness level, thus VM is currently poorly understood by construction stakeholders in Nigeria. In consequence, its adoption in the nations' construction industry would take considerable effort in terms of orientation, learning, and advocacy. Also, to expedite value management adoption in Nigeria, it will have to be introduced and committedly embraced by all stakeholders of the nations' construction procurement and delivery chain. Thus, this study has revealed the current low level awareness of value management among construction industry personnel in North central Nigeria region. The study also revealed a general low application of VM at the various stages of construction project development cycle, especially the design and post construction stages. The study revealed inadequacy of VM emphasis in tertiary education curriculum/ and a relatively weak advocacy of VM competency by professional bodies as the major challenges hindering its adoption in the construction industry. The study however, showed prospects of increased engagement of construction stakeholders and others to push for an improved awareness of VM and pacify its current low-level adoption at all stages of a construction development cycle for optimum value.

Recommendations

Arising from the findings and conclusion of this study, the following recommendations are made;

1. The curriculum of tertiary institutions offering construction industry courses together with the certification curriculum programme of the professional institutes should promote an in-depth study and understanding of value management in order to improve the present low-level awareness.
2. Construction industry stakeholders should promote the adoption of VM concept y at all stages of a project development cycle.

The Nigerian government should enact a policy that compels all ministries, departments and agencies (M.D.A) to adopt value management techniques in the development of public infrastructures in Nigeria.

References

Abidin, N. Z. (2007). Revolutionize value management: Amode towards sustainability. *International Journal of Project Management*, 275-282.

Abidin, N. Z. (2008). Achieving Sustainability through Value Management: A Passing Opportunity? *International Journal of Construction Management*, 79-91.

Aduze, O. C. (2014). *A study of the prospects and challenges of value* engineering *in construction projects in Delta and Edo States of Nigeria.* Msc. dissertation, Nnamdi Azikwe University.

Aghimien, D. O. (2015). Application of Value Management to Selected Construction Projects in Nigeria. *Developing Country Studies*, 8-14.

Aghimien, D. O. (2018). Value Management for Sustainable Built Environment in Nigeria. *International Conference on industrial* Engineering *and Operations Management* (pp. 3121-3130). Bandung, Indonesia: IEOM Society International.

Ahmed, K. A. (2016). Concept of Value Engineering in Construction Industry. International *Journal of Science and Research, 5*(4), 1231 - 1237.

Aigbavboa, C. O. (2016). Contribution of valaue management to construction projects in South Africa. *5th Construction* Management *Conference* (pp. 226-234). South Africa: Nelson Mandela Metropolitan University.

Ajator, U. (2004). Value Management and Buildability Assessment as Indispensable Tool for Efficient, Cost Effective Building Productions. *The Quantity Surveyor*, 2-9.

Al-saleh, M. Y. (2010). The integration of sustainability within value management practices: A study of Experienced Value Managers in the GCC Countries. *Project Management Journal, 3*(12), 50-59. doi:10.1002/pmj

Al-yami, A. M. (2010). Assessing the feasibility of using value management to accelerate the implementation of sustainability. Leicestershire, United Kingdom.

Amoush, K. H. (2015). The impact of employing brainstorming strategy on improving writing performance of english major students at Balqa applied university in Jordan. *Journal of Education and Practice*, 6(35), 88-92. Retrieved from https://eric.ed.gov/?id=EJ1086359

Ashworth, A. (2000). *Added Value in Design and Construction.* Essex: Pearson Education Limited.

Ashworth, A. (2005). *Precontract studies: Development economics, tendering and estimating.* Oxford: Blackwell Publishing.

Ayodeji E. O., &. D. (2012). Value Management in the Nigerian Construction Industry: Militaying Factors and Perceived Benefits. *Second International Conference on Advances in Engineering and Technology*, (pp. 353 - 359).

Best, R., and de Valence, G., (eds) (2002), *Design and Construction: Building in value*, Butterworth - Heinemann, Woburn.

Bowen, P., Cattell, K., Edwards, P., & Jay, I. (2010). Value *management* practice by South African quantity surveyors. *Facilities*, 28(1), 46-63. https://doi.org/10.1108/02632771011011396

Bruno LT, Fadhlin A, Zuhaili MR, & Wallace IE 2018. An implementation *framework* of value management in the Nigerian construction industry. Built Environment Project and Asset Management, 8(3): 305-319.

Charles, I., Nasiri, F., & Hammad, A. (2017). *Evaluating the impact of value management and buildability assessment on construction project delivery*. Retrieved from https://www.researchgate.net/publication/317620678_Evaluating_the_Impact_of_Value_Management_and_Buildability_Assessment_on_Construction_Project_Delivery

Coetzee, C. E. (2009, October). Value Management in the construction industry: What does it entail and is it Worthwhile. Pretoria, South Africa: University of Pretoria.

Construction Excellence (2013). *Construction Excellence: Value* Management. Retrieved from http://www.constructionexcellence.Org.uk/pdf/fact_sheet/value.pdf

Fallon, C. (1961). Value engineering and product engineering. *IRE Transactions on Product Engineering and Production*, 5(2), 93-97. https://doi.org/10.1109/TPEP.1961.1136124

Fan, S. S. (2007). Comparative Study of idea Generation between Traditional Value Management Workshops . *Journal of Construction Engineering and Management*, 816-826.

Fong, S. P. (2001). A framework for benchmarking the value management process. *Emerald Insight*, 306-316.

Fong, S. P. (1999). Organisational knowledge and responses of public sector clients towards value management. *The International* Journal *of Public Sector Management, 12*(5), 445-454.

Gidado, K. (1995). Political and Economic Development in Nigeria, what procurement system is suitable? *Conference Proceedings* of *CIB W92 – Procurement Systems: North meets South, Developing ideas.* South Africa.

Gillier, T., Hooge, S., & Piat, G. (2014). Framing value management for creative projects: An expansive perspective. International Journal of Project Management, 1-14. https://doi.org/10.1016/j.ijproman. 2014.11.002

Hayatu, U. A. (2015). *An Assessment of the Nigerian Construction Industries Readiness to adopt value management process in effective delivery.* Zaria: PGS, Ahmadu Bello University.

Jaapar A., &. A. (2005). Value Management: In General. *Institute of Value Management Malaysia*.

Jaapar, A. M. (2012). Implementation of Value Management in Public Projects. *Procedia - Social and Behavioral Sciences*, 77-86.

James SK (2012). Talent management: Effect on organizational performance. *Journal of Management Research*, 4(2): 178-185

Karim, S. B. A., Rahmin, R. 'Adawiyah A., Danuri, M. S. M., & Mohamed, O. (2014). Developing the Value Management Maturity Model (VM3 ©). *Journal of Design and Built Environment*, 14 (June), 1-10.

Kassa, A. O. (2018). *Value analysis and engineering reengineered* (1st ed.). Florida, United States of America: CRC Press.

Kaur, G. (2012). The value management advocate. Malaysian Business. June 1, pp.36-38. Kuala Lumpur: Berita Publishing.

Kelly, S. R. (2001). *Value Management in Design and Construction: The Economic Management of projects* (1st Edition ed.). London: E and F Spon.

Kelly, J., Male, S., & Graham, D., (2004). *Value Management of Construction Projects*. Blackwell, Oxford.

Kelly, J., & Male, S. (2006). *Value management*. In Kelly, J., Morledge, R., & Wilkinson, S.(Ed.), Best value in construction, United Kingdom: Blackwell Publishing, pp. 77-99.

Kelly, J., Male, S., & Graham, D. (2015). *Value management of construction projects. In Value Management of Construction Projects* (2nd ed.) (pp. 173-190). John Wiley & Sons, Ltd.

Kim, S., Lim, J., Kim, J., & Cheon, Y. (2010). Application of value analysis for SOC project in Korea. In *SAVE International's 50th Annual Conference*, 7-10 June 2010, Long beach, California.

Kim, S. Y. (2016). Barriers to applying Value Management in the Vietnamese Construction Industry. *Journal of Construction in Developing Countries*, 55-80.

Kissi, E., Boateng, E. B., & Badu, A.-K. (2016). Principal component analysis of challenges facing the implementation of value engineering in public projects in developing countries. *International Journal of Construction Management*, 17(2), 142-150. https://doi.org/10.1080/15623599.2016.1233088

Liu, G. (2005). Value Management in China: Current State and Future Prospect. *Management Decision, 43*(4), 603 – 610.

Luvara, M. G. (2017). Obstacles against value management practice in building projects of dar es salaam Tanzania. *International Journal of Construction Engineering and Management*, 13-21.

Manolaidis, O. (2012). Sustainability issues as applied to the Value Management Practices in Construction Projects. *International Conference on Sustainable Design, Engineering, and Construction.* Texas: American Society of Civil Engineers.

Mansour, K. A. (2015). Value Management in Developing Countries. International Conference Data Mining, Civil and Mechanical Engineering (ICDMCME'2015) Feb. 1-2, 2015 Bali (Indonesia), 101-104.

Maznan N. A., (2012). Value Management : Private Sector's Perception. *Procedia social and behavioral sciences*, 383 - 391.

Mishra A., K. (2019). Implementation status of value management in project management practice in Nepal. *International Journal of Management Studies, VI*(1(1)), 92 - 108. doi:10.18843/ijms/v6i1(1)/13

Moser, C. A. (2017). *Survey Methods in Social Investigation*. In Survey Methods in Social Investigation. Routledge. https://doi.org/10.4324/9781315241999

Ndu, V. Agbaeze, E. Arisi-Nwugballa, E. & Okwo, H. (2019). "A Comparative Analysis of Value Management Practice Between Consumer and Construction Based Firms". Problems and Perspectives in Management, Volume 17, Issue 3, 280-292

Nnadi, E. O. (2018). Value Management as an Efficient Risk Management Tool. *International Journal of Advanced and Multidisiplinary Engineering Science, 2*(1), 1-6.

Noor, N. K. (2015). Sustainability concern in Value Management: A study on Government's building project. *International Journal of Current Research and Academic Review*, 72-83.

Ogunsanmi., O. E. (2014). Value Management awareness and utilization in construction projescts in Lagos state, Nigeria. Lagos, Lagos, Nigeria/ West Africa.

Ogunsanya, O. A. (2015). Application of Value Management Methodologies to Project Selection in Nigerian Construction Industry. *Proceedings of the DII-2015 Conference* . Zambia.

Ogunsemi, D. R. (2015). *Value for Money in Construction Projects: The Quantity Surveyors Quest.* Akure: Inaugural Lecture Series.

Ojo, L. & Ogunsemi, D. (2018). Critical drivers (CDs) of value management adoption in the Nigerian construction industry: A Delphi study. *Journal of Engineering*, Design and Technology. 17. 10.1108/JEDT-09-2018-0143.

Oke, A. E. & Ogunsemi, D. R. (2011). Value Management in the Nigerian Construction Industry: Militating Factors and the Perceived Benefits. *Second International* Conference on Advances in Engineering and Technology, 353 - 359.

Oke, E. A., Aghimien, O.D., & Olatunji, O. S. (2015). Implementation of value management as an economic sustainability tool for building construction in Nigeria. *International Journal of Managing Value and Supply Chains*, 6(4), 55-64. https://doi.org/10.5121/ijmvsc.2015.6405Olanrewaju, A. L. (2007). Value management: New direction for Quantity Surveyors. *Proceedings of a conference on Leading through innovation* (pp. 102 - 109). Malaysia: Malaysian Institute of Quantity Surveyors.

Olawunmi, T. O. (2016). Value Management - Creating Functional Value for Construction Project: An Exploratory study. *World Scientific News*, 40-59.

Olawuyi B. J. (2009). An Appraisal of value engineering and the awareness level amongst Nigeria Construction Professionals. *Research Gate*.

Olatunji O. A., (2006) A system view of the labour profile structure of the construction industry in the developing countries: Nigeria, a case study. Proceedings at the International Conference in the Built Environment in the 21st Century (ICIBE), Kuala Lumpur, Malaysia.

Olatunji J. O. (2009) Innovative Waste Management Through the Use of Waste Management Plans on Construction Projects in Nigeria, *Architectural Engineering and Design Management*, 5:3, 165-176.

Omole, A. O. (2000). Quality of Professional Service and Ethics. The Quantity Surveyor , 33, 2 - 7 .

Perera, S., Hayles, C. S., & Kerlin, S. (2011). An analysis of value management in practice: The case of Northern Ireland's construction industry. *Journal of Financial Management of Property and Construction*, 16(2), 94-110. https://doi.org/10.1108/13664381111153097

Rangelova, F. &. (2014). Value Management in construction project. *First scientific-applied conference with international participation " project management in* construction*"*. University of rchitecture, Civil Engineering and Geodesy.

Saifulnizam, M. (2011). *Implementing Value Management as a decision making tool in the design stages of design and build construction projects: A Methodolgy for improved cost optimization.* Australia.

Sari., Y. &. (2015). Value Manaement Perception by practitioners in Real Estate Development Process. *international Journal of Engineering Research & Technology, 4*(7), 851-855.

Sieben, G. P. (2010). *Implementation problems and benefits of a value management program.* New York: Focus 77 Expand Horizons Sweet Associates.

Spaulding WM, Bridge A, & Skitmore M (2005). The use of functional analysis as a basis for value management in the Australian construction industry. *Construction Management and Economics*, 23(7): 723-732.

Srinath, P. G. (2003). Application of Value Management in Construction. *Built Environment - Sri Lanka*.

Tam V.W, Fung I.W, Chan J.K, Yu M.S (2013). Adoption of design and build procurement method: An empirical study on Wynn Macau resort. *International Journal of Construction Project Management*, 6(1): 3-12.

The Institute of Value Management 2008. *What is Value Management?* From <http://www.ivalue management. org.uk/what_value management.htm> (Retrieved on 17 January 2021).

Verhoef, P. C., Doorn, J., & Dorotic, M. (2015). Customer value Management: An overview and research agenda. *Marketing ZFP*, 29(2), 105-122. https://doi. org/10.15358/0344-1369-2007-jrm-2-105

Vitalis, N. C., Agbeaze, E. K., Joseph, O., & Solomon, O. (2019). Value Management and Organizational Performance: A Case of Selected Manufacturing Firms in South-East, Nigeria. J Hum Ecol, 67(1-3): 31-44

Walker, D., & McDonald, C. &. (2013). Towards a Project Alliance Value for Money Framework. Emerald insight, 31(5/6), 279-309.

Wandahl, S. (2003). Value Management as a means for increasing effectiveness and efficiency in construction projects. Denmark.

Wilson, D. (2005). Value Engineering in Transportation. *NCHRP Synthesis*, p. 352.

Zuofa, T. (2017). Sustainability in Construction Project Delivery; A Study of Experienced Project Managers in Nigeria. *Project Management Journal*, 44-55.

Extending the Scope of Morpho Analysis: an Iranian Exploration

[1]Mazyar Abaee, [2]Vitor Oliveira

Journal of Urban Research and Development
2021, Vol. 2 30- 46

https://ojs.emu.edu.tr/

[1]*Urban Planning and Architecture Research Centre of Iran, No. 272, block 11, Ekbatan,1395943971, Tehran, Iran. E-mail: mzr.abaee@ut.ac.ir, +98 912 2131779*
ORCID: https://orcid.org/0000-0003-3069-3920
[2]*TTA Research Centre for Territory Transports and Environment, Rua Roberto Frias s/n, 4200-465 Porto, Portugal. E-mail: vitorm@fe.up.pt. ORCID: http://orcid.org/0000-0002-7569-3839*

Abstract

The study of urban form in Iran has been mainly focused on historical urban landscapes. Furthermore, morphological studies have mostly adopted a descriptive qualitative emphasis, many times related to 'particular' aspects of the object under analysis and not to 'general' frameworks of explanation. While acknowledging the unique urban history of the country, this paper focus on contemporary urban forms, offering a balance between description and explanation, qualitative and quantitative analysis, and 'particular' and 'general' views. It proposes the Morpho methodology, focused on the town-plan elements – streets, street blocks, plots and buildings – for the analysis of contemporary urban landscapes. Morpho is applied into two districts in Tehran. The application makes evident how this morphological framework can be used in the description and explanation of contemporary urban landscapes, highlighting the main strengths (high density of street blocks and plots, high coincidence between building and plot frontages) and weaknesses (low to medium permeability of streets) of the two districts.

Keywords

Urban Morphology, Morpho Methodology, Town-Plan, Contemporary Urban Landscapes, Tehran

Introduction

Encompassing some of oldest cities of the world in its current borders, Iran has a rich repertoire of urban forms shaped by geographical diversity, different dynasties ruling the country over 2500 years of urban history, profound changes in religious beliefs from Zoroastrian to Islam, and the technological achievements of each period.

The study of urban form in Iran, mainly relies on archaeological excavations, descriptive narrations of single cities (Sami, 1951; Schmidt 1953; Morris, 1963), and typological analysis of specialized buildings, like exceptional houses, mosques, schools, baths, gardens, and their pavilions (Memarian, 2006a, 2006b; Shaterian, 2011). There are few studies on neighbourhoods, streets and squares, and available analytical works of urban forms mostly use interpretative methods to describe the morphological nature of Iranian cities (Ferdosian, 2002; Ahari, 2014). Although there are some works addressing the urban form of Iranian Cities in a morphological perspective, like general studies of main cities (Bonine, 1979; Habibi, 1999; Karimi, 1998), or investigating well-known cities (Bahrambeygui, 1972; Costello 1998), only some recent papers have relied on classical analytical methods of urban morphology to offer new perspectives on reading the physical form of cities (Esfanjary 2015, Lak and Hakimian 2018). Still, even these recent studies generally neglect contemporary cities (or contemporary parts of old cities), as well as their urban fabrics and buildings.

The history of contemporary Iran began when the Qajar dynasty took control of the country in 1786, moving the capital city from Shiraz to Tehran. After more than 100 years of war, following the Safavid dynasty, the Iranian government strengthened its relationships with different countries, mainly in Europe. These relationships led Iranian kings to follow European processes of urban development as a sign of

modernity. Naser-al-din Shah, the fourth king of Qajar, expanded the borders of the city and started to import the main forms and functions of European cities. The next and last Dynasty of Iran, Pahlavi, was contemporary of international modernism, and the first king of the dynasty, Reza Shah, started the modernization process of Iran, with extensive relationships, mainly with Europe. In this period, Tehran, the capital city, became the 'showroom' of modernistic buildings and urban forms in Iran.

This paper addresses a part of Tehran developed in the first and second Pahlavi periods, including some urban fabrics structured by new boulevards and streets, plot systems radically different from traditional ones, and many of the first modernistic towers of the country. A new planning and architectural paradigm are evident in the way these streets, street blocks, plots and buildings are organized. The study area of this paper addresses districts 6 and 7, including 14 residential and service areas: Tehran University, Fatemi, Amirabad, Valiasr, Iranshahr, Qaemmagham, Abbasabad, Arjantin, Bahar, Amjadieh, Niloufar, Sohrevardi, Yousef Abad, Gandhi, and Abbasabad city centre. The study area is separated from the historical part of the city by Enghelab street, starting from Enghelab sq. in the west to Imam Hossein sq. in the east. These areas have been developed after the Iranian Revolution of 1979, mainly as mixed zones, including residential, commercial, service, business, administrative and educational land uses. The area has been the first exploration of modernism in Iran. Many traditional cities after Tehran repeated this modern pattern of urban development. Yet, in recent years, this type of urban fabric has been facing increasing criticism (Madanipour, 2006). This is mainly based on comparison with traditional fabrics, and to the inefficiency of new fabrics in relation to current requirements of urban development.

The analytical approach proposed in this paper is supported by the Morpho methodology. Morpho has been originally proposed as a methodology to address the physical form of cities through a focus on the most permanent elements of urban form – the town-plan, or ground plan. The methodology was first applied at the street scale (Oliveira, 2013). It has been subsequently developed and applied at the city scale (Oliveira and Medeiros, 2016), and later in the comparison of a large number of cities (Oliveira *et al*., 2020). Morpho first analyses the density and spatial accessibility of the street system, moving then to the density of street blocks and plots, and finally to the coincidence between building and plot frontages. The application to Tehran highlights the main strengths (high density of street blocks and plots, high coincidence between building and plot frontages in two representative streets) and weaknesses (low to medium permeability of streets) of districts 6 and 7 of the Iranian capital.

Contemporary Tehran

About 240 years ago, Tehran, an 'organic' walled town structured by the traditional elements of Iranian cities – the castle (*arg*), neighbourhoods (*mahallahs*), square (*meidan*) and bazaar – and being the home of 15.000 people, became the capital of Iran, under the rule of the Qajar dynasty (Figure 1). After becoming the capital, the city grew, and in mid-nineteenth century the need for structural changes became obvious. The process of transformation was carried out by King Naser-al-din-shah. The city walls were demolished, the *mahallahs* have grown, a high number of straight streets have been built, and 'traditional buildings' have been replaced by 'eclectic buildings'. All these changes, taking place in the late nineteenth century, were simultaneous to major transformations in different cities around the world (Figure 2).

Figure 1. Brezin map of Tehran, 1827 (source: public domain)

Figure 2. dolqaffar map of Tehran, 1903 (source: public domain)

In 1920, the Ghajar kingdom was replaced by the Pahlavi kingdom. The aim of the first king, Reza Shah, was to start a new process of modernization of the country. Based on principles of effectiveness and efficiency of the modern city, Iranian old fabrics went through extensive 'surgery', including the construction of long straight streets into extant areas (Figure 3).

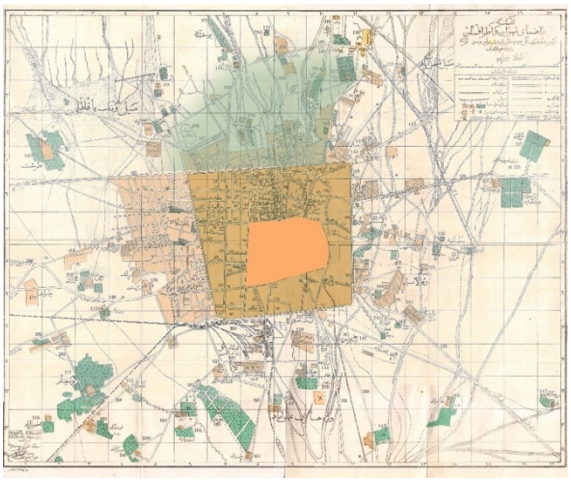


Figure 3. Qaffari map of Tehran, occupation of Allied troops, 1924 (source: public domain)

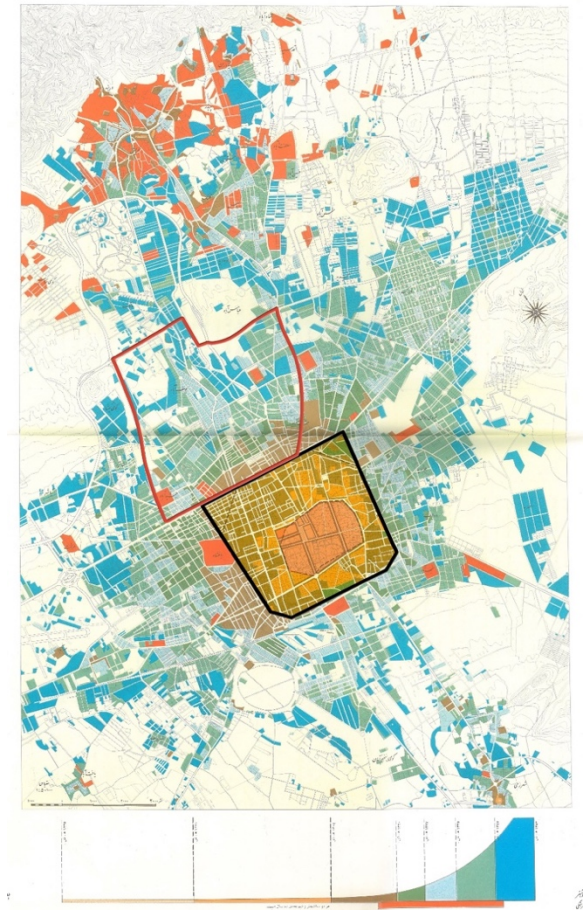


Figure 4. Tehran in second Pahlavi dynasty (source: Iranian Supreme Council of Culture and Art, 1977)

This process continued during the government of the next king, Mohammad Reza Pahlavi. As a first influence of modern planning in the country, many modern forms have been inserted into the urban fabric: highways, boulevards, public buildings, and towers, to name just a few (Figure 4). Tehran grew rapidly. This growth, developed under a new planning framework, needed a number of fast-spreading forms guided by new regulations. That is the case of a building coverage rule that had a strong impact in the Iranian capital, proposing 60% of building coverage, the building occupying the north part of the plot (Figure 5).

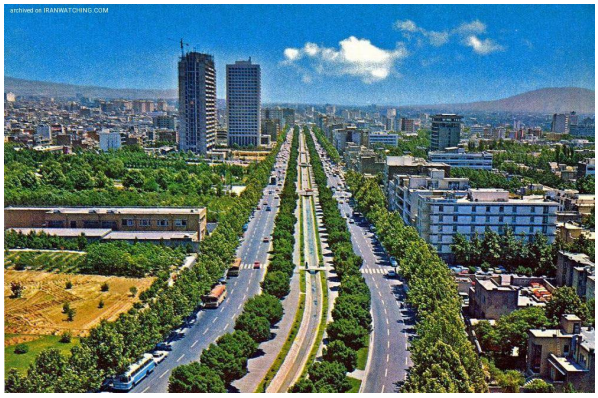


Figure 5. Keshavarz (Elizabeth) boulevard in the 1970s (source: Shafaonline press)

In 1979, the Islamic revolution introduced a dramatic change in the country, from a parliamentary kingdom to an elective, but value-oriented, system. During this period of four decades and after the war between Iran and Iraq, Tehran experienced intense growth, and currently it is a metropolitan area of 730 km², made of 22 districts and the 'night' home of 8.6 million inhabitants within the city boundary (Figure 6).

The study area of this paper includes district 6, and part of district 7, which started to be developed during the Reza Shah dynasty, being continuously developed in the Mohammad Reza Shah Dynasty, and completed in the Islamic Revolution period. This part of the city is the home of 400.000 inhabitants, mainly middle-class citizens (Figure 7). The study area includes different streets, street blocks, plots, buildings, and activities. Figure 8 and 9 portrait the different urban landscapes of the study area, highlighting the presence of the so-called 'international style' (8a and 8b, Keshavarz Boulevard), with its partial hill areas and complex combination of buildings (8c, Gandhi Street), and with its south to north slope, part of some of the main streets of the city (8d, Valiasr Street). This diverse area contains early modern buildings (9a), artistic manifestations of modernist architecture, in the forms in individual buildings (9c), in the incidence of the international style (9d), and the domestic representation of modern concepts in residential buildings (9e).

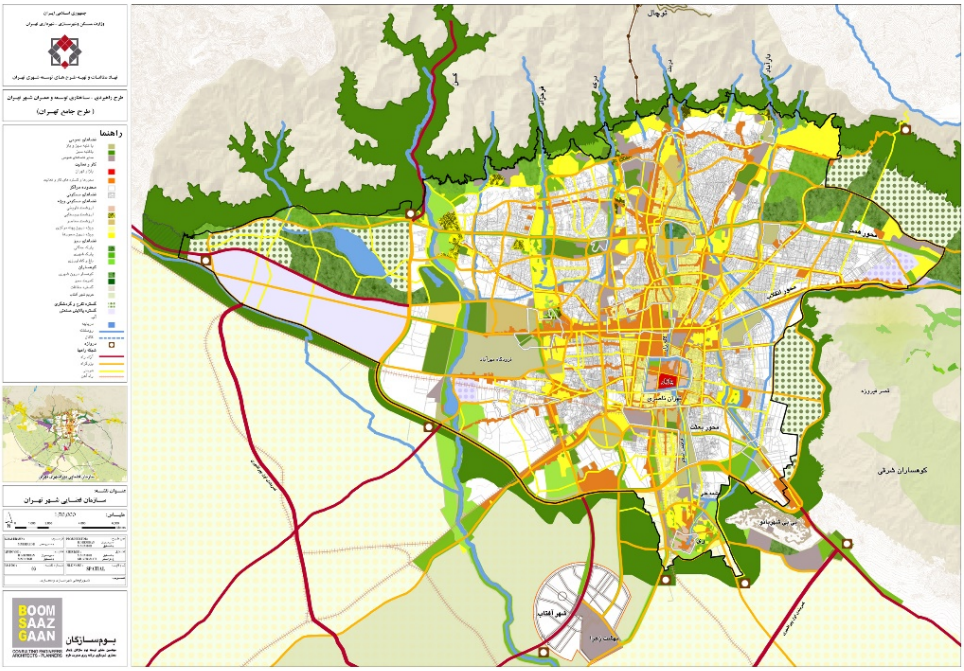


Figure 6. Plan for Tehran, 2012 – Boomsaazgaan Consulting

Figure 7. Early modern developments in Tehran (case study area in white), north of the historical centre (in grey)

Figure 8. (a) (b) Keshavarz (Elizabeth) Boulevard; (c) Gandhi Street (north to south); and (d) Valiasr Street (south to north)

Figure 9. (a) Commercial-business building in Bozorgmehr Street; (b) Poursina Street, the backstreet of the University of Tehran; residential building in Tavanir neighbourhood; (d) Taleqani Street, gathering many business headquarters; and (e) 1940s residential building (change in utilization) (c) 1970s

Morpho methodology

Morpho has been proposed in the debate as a methodology to address the physical form of cities, focusing on the most permanent elements of urban form. While addressing different elements and characteristics when studying different scales (from the plot to the neighbourhood, and from this to the city and the metropolitan area – Oliveira 2020), the core of analysis is made of streets, street blocks, plots, and the block-plans of buildings. The methodology was first applied at the street scale (Oliveira, 2013), then at the city scale (Oliveira and Medeiros, 2016), and finally in the comparison of a large number of cities (Oliveira *et al*., 2020).

The focus on the town-plan as the key element for the description and explanation of the historico-geographical structure of the urban landscape – being then complemented by the analysis of the building fabric, and the land and building utilization – is shared by the historico-geographical approach (see, for instance, Conzen M. R. G., 1960; Conzen M. P., 2018; Oliveira, 2019). While the historico-geographical approach addresses the processes of change through a

number of concepts, from the fringe belt (Conzen M. R. G., 1960; Whitehand, 1972; Conzen, M. P., 2009) to the burgage cycle (Conzen M. R. G., 1960; Slater, 1990), Morpho explores the dynamics of urban transformation through the specific changes in the main characteristics of the fundamental elements of urban form (Oliveira *et al*., 2020).

What is specific to Morpho is the selection and quantitative measurement of a particular set of characteristics of streets, street blocks (contrarily to the historico-geographical approach where these are addressed indirectly, Morpho has a direct focus on street blocks due to their major importance in understanding urban form), plots, and the block-plans of buildings, and the innovative nature of one characteristic – the coincidence between building and plot frontages. It is argued that the reading of these elements offers a structural understanding of the urban landscape.

Being selective and proposing a structural understanding of urban form, Morpho does not aim to deal with all relevant aspects of that physical form. Accordingly, this analysis of the town-plan can be complemented by other three-dimensional elements of the building fabric, particularly in areas containing significant heritage structures, such as historical landscapes (Oliveira, 2020). Finally, it was argued that there is a correlation between the density and accessibility of streets, density of street blocks and plots, and frontage coincidence (the focus of Morpho), on the one hand, and the socioeconomic diversity and environmental sustainability, on the other hand (Oliveira, 2020).

Morpho first analyses the density and spatial accessibility of the street system, including not only streets, but also squares and gardens. It addresses the density of intersections, highlighting the presence of 4-(or more) ways nodes in relation to 3-ways nodes, as being more effective in promoting the diversification of urban flows. Morpho then moves to the density of street blocks and the density of plots. Finally, the coincidence between building and plot frontages (front wall of building on front of plot) is analysed. More particularly, in each street-block, the number of plots where building and plot frontage is coincident is measured and expressed as a percentage. In terms of measurement procedure, one building within one plot is considered aligned if more than 50% of the building frontage coincides with the plot frontage.

Adjustments in the methodology for application into Tehran

The application of Morpho to Tehran has three innovative features. Firstly, it is the first application of this methodology into an Iranian city. Secondly, the measurement of density of the street system is explored in greater detail being divided into five simple measures and one composite measure. Thirdly, the measurement of the street block is divided into two measures.

The first measure of the street system is intersection density (following closely Remali and Porta, 2017). The measure is the weighted number of intersections ($ID = 3N_4 + 2N_3 – 1N_1$), where: N_4 is the number of four (or more)-way nodes, N_3 is the number of three-way nodes and N_1 is the number of dead ends, in each cell. The second is street density, the total street length relative to each grid cell area (16ha). The third is the link-node ratio, meaning the number of links (streets) divided by the total number of nodes (including dead ends) within each cell. The fourth is internal connectivity, the ratio between the number of 'real' nodes (non-dead ends) and the number of all nodes (including dead ends) in each cell. The fifth is external connectivity, meaning the density of ingress/egress points at the boundary of each cell ($EC = IE / PL * 100$), where IE is the total number of ingress/egress points, and PL is the total perimeter length of each cell (here 1600 m). Ingress/egress points are the notional intersections created where the case study area boundary crosses a street. Finally, permeability is a combined measure resulting from these five measures. The measurement of the street system (Figure 10) considers a super grid, of 400*400m cell size. As the regular border of the super grid covers more area than the irregular boundary of the case study, some adjacent areas are considered in measurements to eliminate the bias of calculations. The calculation of these five measures, in ArcMap software, uses a number of intervals offered by the Natural Breaks (Jenks) method.

The analysis of street blocks is based on two measures. The first is the density of street-blocks, and it is expressed by the size of each street block. The second measure is the elongation of street blocks, which is the quotient of the perimeter by the area of the street block (in hectares). The analysis of plots is based on the density of this element of urban form, meaning the number of plots in each street-block (per hectare). The analysis of buildings is based on the coincidence of building and plot frontages, according to two categories: (i) coincidence or mostly coincidence (coincidence of building and plot frontages is present in more than 50 percent of the street-block); and (ii) non-coincidence or mostly non-coincidence (non-coincidence is present in more than 50 percent of the street-block). Two representative streets, west-east Keshavarz boulevard and north-south Gandhi street, are investigated for the detailed assessment of the last criterion.

Figure 10. The street system of the grid study area

Morpho application into Tehran Streets

The analysis of streets is divided into five measures and a sixth composite measure. Table 1 gathers the results of each measurement. This paragraph, as well as Figure 11, offers more detail on the measurement of intersection density. The analysis of intersection density and the other four measures, draws on five different classes. The first class (low density, represented in Figure 11 by a bright colour) includes the street system of vacant lands and large areas, such as parks. The second class includes the streets serving administrative and official areas, mainly located near vacant lands. The third class covers most parts of the grid study area, representing the regular street system of commercial areas and well-defined intersections distanced from each other, as well as a number of squares. The fourth class includes streets serving areas with diverse types of street blocks, diverse types of intersections, sometimes with more than four streets, and short distances between intersections. The fifth class (high density, represented in Figure 11 by a dark colour) comprises the street system of areas with small street blocks with several dead ends, short distances between intersections, and fine-grained residential fabrics.

Permeability makes evident how different measures interact. It is calculated by multiplying all measures together. As such, a composite number is the complex result of interaction between different simple numbers. The values of permeability are interpreted qualitatively. Four classes are considered (Figure 12). Areas with immeasurable values (covering 25 cells of the grid, 11.1% of the study area) have been eliminated from classification. The first class, low permeability, includes areas where highways cut the extant urban fabric, boulevards, and wide streets (with large street blocks). The second class, medium permeability, comprises areas made of medium-size street blocks, generally with three-sides intersections. The third class, high permeability, includes areas in which small blocks and medium-size street blocks are combined. Finally, the fourth class, very high permeability, comprises small size street blocks, and a street pattern near to gridiron; it also includes street blocks with dead

ends. Apparently, the small size of the street blocks and the grid pattern compensates the negative weight of dead ends.

Table 1 gathers the different measures for street network analysis, representing horizontal relations between the different measures. Firstly, different measurements have identified vacant lands with highway peripheries covered between 12.4 to 17.3 % of the study area. Secondly, there are class/classes in each measure that include/s areas with large plots. The area sum of the boundaries that cover vacant lands, administrative and official plots, and large plots is nearly 50 % of the total study area. Thirdly, in three measures, street density, link-node ratio, and internal connectivity, there are classes indicating gridiron patterns covering 22 to 35% of the study area. Finally, diverse classes dealing with dead ends show a clear interrelationship; the lowest and the highest values pointing to the presence of dead ends are near 21 %-33 %). The combined measure of permeability confirms the results founded in the different measures. In this measure, the first class, low permeability, covers near 55 % of the study area. Similarly, the sum value of high and very high permeability is near 20 %, close to the classes that indicate the gridiron system. It seems that areas included in other classes of measures are combined to configure the 'medium permeability' class, although they might be covered partially by boundaries of low, high, and very high permeability.

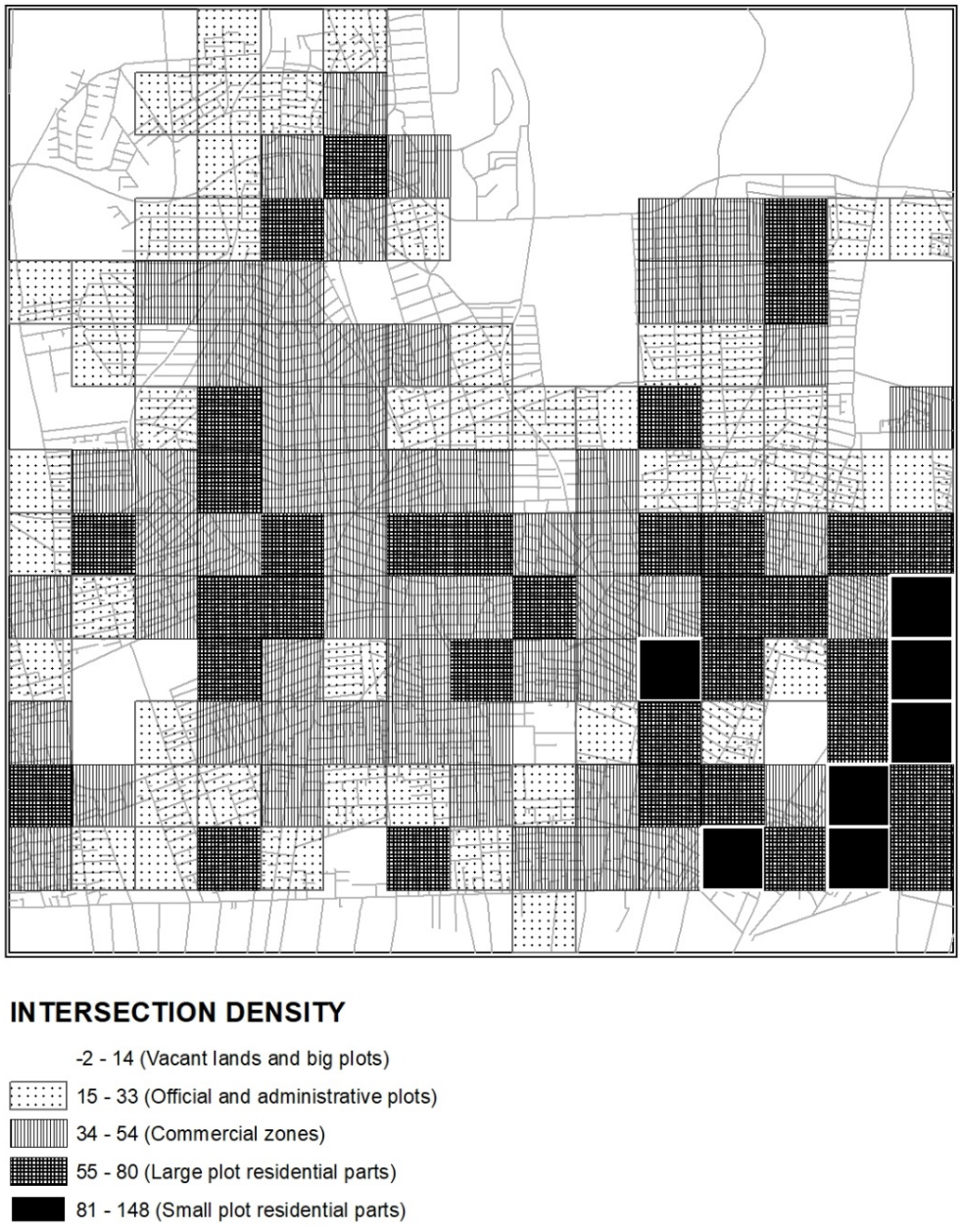


Figure 11. Intersection density

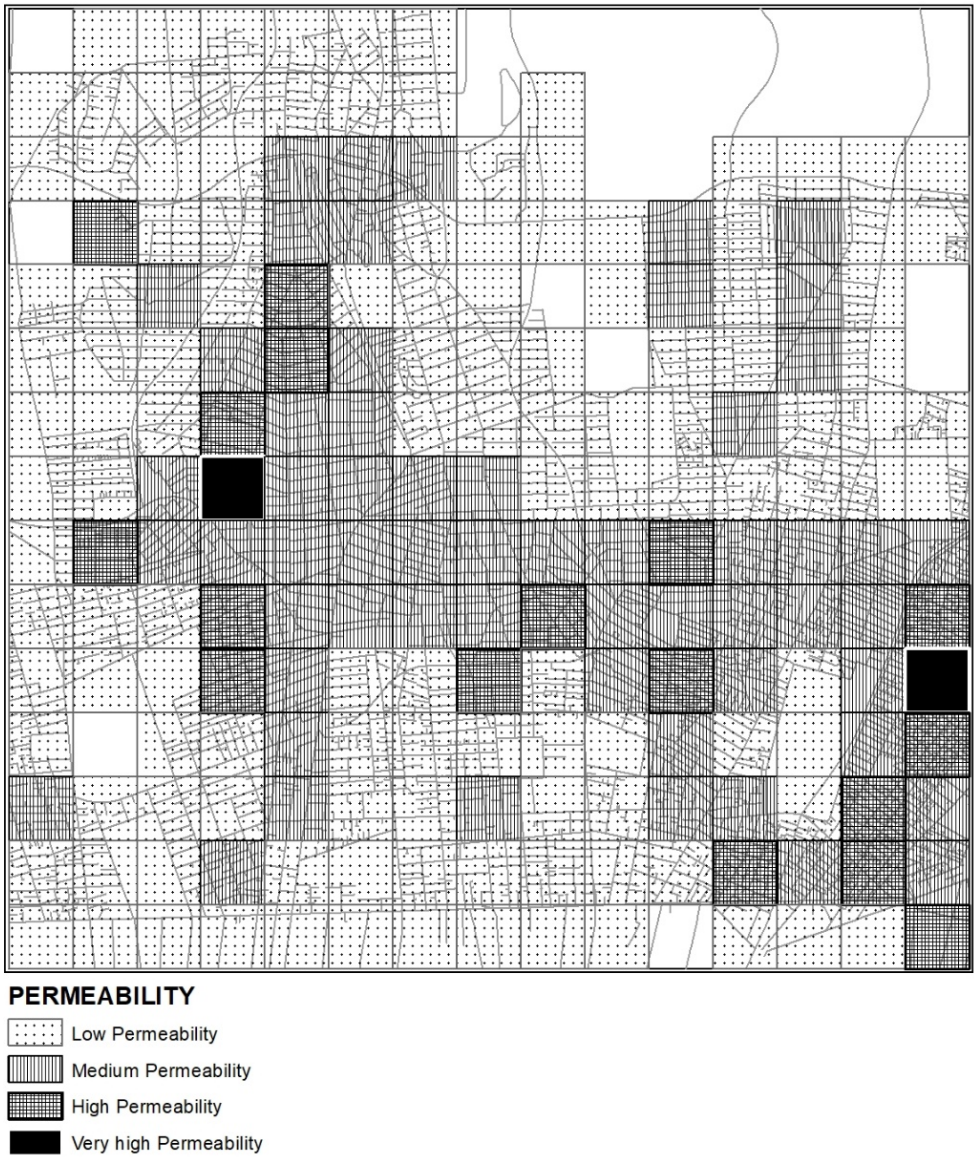


Figure 12. Permeability of streets

Street blocks

Street blocks are first classified according to their size into three main groups: small (classes 1 and 2), medium (class 3), and large (classes 4 to 6) – Table 2. The highest frequency is small size street blocks (72,9 %), followed by medium (19,8 %), and large size (7,3%). Figure 13 shows the geographical distribution of street block size. Despite the very large street blocks (larger than 100.000 m^2) located north, north-west and in the southern strip of the study area, the frequency of small size street-blocks is higher, especially at north, north-west, south, and south-east of the study area.

Street blocks are then classified according to elongation (the relation between length and width)

Four classes are considered: no elongation, low elongation (rectangular shape, where length is usually two or three times higher than width), medium elongation (street blocks with several dead ends, where length is, in general, five times higher than width), and high elongation (narrow and non-rectangular shape, with several dead ends) – Table 3 and Figure 14. Only 2% of the street-blocks belongs to class 1, which generally include vacant lands, administrative areas, universities and city parks. One third of the study area is made of street blocks of reduced elongation, but the most frequent street block elongation is ‘medium’. Nearly one out of four street-blocks has high elongation, which can be found in the north-east and south-east parts of the study area.

Table 1. Streets: synthesis of different measures

Measurement	Classes	Distribution (%)
Intersection density	Vacant lands; large plots	34,2
	Official and administrative areas	21,4
	Commercial areas	26,2
	Residential areas; large plots	15,1
	Residential areas, small plots	3,1
Street Density	Vacant lands and highway peripheries	12,4
	Tissues with low number of streets; large plots	21,3
	Tissues with long street-blocks and tissues with large plots	19,6
	Low number of dead ends; large plots	24,0
	Regular grid pattern; medium and small-size plots	22,7
Link-node ratio	Vacant lands and highway peripheries	14,2
	Street-blocks with dead ends	33,3
	Main streets with large plots	29,8
	Similar to complete grid	17,8
	Complete grid pattern	4,9
Internal Connectivity	Vacant lands	14,7
	Street-blocks with dead end alleys	28,5
	Street-blocks with few dead ends	21,3
	Complete grids, mixing large street-blocks with some dead ends	20,9
	Complete grids, with no dead ends	14,6
External Connectivity	Vacant lands and highway peripheries	17,3
	Street-blocks with large plots	26,2
	Large and long street-blocks; large street-blocks with few dead ends	28,0
	Medium-size street-blocks	21,8
	Small-size street-blocks	6,7
Permeability	Low permeability	54,7
	Medium permeability	25,8
	High permeability	7,5
	Very high permeability	12,0

Table 2. Dimension of street blocks

	Small		Medium	Large		
Type	0-5000 m^2	5000-10000 m^2	10000-20000 m^2	20000-50000 m^2	50000-100000 m^2	>100000 m^2
%	36,2	36,7	19,8	5,7	0,7	0,9

Table 3. Elongation of street-blocks

Type	No elongation (<=200)	Low elongation (201-500)	Medium elongation (501-800)	High elongation (801<)
%	2.1	33.7	40.2	24.0

Table 4. Density of plots in the street blocks (per hectare)

Type	High		Medium		Low	
	>51 plots/ha	50-21 plots/ha	11-20 plots/ha	6-10 plots/ha	2-5 plots/ha	1 plots/ha
%	19.6	62.0	11.6	2.0	2.5	2.3

Table 5. Coincidence of building and plot frontages

	Keshavarz Boulevard		Gandhi Street	
Type	MC (%)	MNC (%)	MC (%)	MNC (%)
%	68	32	84	16

Figure 13. Density of street-blocks

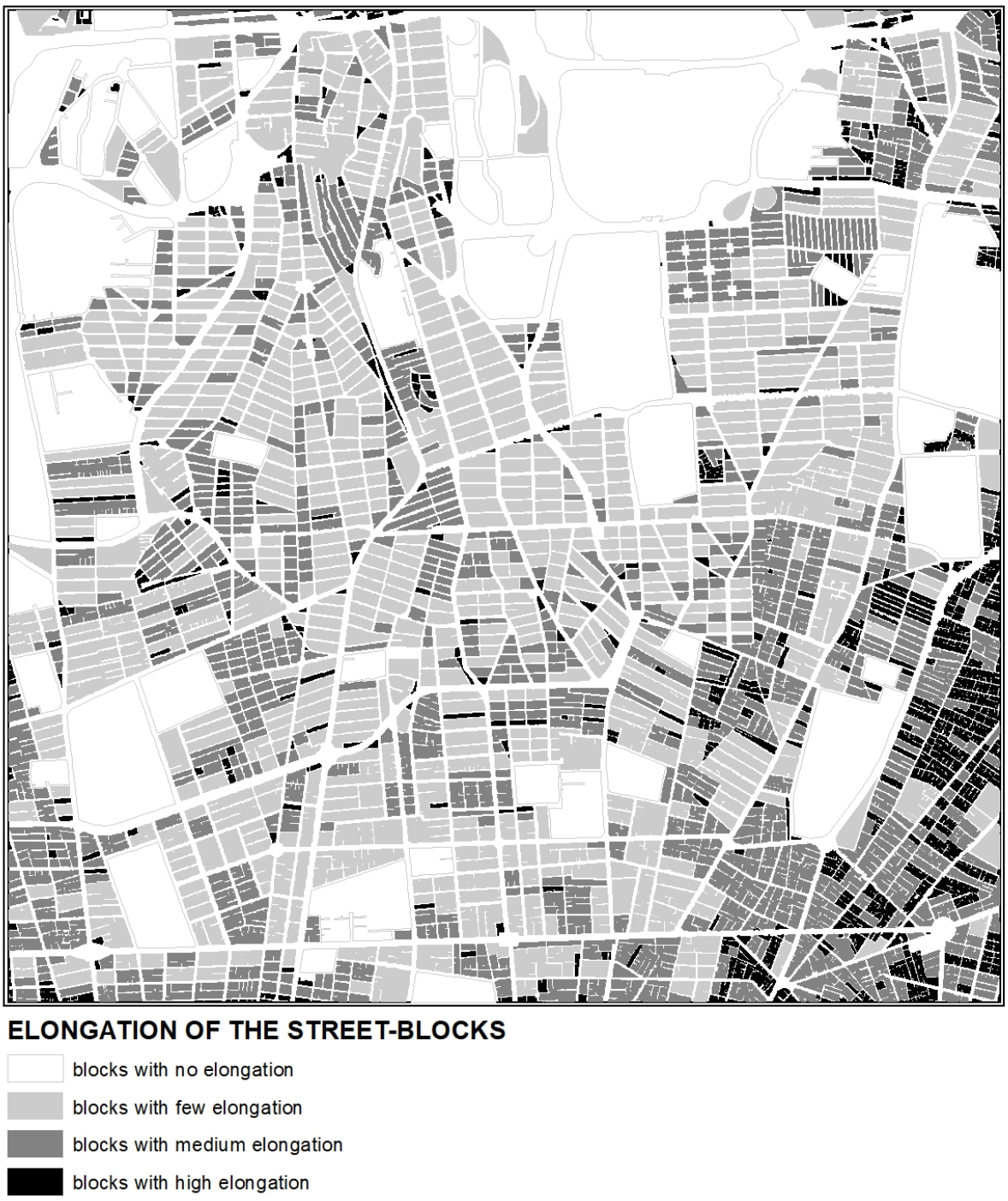


Figure 14. Elongation of street-blocks

Plots

Plots are analysed according to their density in street blocks, considering the size of the latter. As in the former case, the analysis if based on six classes divided into three major groups – high, medium and low density (Table 4 and Figure 15). Most street blocks (about 80%) have high density of plots. The street blocks with the highest density of plots are concentrated in the south-west of the study area. This area has a compact urban fabric, made of narrow streets and the building stock is dominated by houses and apartments of lower price than other parts of the study area. The other street blocks with high density of plots are scattered through the case study areas as 'islands'. The second class of higher density can be seen in many parts of the study area, corresponding to residential areas. Nearly one in ten street blocks has medium density of plots. The street-blocks of this group are scattered through the study area. Only 6.8% of the street blocks have low density of plots. These are located near vacant lands, universities, business areas and, in some cases, correspond to low-density housing areas.

Figure 15. Density of plots

Block-plans of buildings

The relation between building and plot frontages has dramatically changed in the process of modernization that took place in many Iranian cities. This change can be seen in parallel with the transformation of Tehran building types, driven by new regulations, including the mentioned building coverage rule (60%) and a new building position within the plot (north side), contained in the first comprehensive plan prepared for the Iranian capital. Accordingly, the new building would be positioned within a walled area. After some years, a variation of this type was designed, with the same building coverage, and a cubic form. Finally, in recent developments, an optional elimination of the wall has been proposed (Abaee, 2019) – Figure 16. The urban fabric in the study area is a combination of types, generated from the beginning of the Pahlavi era onwards. Due to the new regulations, the appearance of a south-north street can be very different from an east-west street.

The analysis of the fourth criterion focuses on two streets: the main arterial east-west boulevard, Keshavarz, with some administrative and public buildings (for instance, the Ministry of Agriculture, Laleh Park, and the Museum of Contemporary Art); and a north-south street, Gandhi, with business offices and jewelry shops. Both streets were built between 1950 and 1960.

The Keshavarz Boulevard starts in the west, in the entrance of the Faculty of Veterinary Medicine (University of Tehran) and is extended east (Valiasr Square, the boulevard extends in its main intersection, with Kargar Street, increasing the number of lanes, the width of the middle section, and the width of sidewalks). Gandhi Street starts in a 'cozy' three-way intersection in the north, passing the beginning of a highway, Jahan-e-Koudak, and continues to another highway, Hemmat, crossing it (bridge), and continuing south, changing its name to Vozara Street before arriving to Argentina Sq.

Figure 17 offers a general view of streets, plots and buildings in the Keshavarz Boulevard and Gandhi Street. Table 5 gathers the results of the analysis of building and plot frontages. The rate of mostly non-coincident frontages in Keshavarz Boulevard is two times higher the rate in Gandhi Street. This difference can be interpreted by the effect of the general planning code (locating the building in the north part of the plot, covering 60 % of its area). As such, the code is expressed in the frequency of non-coincident buildings in the north side of the east-west street.

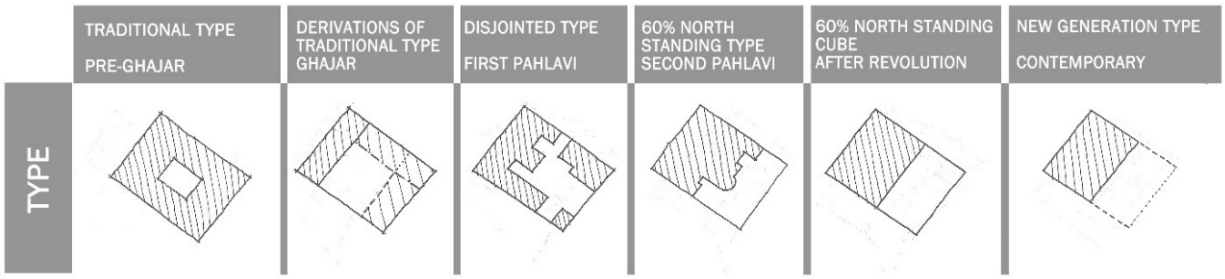


Figure 16. Chronological change in the relation between plot and building in Tehran.

Figure 17. The relationship between buildings and plots in Keshavarz Boulevard (right) and Gandhi Street (left)

Conclusions

The paper offers a quantitative morphological analysis of contemporary urban landscapes in Tehran – districts 6 and 7. The analysis is supported by Morpho methodology, focusing on the most permanent elements of urban form (streets, street blocks, plots, and block-plans of buildings) and addressing density as a major characteristic to distinguish different patterns of combination of these structural two-dimensional elements.

The analysis has revealed some findings on the physical form of Tehran's districts 6 and 7. In the overall, the street system of these districts has low permeability. The districts are mainly made of small

street blocks holding a high density of plots; meaning small street blocks (promoting accessibility and interaction), and small plots (many plots, potentially held by many agents with different urban strategies, which can be an indicator of diversity). The analysis of coincidence between building and plot frontages focused on two different axes – Keshavarz Boulevard and Gandhi Street. Non-coincidence, or mostly non-coincidence, is two times higher in Keshavarz Boulevard. One reason for this, bearing in mind that the two streets have different directions, is the planning system, proposing a new building coverage and a new position of buildings in the north part of plots.

The integration of small plot size, the small block size, and the types of coincidence of building frontage to the plots show formal indiscipline in the study area. Small plots are generally occupied with buildings built by different agents with diverse forms. Besides the short distance between the street junctions resulted from the small blocks and a building code (setting the place of a new building on the north side of its including plot), this factor makes a jagged built form. This form expresses itself in north-south and east-west streets differently. In north-south streets (as blocks generally include two parallel lines of plots), the distance between perpendicular accesses is filled with a double sequence of building facade and yard wall that gives a serrate form to the street façade. In east-west streets, the buildings on the north side of the street setback from the street, and the façade is made of walls and fences. However, on the south side, building frontage is coincident with plot frontage. Therefore, the configuration of these streets becomes asymmetric. As in the Iranian planning system, a new building commonly should be placed in the north of the plot, the high value of non-coincidence, or mostly non-coincidence cases in east-west streets, seems natural. Further comprehensive studies might reveal more detailed results about the relationship between building frontage, plots, and streets.

The results of the analysis can also be used for a more detailed study of the different parts that make the case study. As expected, the case study area is made of different parts. For instance, the south-east part, near Imam Hossein Square and closer to the historical kernel, seems to hold the highest density for streets (street intersections), street blocks and plots. On the contrary, the south-west area, near Laleh Park, seems to gather the lowest density for streets, plots and buildings.

This study identified different types of urban fabrics. The study area is considered a transition area between an old city and contemporary developments. Therefore, it includes different types of fabrics, including traditional and contemporary forms simultaneously. As this transition is a result of the country's urban history in the previous century, and due to a general tendency of the study of urban form in Iran to investigate historical cities, further detailed research can develop a body of knowledge about the neglected contemporary urban forms of Iran.

The paper also extends the scope of the Morpho methodology. This Iranian exploration offers a rather diverse geographical and cultural context for a methodology that has been conceived for, and applied in, American and European cities. It tests the robustness of the methodology itself, and it motivates the inclusion of new measurement procedures to understand the specific nature of some elements – notably the streets system. Future research should continue to explore these aspects.

References

Abaee, M. (2019) 'Transform-mut-ation of Tehran: Discontinuity of urban form and problems of using urban morphology in planning practice'. *26th ISUF International Conference*. Nicosia.

Ahari, Z. (2014) *Maktabe Esfahan dar* Shahrsazi*: Dastoore Zabane Tarahie Shaloudeye shahri*. Tehran: Farhangestane Honar.

Bahrambeygui, H. (1977) *Tehran: an urban analysis*. Tehran: Sahab Books.

Bonine, M. E. (1979) 'The morphogenesis of Iranian cities'. *Annals of the Association of American Geographers*, 69, 208-224.

Boomzaasgaan consulting Co. (2012), Tarh-e-Jame-e-Tehran. Tehran: Ministry of roads and urban development.

Costello, V. F. (1998) 'The morphology of Tehran: A preliminary study'. *Built* Environment, 201-216.

Conzen, M. R.G. (1960) *Alnwick Northumberland: a study in town-plan analysis*, Institute of British Geographers Publication 27, George Philip, London.

Conzen, M. P. (2009) 'How cities internalize their former urban fringes: a cross-cultural comparison', *Urban Morphology* 13, 29-54

Conzen, M. P. (2018) 'Core concepts in town-plan analysis', in Oliveira, V. (ed.) *Teaching urban morphology*. Cham: Springer.

Esfanjary, E. (2015). 'The longevity of Persian urban form: Maibud from late antiquity to the fifteenth century'. *Urban Morphology*, 19, 57-71.

Ferdosian, F. (2002) *Modern and Traditional Urban Design Concept and Principles in Iran*. Tehran: Simaye Danesh.

Habibi, M. (1999) *Az Shar ta Shahr*. Tehran: *Daneshgahe*.

Iranian Supreme Council of Culture and Art (1977) *Atlas-e-farhangi-e-*shahr-*e-Tehran.* Tehran: Ministry of Culture.

Karimi, K. (1998) 'Continuity and Change in Old *Cities'*, unpublished PhD thesis, University College London, UK.

Lak, A., & Hakimian, P. (2019). 'Collective memory and urban regeneration in urban spaces: Reproducing memories in Baharestan Square, city of Tehran, Iran'. *City, Culture and Society*, 18, 100290.

Madanipour, A., 2006. Urban planning and development in Tehran. *Cities*, *23*(6), pp.433-438.

Memarian, Q. (2006a) *Ashnaee ba Memarie maskoonie Iran: Gooneshenasie Daroongera*. Tehran: Sorooshe Danesh.

Memarian, Q. (2006b) *Ashnaee ba Memarie maskoonie Iran: Gooneshenasie boroongera*. Tehran: Sorooshe Danesh.

Morris, C. (1963) *Cities*. New York: Helen and Kurt Wolff.

Oliveira V (2013) 'Morpho, a methodology for assessing urban form', *Urban Morphology* 17, 149-61.

Oliveira, V. (ed.) (2019) *JWR Whitehand and the historico-geographical approach to urban morphology*, Cham: Springer.

Oliveira, V. (2020) 'The ground plan as a unifying concept', *Journal of Urban Research and Development* 1, 45-59.

Oliveira, V. and Medeiros, V. (2016) 'Morpho: combining morphological measures', *Environment and Planning B: Planning and Design* 43, 805-25.

Oliveira, V., Medeiros, V. and Corgo, J. (2020) 'The urban form of Portuguese cities', *Urban Morphology* 24, 145-66.

Remali, A. M. and Porta, S. (2017) 'Street networks and street-blocks in the city centre of Tripoli', *Urban Morphology* 21, 161-179.

Sami, A. (1951) *Pasargad, Ghadimitarin payerakhte* shahanshahie *iran*. Tehran: Bonyade Farsshenasi.

Schmidt, E.F. (1953) *Persepolis*. Chicago: Chicago University Press.

Shaterian, R. (2011) *Tahlile Memarie Masajede Iran*. Tehran: Nopardazan.

Slater, T. R. (1990) 'English medieval new towns with composite plans'. In: Slater T. R. (ed.) *The built form of Western cities*. Leicester University Press, Leicester, p 71-74

Whitehand, J. W. R. (1972) 'Building cycles and the spatial pattern of urban growth'. *Transactions of the Institute of British Geographers* 56, 39–55.

Exploring Behaviour of Homo Ludens: Sense of Play and Sense of Place

[1]Rüya Erkan Öcek

[1]*Department of City and Regional Planning Yildiz Technical University, Yıldız Kampüsü 34349 Yıldız-Beşiktaş/İstanbul*
Improvisational Theatre Actress at Apartman Sahne
Author email: ruyaerkan@gmail.com / rerkan@yildiz.edu.tr

Journal of Urban Research and Development
2021, Vol. 2 47 - 58

https://ojs.emu.edu.tr/

Abstract

This study has been discussed as a result of exploratory research to provide a base for future studies. The collapse of public spaces, which are the places of encounter and interaction of cities, started with the industrial revolution and caused the loss of publicity, interaction, and communication until today, isolated the public people and limited their actions. In this context, human beings are considered as "homo ludens" (Huizinga, 1980) (a human who plays) for the recovery of publicity in cities. The facts that underlie the concept of play, which humanity has known from its existence until today and which enables interaction and communication thanks to its community-building feature, have been examined. To examine the people who play, the Anatolian coastline of the city of Istanbul has been chosen as a public space that allows for playful acts. Observations were carried out by considering the three sections of this coastline, which people prefer most, and which are far from the road and do not connect with the vehicle. Since the play does not accept any instrumentality and takes place instantaneously, the observations are based on the performance research method. Taking photographs, videos, instant notes, and drawing sketches for each area for 1 hour each weekday evening, weekend daytime, and weekend evening, has been operated. After the observations, 113 different playful actions emerged. Using the multi-step analysis for categorization technique to make these actions favorable data, four basic concepts (from the discipline of improvisational theatre or impro, which is called from Keith Johnstone) underlying improvisational playful acts have been reached. Platform, assent, conflict, and obstacle have been obtained from this exploratory research and studied in more detail to shed light on future studies.

Keywords

Homo Ludens, Play, Sense of Play, Sense of Place, Human Behavior, Multi-Step Analysis

Introduction

If we need to define the concept of public space around the values lost today; they are social reproduction areas that belong to the public (open and accessible for everyone), including social interaction, where society can express itself and have freedom of assembly (Lefebvre, 1992; Sennet, 2002; Kohn, 2004; Cattell, Dines, Gesler, & Curtis, 2008; Parkinson, 2012; Toolis, 2017). Thanks to the heterogeneous structure of the public spaces, encounters are possible and even necessary. However, today's encounters meaning is passing and not communicating, which is a developed phenomenon contrary to the definitions of the public space. Lefebvre (1992) makes a periodization of space in his book "Production of Space" and emphasizes that the public spaces that emerged within the industrial revolution became a transition space. In the contradictory space of the period, which we can call the late capitalist period, public spaces became consumption spaces.

Therefore, what needs to be done to socially reproduce these lost features of public spaces and the diversity of acts that provide interaction and

communication arises. Researchers around this question have conducted many studies. Within the field of urban design, urbanization, environmental psychology, sociology, behavioral psychology, behavioral geography and architecture, internal dynamics of the public space, human behaviors in the public space, government-public space relations, the relationship between power - public space - body, perception of the public space, design of public spaces and urban design codes are some of the research studies. Jahn Gehl (2010; 2013), conducting one of these studies, reduced the activities of individuals in the public space to three basic categories and examined public spaces and public lives in this context. According to Gehl (2010), individuals perform three types of acts in public space: necessary, social, and optional activities. Apart from necessary activities such as going to work or school, waiting for a bus for this purpose, eating, shopping, other activities are gatherings to socialize and completely optional activities. For the necessary activities, the condition of the physical space does not matter. However, he claims that well-designed spaces provide opportunities for social and optional activities (Gehl, 2010, p. 21) (0). Apart from this research, Goffman (1978; 1971; 2008) examined the behavior of people in public spaces within micro-level research and studies called interaction ethology. Both the methodology and the inferences of Goffman will be used in the following parts of this research. However, the questions such as what these optional and social activities are, under what conditions these activities occur, and what kind of situations these activities occur as a result has not been the subject of any research.

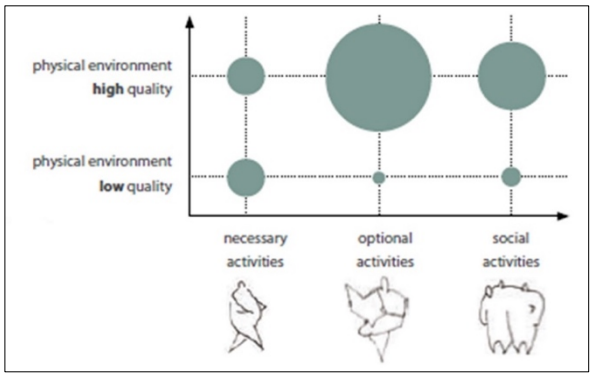


Figure 1: The Connection between Outdoor Quality and Outdoor Activities (Gehl, 2010, p. 21)

Therefore, exploratory research was carried out to find out what acts arise voluntarily rather than the necessity that takes place in public spaces and what kind of situations give rise to these activities. However, since too many situations can arise when the word "acts" is said, it is necessary to put some limitations to make the research measurable. These activities are examined over the "play" concept, the phenomenon of humanity that existed even before culture (Huizinga, 1980). Since our aim is not to compare or collect all kinds of acts, playable activities that provide interaction and communication as characteristic of the play itself were investigated. The focus has been on "improvisational playfulness" that arises at that moment in public spaces. The primary purpose of exploratory research is not to research the spaces that allow such playfulness to happen but to define the reasons for their emergence by getting to the root of these acts and preparing a base for future research.

Meaning and Ontology of Play

The play has an existence to be thought of as a human phenomenon that can be explained along with various elements, features, or dilemmas. Therefore, the research on the play itself contains very in-depth philosophical, psychological, and sociological expansions (Huizinga, 1980; Caillois, 2001; Dursun, 2014; Fink, 2016). It is necessary to take a brief look at the ontology of the phenomenon to define play and playfulness,

When we talk about human acts and daily and leisure activities, we look for an instrumentality with the rational human mind. However, the play has an irrational and random structure, far from all instrumental expansions. Human being always wants to question his/her existence and understand why s/he is in the world. Due to the desire to find the secret of life, the human takes life as a "duty." S/he always knows him/herself as 'on the road.' Every action he/she takes in life, from the heaviest to the lightest, is for the "main purpose." (Fink, 2016, pp. 19-20). People accept instrumentality in their daily lives and postpone pleasure and satisfaction for future pleasure and comfort (Stevens, 2007, p. 29). Play, therefore, takes them from their lifestyle and actions to another life of existence with its non-instrumental feature. To comprehend the ontology of the play, we must accept that the play has a presence at the opposite point of instrumentality. The play, which escapes rationality and its expansions, has a specific purpose, and each step in the play also has specific objectives related to each other, but the intrinsic purpose of the play is not designed for the critical purpose of human life. (Fink, 2016, pp. 20-21).

Characteristics of Play

The play is not a compulsory action. The optional feature of the play is full of enthusiasm. Fink (2016) pays attention to the ***'pleasure of play'*** and emphasizes that if the enthusiasm ignite and the play went out, the play would also die. Each play contains a unique joy of creative shaping, unlike each other, therefore it is significant and multidimensional (p. 22). One of the

essential features of the play is that it includes enjoyment in different dimensions. The pleasure of play includes enjoying the creation process and enthusiastically playing while in the moment during the play. The main reason for this is that nothing in the play is real; every creation consists of appearance. Thanks to this appearance, the player person exists instead of the person imposed to be outside. In this way, people start to interact with other people they may not know, and they would not want to know.

'Plaything' is the second feature of play. Stating that humanitarian play requires playthings, Fink also (2016) states that human play does not only occur with them (p. 22). The plaything can appear as a tool, facilitator, problem to be solved, or it can come into being an entirely abstract concept in the play. When we look at the games in real life, we realize that there is always a 'thing' to be played. In many sports, there is a physical object. The movement of these objects has a nature that encourages people to move. In chess, card games, board games, specific pieces of checkers, dice, game boards are moved. In playfulness, such as dancing without physical objects, music would be the thing that is played. These explanations bring us to the word "movement is abundance."[1]

'Fellowship of play' is the other characteristic of play. Play can be individual or collective action. However, even when it is individual, the play is not an act performed alone. At this point, we can think of children's plays. A child who plays alone at home either puts his toys as another community or tries to include family in his/her play. Even if s/he cannot do any of these, s/he tries to include her/his parent by showing the result of the play. Play, an essential binding force in establishing a community, appears as an internal form of acts by playing together and with each other (Fink, 2016, pp. 23, 27). In addition, the fellowship of play continues even if the play is over (Huizinga, 1980, p. 12). Therefore, a community that has come together for playful acts will continue their relations for any other acts, whether instrumental or irrational.

Play is a ***phenomenon*** that coexists with the ***'rules of play.'*** The accessible nature of the play does not release it unlimitedly. It is formed by the arbitrary repetition or diversification of all kinds of random actions (Fink, 2016, p. 23). Contrary to the definition of Huizinga (1980), who said that the play has mandatory and indisputable rules, Fink (2016) states that the rules of the play are not laws, and the rules can be changed with the approval of all participants (p. 23). Therefore, improvisational plays, which develop spontaneously, contain unlimited creativity, allowing the community to establish their acts more freely than the plays whose laws we accepted before playing.

The Two Extreme Points of Play:

Two concepts of Latin origin, *paidia,* and *ludus* are the two extreme points of play. Paidia is a word used in ancient Greek, meaning childish, child game. On the other hand, ludus is used with meanings such as competition, acrobatic, sacred ceremony, and festival. While paidia represents the human will to act without ethical negotiation, ludus appears as an institutionalized play. Paidia is characterized by surprise, destruction, spontaneity, whim, turmoil, and enthusiasm, while ludus takes on a boring character but follows the rules and routines intended to be arbitrary, requiring effort and patience (Caillois, 2001, pp. 33-34). Caillois (2001) classifies the play under four main categories: Agon (games that give a feeling of competition), Alea (games of chance), Mimicry (simulation games), and Ilinix (vertigo - giving a feeling of dizziness). Table 1 shows the two points of play within the categories of play.

As can be analyzed from the table below, when a play becomes institutionalized, the spaces required for each game gain structural features, and specific areas are reserved for them in the urban environment. Therefore, it has been focused on the power of liberating and unifying playable acts established by the community, both under the structure of which the play is not infinitely free.

Last but perhaps the most crucial feature of the play, which can be valid for spatial studies and this study, is the ***'sense of play.'*** Fink (2016) opposes the claim that every bodily action is a play. He claimed that if the share of physical movements has a personally produced meaning, it is possible to talk about the play (p. 22). Based on this discourse of Fink, to reach the sense of play and to understand it from the root, a dual process will be followed at this stage of the literature, and four primary contents (which are platform, assent, conflict, and obstacle), which are the result of this study, will be mentioned while describing the methodology and the research results.

These five structural elements combine to form the ***'playworld.'*** A playworld produces any type of play. The player's role, the changing roles of the play community, the bindingness of the play rules, and the meaning of the plaything lie in the play world (Fink, 2016, p. 25).

[1] which is a commonly used expression in education of improvisational theatre. Because the behaviour of an individual who is in motion will direct the play community to different phenomena that contain different actions. In this way, the play starts to give pleasure to both its players and the audience and increases awareness by raising the desire to participate in the play.

Table 1. Classification of Games within the Range in Concepts of Paidia and Ludus (Caillois, 2001, p. 36)

	AGON (Competition)	ALEA (Chance)	MIMICRY (Simulation)	ILINX (Vertigo)
PAIDIA ↓	Not regulated:	Counting-out rhymes	Children initiations	Children "whirling"
Tumult	- Racing	Heads or tails	Games of illusions	Horseback riding
Agitation	- Wrestling		Tag, Arms, Masks, Disguises	Swinging
Immoderable laughter	- Athletics			Waltzing
Kite-flying	Boxing, Billiards, Fencing Checkers, Football, Chess	Betting Roulette		
Solitaire				
Patience				Volador
Crossword				Traveling carnivals
Puzzle				Skiing
				Mountain climbing
LUDUS ↑	Contests, Sports in general	Simple, Complex, and continuing lotteries	Theater, Spectacles in general	Tightrope walking

The playworld has no relation to the real world. The play has a place and a time that it limits itself. However, this time and space have no place or duration in the real world. However, the play, which is the meaning of dualities, needs real space and consumes real-time. In short, the play is an unreal world in another dimension within real things.

People who do not produce in the space of reality enjoy unlimited creativity in the playworld. Whatever s/he does, s/he does it productively and unhindered. Since the play does not contain many restrictions, it becomes a unique opportunity for human freedom (Fink, 2016, p. 25). Being the creator of the rules and the player provides her/his freedom at the peak of human domination. Stevens (2007) says that freedom in the playworld does not exist; freedom expresses the complete absence of power. However, the more the play rejects power and oppression and defines its difference from effective morals and laws, the more attractive the play is when it escapes from the social order and confronts it (p. 30).

Methodology

The Anatolian coastline, a public space where individuals and small communities in Istanbul can create the playfulness in their leisure time (Lefebvre, 1991), is a criticized concept created together by abstract and contradictory space. It has been selected as a research area to observe playable acts. In this coastal line (approximately 30 km), starting from Kadıköy and extending to Pendik, three sections were selected: (1) From starting point of Fenerbahçe Coast Park to the pier of Büyük Club, (2) Caddebostan Coast Park, which starts behind the Migros supermarket and extends to the Caddebostan beach, (3) The large Maltepe Coast Line Park designed within the filling area. Observations will take place in these three different regions at leisure times: 1 hour on each area on daylight weekends (both Saturday and Sunday), 1 hour on each area on evenings of weekends (both Friday and Saturday), 1 hour on each area evenings of Wednesday as a weekday. During the observations, videos and photographs were taken, notes and sketches were drawn for later use. During these observations, a total of 113 different playable acts were identified. It was necessary to choose a method first to group them and then reduce them to specific categories to deal with this plenty and diversity of data and reach descriptive concepts of acts. Therefore, a multi-step analysis technique based on the approaches of Glaser (Liu & Kang, 2016) will be used to process the data obtained as a result of the observations:

- **Open coding:** Putting the practical actions into sentences regarding their aims, reasons for occurrence, number of people, and forms of action.
- **Grouping Acts in 1st Layer:** Grouping the open-coding acts in terms of their mobility and forms of activities (move, stand, sit).

- **Grouping Acts in 2nd Layer:** Grouping the first layer acts in terms of the form of people (individual or community).
- **Eliminating Acts in 3rd Layer:** Eliminating the second layer acts in terms of their occurrence as predictability or un-predictability (pre-determined and improvisational).
- **Categorizing and Combining Acts:** Categorizing the sort out acts in terms of their sense of play (platform, conflict, obstacle, assent). (0).

In the third stage of grouping the acts, the elimination stage, improvised playfulness was chosen as the main actions to be examined. The playfulness of acts and their emergence as *'paidia'* were examined in more detail. Then it is tried to reveal when in what situations and how they emerged. These acts were categorized with the four features of the play and revealed the sense of play. The basic concepts used in improvisational theatre were used to conceptualize acts, categorized in the concept of sense of play. At this point, the most important reason for choosing improvisational theater is that it includes spontaneous scenes as in daily life, and there is always the possibility that pre-decided acts will change, transform, develop, or probability that it will never happen. Improvisational theater is a performance where everything happens at that moment when you go on stage, just like in daily life. For this reason, necessary workshops are held before going on the stage as a theater play. In these workshops, players practice it to make the desires of audiences realistic at that moment. These practices include rehearsals of social acceptance and some rules and tricks so that the acts performed from the stage can become a spectacle.

When the results, emerged during the research carried out on the Anatolian coastline were tried to be expressed in words, it was seen that the concepts are shared with the terms of improvisational theatre. The most basic reason for the common words is the human play motive underlying the concept of "play." To understand spontaneity and reveal improvisational playfulness, we observed the last step of the multi-step analysis by limiting it to spontaneous acts. From this point on, it has been revealed that the factors that bring out this improvised playfulness are combined with the concepts of Platform, Conflict, Obstacle, and Assent. These four main concepts are presented as the findings of this exploratory research. After this study, it is necessary to research how to design spaces that "DEFINE THE PLATFORM, HAVE CONFLICT, OBSTACLE and ENABLE TO ACCEPT." Based on these findings, the experiments to be put forward should be arrangements that will ensure the reproduction of interaction and communication with diverse activities in public spaces that have lost their publicity.

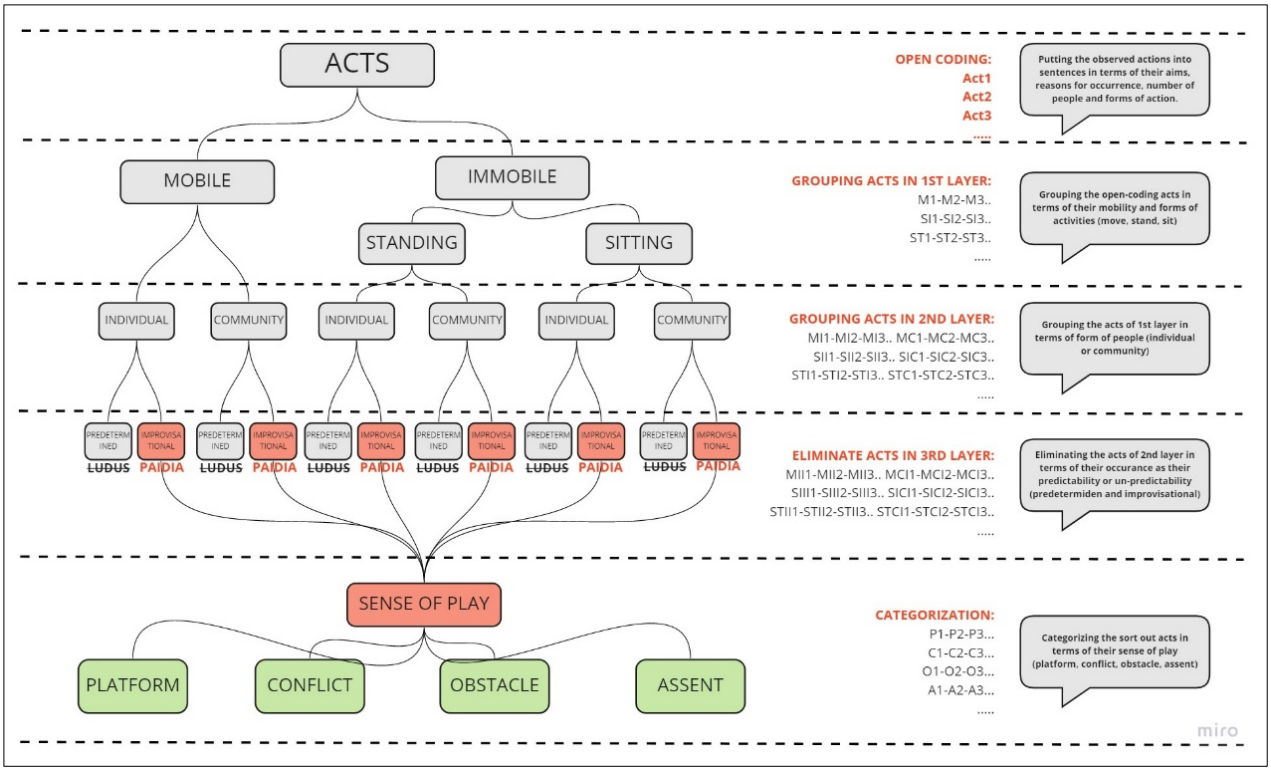


Figure 2. Multi-Step Approach to Categorize the Acts (the image created by author)

The Research Study

The study will be represented through the concepts we deal with and its relation to "play" itself, described above, with its ontology and characteristics, to convey the research findings in a meaningful way.

While looking at the acts of people in the field of research, activities that do not include the instrumentality of daily life were examined. When we look at the physical structure of the Anatolian coastline, we see that it has three different forms. (1) The grass section is generally used for sitting, (2) the flow area used for walking, cycling, e-scooter riding, skating, or skateboarding, or running, and (3) the seaside area with both walking section and seating section. Due to the physical structure of the coastline, the acts are primarily grouped into three parts as those performed in mobile, standing, and sitting. Acts such as people sitting together and chatting, individuals using bicycles, people fishing, or sunbathing took their place in these groupings. The examples in the previous sentence are given from simple, at first glance actions that do not serve the purpose of daily life and have a purpose and meaning in themselves. When we look at the statistical percentages of the forms of acts, we observed, in 0, 48% of the acts that may contain a play element or playability occur while in movement. In the first grouping layer, before the elimination stage, it cannot be said that there is a big difference between the actions performed by sitting or standing (0). When looking at these ratios, it is possible to say at first glance that act has a connection with being in action and being in motion. However, it is necessary to look at the features and different forms of the play to understand why the mobile activities are more than the others.

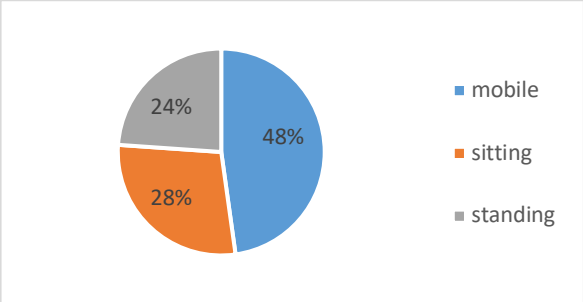


Figure 3. Forms of Acts from 1st Grouping Layer

We have seen in the graphic above that movement and being in motion bring more playfulness. Besides that, when we look at the rate of playfulness which we have achieved by eliminating in the 3rd stage, we see that 78% of the spontaneous, playful acts are in motion and ready to act (0). This proves that we should always consider the importance and emphasis of movement while looking at the relationship between space and people's playfulness. Just as the plaything, one of the features described before, brings movement to the play moment, being in motion adds different mobility and energy to the play. As the saying "movement is abundance" reflects, the state of being able to act, the state of being in action, allows people to act together, increase the pleasure of play, and the willingness of other people to be involved.

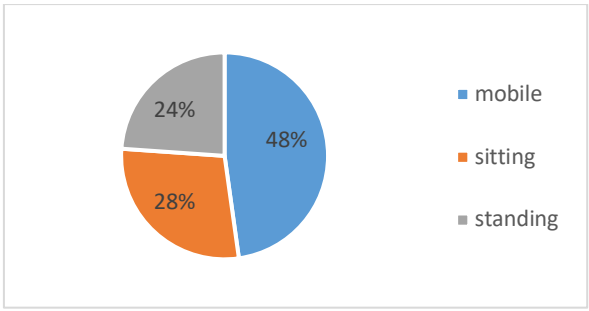


Figure 4. Forms of Acts from 1st Grouping Layer

We have seen in the graphic above that movement and being in motion bring more playfulness. Besides that, when we look at the rate of playfulness which we have achieved by eliminating in the 3rd stage, we see that 78% of the spontaneous, playful acts are in motion and ready to act (0). This proves that we should always consider the importance and emphasis of movement while looking at the relationship between space and people's playfulness. Just as the plaything, one of the features described before, brings movement to the play moment, being in motion adds different mobility and energy to the play. As the saying "movement is abundance" reflects, the state of being able to act, the state of being in action, allows people to act together, increase the pleasure of play, and the willingness of other people to be involved.

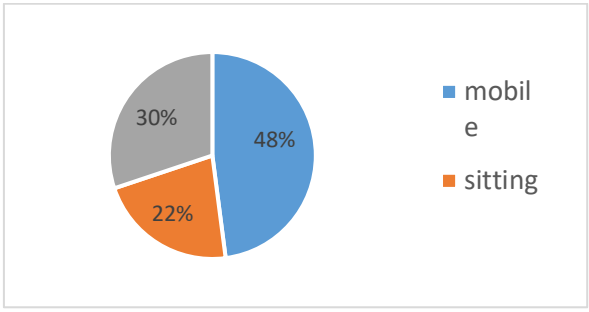


Figure 5. Forms of Acts from 3rd Elimination Layer (Percentages within Improvisational Playfulness)

The fellowship of play, another essential feature of the play, is also proven by the research. If we look at the ratios of playfulness in the research findings, we see that most of the playful acts analyzed in both the 2nd and 3rd layers are performed with the community (Fig. 5.). However, if we consider that the individual acts are performed in front of a community because of being in the public space, we can analyze these acts as a community. To give an example from the data we

have obtained from observations, an individual reading a book on the coastline is a community activity due to the impression s/he wants to give to the audience. S/he includes the people around her/him in the act of reading. In the escape game, a person plays not to hit the crowd during her/his walk, s/he includes everyone around her/him in the play.

The fellowship of play, which appears to be one of the most important elements defining the play, also partially explains the individuality of instrumental actions performed in public spaces. The play, which does not have an instrumental structure, is irrational and accidental, reveals the interaction within the community. The ratios given below show us that the design of spaces that allow playful actions also means that it will allow people to communicate, build community and interact with each other.

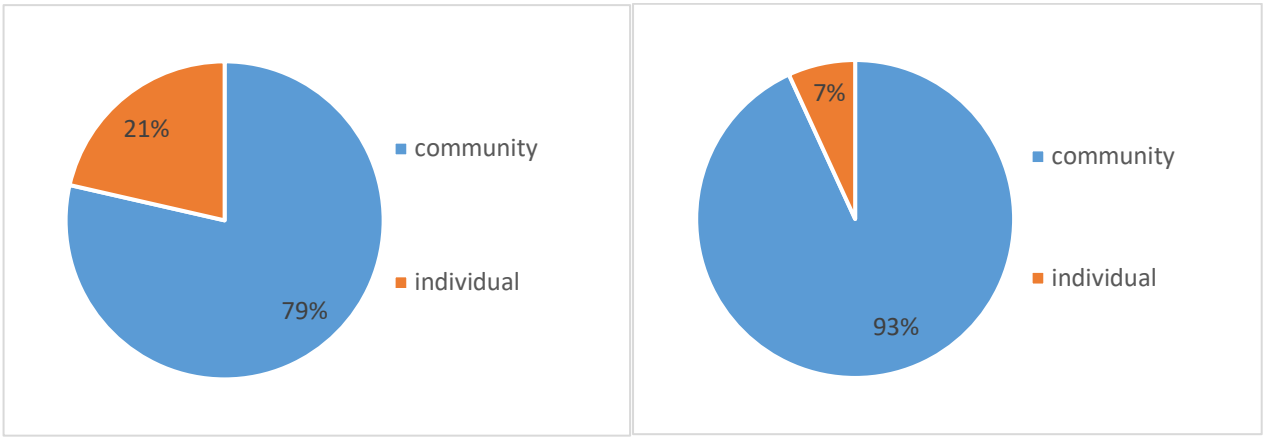


Figure 6. (Left): Forms of People / 2nd Layer – (Right): Forms of People / 3rd Layer Elimination (Percentages within Improvisational Playfulness)

After using some of the characteristics of play (pleasure of play, plaything, and fellowship of play) while grouping acts, rules of play lead to the 3rd layer of the open coding system: eliminate the pre-determined acts and take the improvisational acts. In the last stage of the multi-step analysis technique before categorization, the elimination method has been made by dividing the playful acts into pre-determined (ludus) and improvisational (paidia). From the two extremes of the play, which was previously described as *'ludus'* and *'paidia,'* it is a choice to seek out the ones with paidia and eliminate the others because of the more formalized and institutionalized the less spontaneity of the play. It restricts new communications, being in the moment, creating rules together, and instinctive play actions. From this point of view, walking people are eliminated because the walking act serves to get there. However, when a dog comes in front of a person while walking and starts to play with her/him and this person starts to chat with the owner of the dog is improvisational playfulness. If a group that came coastline for sitting and chatting, they are eliminated. However, when the time comes to say goodbye and leave, different actions such as prolonging the constant conversation, reopening different issues, and re-hugs when leaving are improvised.

1.1 Sense of Play

At this stage of the study, a dual process was followed (Figure 6). Some phenomena were revealed by focusing on the inner meaning of the playable acts observed, and the concepts in which these phenomena will be settled were combined with improvisational theatre terms. Four fundamental concepts enable the creation of actions with a playful meaning. These are platform, assent, conflict, and obstacle. These concepts and examples from the research field will be discussed together.

1.1.1 Platform

First, establishing a platform is the most basic need for the play in improvisational theatre. The meaning of setting up a platform means answering the questions of who, where, when, and what they are doing. The question of who is important when building a play's platform. There is always a spoken rule: a play involving people who know each other works. The fact that people who have already met are on the platform of the play will make a significant contribution to the continuation of the play. The acquaintance mentioned here is not necessarily to meet face to face. A partnership in terms of the action, their position, and unrecognized members of a particular community will make it easier for people related to each other to communicate.

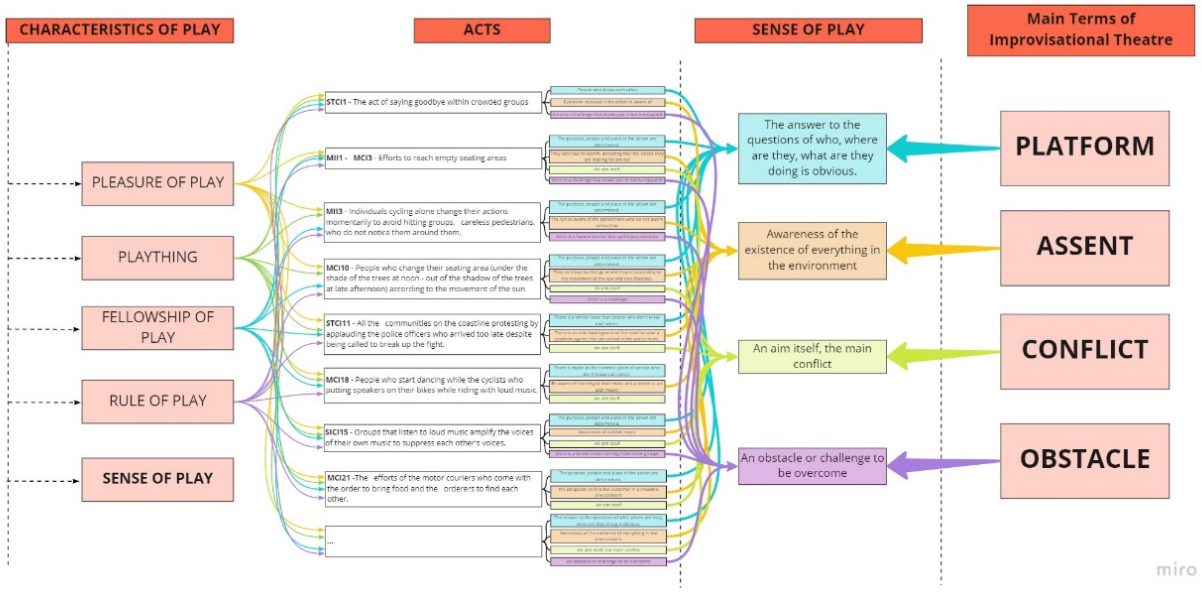


Figure 6. A Dual-Process of the Study

For example, families who have come to the coastline with their children will feel close to each other because they are familiar with problems, experiences, difficulties, or fun moments of each other's and will always have an excuse to communicate. Children are always willing to play with each other. Parents who see their children playing will communicate with each other, and this communication will develop spontaneously, not planned. Another example is that people who skate and do not know each other will interact and communicate without difficulty because they have a common pursuit. If we look at it from a different perspective, even if not fishing, someone interested in this act will come and watch a fisher, meet her/him, and start chatting, with an improvised playfulness. Based on these examples, it is possible to say that if the public spaces of cities contain alternatives to offer many different platforms, it will increase human diversity and create an opportunity to interact with other people who are similar in one way.

1.1.2 Assent

The ideas put forward need to be accepted so that the play can be set up and progress. In case of constant refusal, a play does not continue. This assent concept includes other players, audiences, light and voice players, the presenter, and everything included in the play. When we look at it in this context, any action starts with an assent first. As soon as the probability of action is not accepted, the play will not start anyway.[2] Therefore, to reach the inner meaning of the play, it is necessary to accept many facts, situations, people, or acts in the environment.

One example from the field is that; when a pedestrian on the phone comes in front of a cyclist, or children or a cat or a dog running around, if s/he suddenly accepts to change action (such as changing the path, stopping, slowing down), the collision will occur. Because it is rejected, it will be an accident instead of playfulness. Goffman (1971) defines this process and examines people, the vehicular unit, and the participation unit. While Goffman (1971) defines vehicular units as the behaviors of pedestrians on the move, involve social relations of strangers when they meet each other in the public space. It is possible to see pedestrians' conscious or unconscious behavior as a secret social order not to hit each other (Goffman, 1971, pp. 5-18). Pedestrians walking mutually in a crowded street take a quick look to understand the speed and distance of the oncoming person and continue their way by making the calculations to minimize the possibility of collision. This action occurs almost unconsciously as a coded (habituated) impulsive action (Goffman, 1971, pp. 11-12). However, when it is necessary to interpret this form of action in terms of play, the action does not contain any meaning or have a sense of play. Therefore, like the

[2] Let's ditch it with a quote from the most common examples in the improvisational theatre. If a player on the stage offers an activity to the other player, the stage dies as soon as this offer is not accepted. For example, the moment a player who says “let's go and have a cup of coffee” and other one says “I don't want it”, the stage will get cold and no action will take place or on doing any action, let's play ball, let's go into space, let's swim, let's travel in time. Each refusal will cause the scene to stop and the play not to progress.

example we gave above, Goffman also studied conscious pedestrian behavior. Pedestrians need to take additional measures as soon as they feel that the oncoming person is not seeing them or that there is a danger of collision. Consciousness comes into play to reduce the possibility of collision and begins to act such as changing the course, decreasing the speed, or making the other person noticed by using hand and arm movements or by increasing the sound of his steps (Goffman, 1971, p. 13). In the act of walking, in which consciousness comes into play, the individual, who includes his environment into the action, finds her/himself in a playful activity that develops at that moment. To reach this playfulness, it must first develop an assent of the surrounding situation. This assent is not limited to the behavior of other individuals. At the same time, the examples are given by Goffman like physical environmental stimuli, including the distortions on the pavements (Goffman, 2008, p. 16), as well as natural elements (such as the change in tree shades with the movement of the sun, the cooling of the air with the wind rising, the waves of the sea transcend the boundaries) are also included in this assent.

Based on these examples, it is possible to say that features that require people to accept in public spaces will contribute to the emergence of playfulness that citizens will enjoy from their actions. It means putting some conflicts and obstacles in the environment to create acceptable situations. A new event, a new knowledge, a new behavior, or a new act is required that will disrupt the monotonous continuity of the environment.

1.1.3 Conflict

The meaning of the concept of conflict in improvisational theatre is a conflict between two persons or two communities, or with one person himself or within the community themself, or between a person or community and an issue. It is vital in the establishment of the play because it creates adventure, purpose, and continuity. Conflict arouses the desire to be included. To talk about the play-making processes of children, we have all witnessed that a child first creates a conflict and an adventure. For example, the goal of a child bouncing is always to be able to bounce more balls. Children who playhouse often present a conflict in which they try to reflect a family or all the other street plays, playing tag, hopscotch, five stones, and many more contain conflict within.

The most obvious situation that we can give an example from the study area is the moment of the fight. People did not come there to fight, but the fight that emerges for certain different reasons arises from a specific conflict. In this situation, people who were fighting are not in playful acts. However, what is important here is not fighting but other foreigners' acts during the fight. When the ambulance called for an injured person, or the polish team called to prevent the fight, came too late, many people who did not know each other applauded and formed a community by protesting the late arrival of the ambulance and polish team.

As an example of obviously unclear conflict situations instead of fighting, we can show individuals who try to find their friends from navigation. A finding process that develops at that moment diversifies the acts of the people and adds different conflicts to the action whose purpose is to find friends. In this way, people start interacting with the people they imagine to be friends, carefully examine the spatial elements around them, search for groups with similar qualities according to the description, and transition to an action that evolves into a playfulness that reveals the inner conflict of the play.

1.1.4 Obstacle

The obstacle is included in the play to increase the pleasure of play and to deepen the adventure. Although this concept is not included in every playfulness, it is a phenomenon that makes the play more enjoyable and strengthens the adventure. Let us look at the children's plays again. We constantly witness a child trying to walk in a high place or playing on unstable stones by a river. The main reason for this is that this child puts obstacles to give meaning to her/his play.

When we look at the acts from the field, we can see the activities of a community spending time on the coastline throughout the day. Typically, the acts they do are sit together, chat, play backgammon, chess, or sunbathe. However, there is a natural element that adds playfulness to these acts: the sun. The group, which accepts the sun's movement as an obstacle to overcome, moves its territory towards the shade of the trees when the weather is hot, and when the sunset starts and the weather gets cooler, they move towards the sun-receiving areas instead of the tree shadows.

When it gets dark, people trying to take pictures start looking for a region with light, and this playfulness starts with accepting the darkness brought by nature as an obstacle. Even if taking pictures with a landscape does not have playfulness, searching for the right light turns into an action that includes a desire to play in trying to capture the landscape with this light.

Another example is the parents who start chasing after their child when s/he begins to run meaninglessly (according to the instrumental mind of adults). The involvement of the people or physical elements as an obstacle both gamifies their action and puts a general conflict into playfulness.

If we consider the last two concepts together, it is likely to say that obstacles and conflicts in the physical

environment will create interaction by adding improvisational playfulness to the actions of citizens in their daily lives.

The Relationship Between the concepts of Sense of Play and Sense of Place

Different concepts were determined to make sense of play meaning to understand the concept of sense of play. The importance of the platform, the assent, the obstacle, and the conflict in attributing a meaning to the formation of a play is emphasized. In addition, at the basis of these concepts that convey the play's meaning lies "act." It is not possible to talk about any phenomenon that can happen without an act. When we look at the concept of sense of play from this perspective, there is another context in which all these explanations and concepts fit: "sense of place." In other words, 'act' is also essential for place attachment and feeling belonging. The concept of sense of place has been discussed with many other notions such as place attachment, place connectedness, place bonding, place familiarity, place awareness, place commitment, belongingness, rootedness, belonging, sense of community, place identity, and involvement. When all these notions are examined in-depth, the space-time-people relationship emerges. In other words, people who spend time in a space over time develop their belonging to that place. Shamai claimed that when people and the surrounding environment come together, then the place will occur (1991, p. 347). The presence of repetitive actions in a certain space is an element that increases commitment to that place. Vanclay explained that a place exists when people begin to tell a story about that place after enough time has been spent and different actions have been taken, and when a house becomes a home in personal and collective memory, space becomes a place (2008, p. 4). The higher the quality of the actions, the greater the meaning and commitment of that place. For a place to be a place, it is necessary to focus on people's actions in that space over time. There is a scale of sense of place that Shamai (1991) revealed in the study (pp. 349-350):

- Not having any sense of place
- Knowledge of being located in a place
- Belonging to a place
- Attachment to a place
- Identifying with the place goal
- Involvement in a place
- Sacrifice for a place" (Shamai, 1991, pp. 349-350)

When we look at the increases in these levels, the commitment to the place, the diversification of the actions, and the length of time spent increase in direct proportion. In the starting point, which is described as zero, there is nothing about that space. People feel nothing about that space. They did not spend time in that location. In the first level, people know some information about that place such as which city it locates. While people start to feel belonging to a place, the time they spent in that place occurs. In the third level, the place becomes a symbol for collective memory. People and the acts combine within that place to create the identity of that place (Shamai, 1991, p. 350). Feeling the sense of place starts at this level because the sense of place is about individuals or community, not about the place itself (Vanclay, 2008, p. 7). When people are genuinely and deeply connected to the place, they become a community by identifying themselves with the goals of that place (Shamai, 1991, p. 350). Acting with the community, they begin to produce playfulness for the space and spontaneously develop playfulness in the open spaces of that place. The last two levels of sense of place are about the attitudes of people instead of behaviors. In the fifth and sixth stages, people put the goals and priorities of the place before their personal goals and objectives for the sustainability of the place. Acting together is at the highest level and the attachment to the place becoming a social commitment (Shamai, 1991, p. 350). At this point, it will be helpful to look again at Carmona's (2010) triple diagram of sense of place and Lefebvre's (1992) spatial triad. (Figure 7).

Based on these trilogies, it is possible to say that Lefebvre's conceived space corresponds to Carmona's physical environment. Similarly, another leg of Carmona's trilogy, symbol/meaning, refers to Lefebvre's perceived space. The spaces designed by urban designers, bureaucrats, planners, and architects constitute our physical environment. The perception of this environment by the citizens takes place through various symbols and meanings. There is a different issue imposed by those who direct the perception, place the symbols and those who want to change the collective formation. However, even if the perceived space is intervened, people create the social space in the lived space, and as a combination of all these, they create the sense of space by performing activities in this space. Therefore, the lived space has a powerful bond with activity, that is, act. Action can be realized by transforming the conceived space and the physical environment in which symbols are placed into a lived space for users and residents. These actions are not necessary activities that are forced by ordinary or urban conditions, but playable acts will increase the attachment to the place. Moreover, play in the cities and the public spaces within the urban context not only means having a good time but also means:

- Play for communities who are active and healthy,

- Play for people to communicate and coexist with each other,
- Play for the reappropriation of public spaces,
- Play for redesigning the cities,
- Play for citizens to participate in decisions about their cities.
- Play for communities claiming the right to the city as citizens in the streets and public spaces that are political spaces.
- Play for people to live in livable urban spaces.

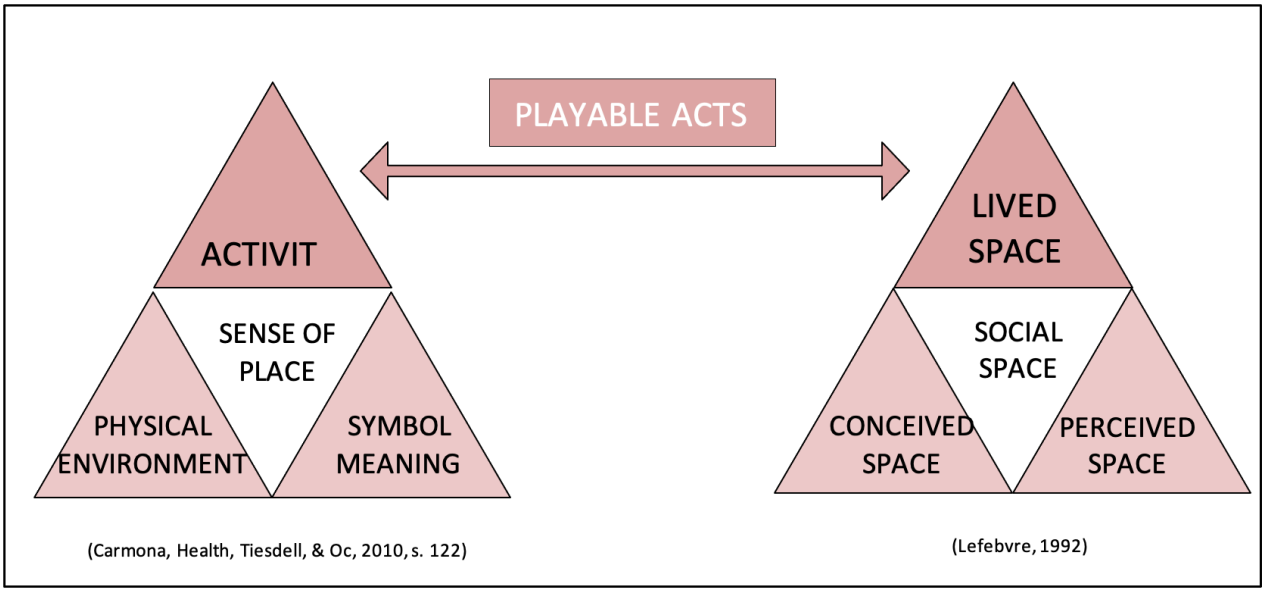


Figure 7. Carmona's Sense of Place Triad (Carmona, Tiesdell, Heath, & Oc, 2010, p. 122) and Lefebvre's Space Triad (Lefebvre, 1992) (the image is redrawn by the author)

In Lieu of Conclusion within Meaning of Spontaneous Play in Citizens' Life

The importance of playable acts and the sense of play is apparent under all these explanations. However, what matters is the reality of the concept of play, which is the basic instinct of human beings to restore the public spaces to be places of interaction and communication that they lost. A person who forgets to play in her/his busy life has also forgotten to interact with those around her/him. A person who instinctively knows how to play is limited to having a rational mind and instrumentality in every action. The problem of the lack of communication and lack of interaction of public spaces must be revealed in urbanism that will help people recreate the knowledge of playing and allow human beings to play as a community.

It is necessary to criticize the returns of daily life and leisure time imposed in the capitalist period to discuss the existence of playful action and playfulness in public spaces. With the industrialization and globalization period, people started to live to work. Their leisure time is planned time by time. Therefore, they can work at hours deemed appropriate for them, meet their basic needs such as sleeping, eating, and reproduction in the remaining time, and have fun and relax if there is time. Lafargue (2019), in his book "The Right to be Lazy, "argues that by criticizing work and leisure time, we need to regain playfulness and make a play revolution. Lafargue (2019), who transmits work as voluntary slavery, argues that it is necessary to reject the concepts of work and profession, but also to perform playful actions, not in leisure time, but in times created by the person and the play, only then we can genuinely liberate and return to life more humanly. Therefore, the concept and distinction of leisure time destroys play and playfulness in the first place because the play is activism that develops, progresses, and changes continuously in space and time of its own, within the framework of the rules determined by the participants and the play community. Therefore, the urban spaces where the actions Gehl (2010) described as necessary activities should be looked at in the light of the basic information about the play obtained from the recreation areas of today's cities where playfulness can be seen.

During this exploratory research, which tries to understand the essence of the playful acts that enable people to improvise and interact, it is necessary to focus mainly on public spaces in the city, apart from recreational areas. In future studies, it is necessary to focus on the physical environment where the necessary activities occur. In addition to the lack of importance of the physical quality of the spaces in the context of necessary activities, design approaches should be considered to ensure the expression of playfulness and provide an environment for interaction and communication in public spaces such as streets, squares, or parks. The critical finding is that during the

necessary activities, regulations should be introduced to the physical environment, which will allow the production of social spaces designed with conflicts and obstacles that require a defined platform and assent. The designs to be considered need to be studied at a level that will accommodate the four fundamental concepts (platform, assent, conflict, and obstacle) that emerged through this exploratory research.

References

Caillois, R. (2001). *Man, Play and Games.* (M. Barash, Trans.) Urbana and Chicago: University OF Illionis Press.

Carmona, M., Tiesdell, S., Heath, T., & Oc, T. (2010). *Public Places Urban Spaces: The Dimensions of Urban Design.* Elsevier.

Cattell, V., Dines, N., Gesler, W., & Curtis, S. (2008). Mingling, observing, and lingering: Everyday public spaces and their implications for well-being and social relations,. *Health & Place, 14*(3), 544-561.

Dursun, Y. (2014). *Oyunun Ontolojisi.* Ankara: Doğu-Batı Yayınları.

Fink, E. (2016). *Play as Symbol of the World and* Other *Writings.* Bloomington: Indiana University Press.

Gehl, J. (2010). *Cities for People.* Washington, DC: Island Press.

Gehl, J., & Svarre, B. (2013). *How to Study Public Life.* Washington - Covero - London: Island Press.

Goffman, E. (1971). *Relations in Public: Micro Studies of the Public Order.* New York: Basic Books.

Goffman, E. (1978). *Presentation of Self in Everyday Life.* London: Harmondsworth.

Goffman, E. (2008). *Behaivour in Public Places.* Simon and Schuster.

Huizinga, J. (1980). *Homo Ludens: a Study of the* Play *Element in Culture.* London: Trowbridge & Esher.

Kohn, M. (2004). *Brave New Neighborhoods.* New York and London: Routledge.

Lafargue, P. (2019). *Tembellik Hakkı: 1848 "*Çalışma *Hakkı"nın Çürütülmesi* (4. Baskı ed.). (İ. Kahraman, Trans.) İstanbul: Ayrıntı Yayınları.

Lefebvre, H. (1991). *Critique of Everyday Life.* London: Verso.

Lefebvre, H. (1992). *The Production of Space.* Oxford - Cambridge: Wiley-Blackwell.

Liu, F., & Kang, J. (2016). A Grounded Theory Approach to the Subjective Understanding of Urban Soundscapes in Sheffield. *Cities, 50*, 28-39.

Parkinson, J. (2012). *Democracy and Public Space: The Physical Sites of Democratic Performance.* New York: Oxford University Press.

Sennet, R. (2002). *The Fall of Public Man.* London: Penguen Books.

Shamai, S. (1991). *Sense* of Place: an Empirical Measurement. *Geoforum, 22*(3), 347-358.

Stevens, Q. (2007). *The Ludic City.* London and New *York*: Routledge - Taylor and Francis Group.

Toolis, E. (2017). Theorizing Critical Placemaking as a *Tool* for Reclaiming Public Space. *American Journal of Community Psychology, 59*(1-2), 184-199.

Vanclay, F. (2008). Place Matters. In F. Vanclay, M. Higgins, & A. Blackshaw, *Making Sense of Place: Exploring concepts and expressions of place through different senses and lenses* (pp. 3-12). Canberra: National Museum of Australia Press.

Alternative Mapping Approach to Everyday Life Practices of Moda

[1]Merve Özgür [2]İpek Akpınar

[1] *Graduate School of Science Engineering and Technology, Istanbul Technical University, Sarıyer, 34467,Istanbul Turkey*
[2] *Department of Architecture, Izmir Institute of Technology, İzmir, Urla, 35430, Turkey*
Presenting author e-mail: ozgurm18@itu.edu.tr

Journal of Urban Research and Development
2021, Vol. 2 59 - 68

https://ojs.emu.edu.tr/

Abstract

The study explores the background and the relationship between the street as a fundamental part of urban space and everyday life by cross-reading the concepts of belonging and identity. Then an insight is provided into the daily practices of the streets of the Moda Neighbourhood in İstanbul through the built environment and its social construct. In this regard, the aims of the study are to understand the street experience, daily-life practices and to look at urban space from the human eye at the Moda Neighbourhood.

In this study, the place of the researcher in the process of analysing the city and map-making is scrutinized in an atypical way in order to re-interpret the ways of criticising and representing everyday life practices of the city. By looking at the city at eye level, alternative mapping techniques such as psychogeographic mapping, counter-mapping, and collective mapping that can juxtapose insight derived through observation, in-depth interviews, and site visits are explored. Mapping Moda through alternative techniques helps to criticise urban planning and urban research practices that are exclusive of the eye-level of urban life. These approaches may provide an alternative perspective and representation of daily life experiences of the streets at Moda-Istanbul and in general.

Keywords

Everyday Life Practices, Streetscape, Counter-Mapping, Psychogeographic Mapping, Collective Mapping

Introduction

Everyday life practices are ordinary experiences of the city. Everyday life concept is part of many research areas emerging after industrialisation especially in sociology but also in urban studies, architecture, history, anthropology and politics. Thus there are many approaches and emphasises on the concept such as, Michel de Certeau ([1980]2009), who dedicated his book The Practice of Everyday Life to the ordinary person, George Perec ([1973]1997) who introduced the concept of the infra-ordinary to describe everyday life as neither ordinary nor extraordinary, Henri Lefebvre ([1974]2010), who emphasized the unusualness of the ordinary and the obscurity of the familiar; many sociologists, anthropologists and urban thinkers, such as Andy Bennet (2005), who talked about the research value of ordinariness in the concept of everyday life, which is problematized with ambiguity and mediocrity. Looking at the city through these ordinary experiences enables one to study and design with the social and spatial aspects of the urbanscape where the relation of the individual with his/her built environment (at city, neighbourhood, and street levels) is assembled. Studying daily life experiences in a city requires understanding the habits, relationships, and networks of the inhabitants which leads to research with a qualitative approach and looking at the city on a different level. It also requires obtaining an insight of the neighbourhood scale through belonging and identity concepts that represent “an essential bond between a person and a space” (Hidalgo & Hernandez, 2001). As Mayol puts it neighbourhood imprints on one’s life as it is the origin of everyday life which constructs the concepts of belonging and other relationships with a place. Thus, studying the neighbourhood scale is essential for the research in terms of everyday life and the eye-level approach (Mayol, 1998).

With these concerns there are two main debates in this study, first, criticising the planning, designing, and researching practices that exclude the eye-level approach, everyday life, and its social aspects, second, criticising the conventional map-making as a research tool that also excludes these concepts. In this case, can we study everyday life experiences with conventional urban design and research tools? Or, are there any alternative approaches to research and representing practical, social, and spatial aspects and dynamics of urban space?

In the light of these questions, this study focuses on the everyday life practices at Moda Neighbourhood in Istanbul while examining the built environment from the human eye and scale as it happens in the flows of the city nourishing from the theoretical background of rhythmanalysis and psychogeography. The reason for such a focus is the fact that Istanbul is a city consisting of different scales, morphologies, and urban practices, yet the need for an eye-level approach is crucial to maintain a connection between the inhabitants and the city. Moda Neighbourhood is an old middle- class settlement in Kadıkoy and an adequate example of having this connection by being a settlement that can relate to human scale, identity, and sense of belonging. In the scope of this paper, both the neighbourhood and the streetscape of Moda linked to other urban spaces are the place of fieldwork. Mapping the rhythm, dynamics, and actors of everyday life in Moda can help to understand the mechanism of the city, document its identity, and emphasize the importance of interaction with the urban space in the inhabitant's everyday life. In this case, the research approach includes a double- handed methodology, first to analyse the streets of Moda Neighbourhood and understand the everyday life experiences; second is to endeavour alternative techniques in studying urban space.

The two main debates of this study include criticizing both the exclusiveness of the eye-level experiences in planning processes of the cities and the unresponsiveness of the conventional mapping techniques to the emerging challenges for most of the urban areas. Looking at the surroundings with a vantage point is in the nature of conventional mapping throughout the history of cartography and the modernist way of city-making. But with the everyday life of cities becoming more and more complex because of the emerging challenges, such a perspective is not adequate to reinterpret the new dynamics of urban life. Thus, it seems the right time to develop an alternative approach in planning, decision making, and researching about the cities to express the senses, experiences, and practices of everyday life. In this study, maps related to counter-mapping, psychogeographic mapping techniques are produced by the authors, however, collective mapping is a technique to be explored in a further study and be applied in a group of inhabitants in Moda Neighbourhood. Also, rhythmanalysis is a fundamental method to be further developed and integrated with the methodology.

Both the narration and mapping themselves and their techniques offered for the Moda district in Istanbul are part of an ongoing graduate study, and all conclusions are provisional.

Everyday Life and the City at Eye Level

Routines and forms of everyday life experiences of the urbanite play an important role in the decision-making process of all kinds of spatial production. However, the implementation made by ignoring the eye level of space in architectural production and urban planning generates a disconnection in the bodily experiences of the space. In this case, the streetscape is an important part of the city in terms of constructing the relationship between life and space. Considering streetscape as the first urban space that an individual encounters in everyday life after leaving the private space (home), it is an interface between private life and urban life. In this regard, to reveal the composition of everyday life in a city, it is important to understand the events of daily life, the actors who participate, and the way space creates those dynamics. This is possible through a certain approach, looking at the city through the eyes of those who live in it.

Michel de Certeau, who devotes his book, named The Practice of Everyday Life (1988[1980]), to the ordinary man, criticizes the planners who look down at the city with a totalizing eye and argues that on the contrary, the actual practitioners of the city (walkers) live “down below” and experience the city with the most basic act, walking. His critique of the voyeur -the designer of the city- and introduction of the walker --the practitioner of the city-- is essential in terms of understanding the actors of everyday life. Yet, the city is not experienced by the ones who plan it from above; it is experienced and interpreted by the people who live down below. At this point, Lefebvre’s “perceived, conceived, lived” triadic approach to the practice of space is essential (Lefebvre, 1991: p.40). Thus, thinking with de Certeau’s voyeur (planner) and walker (practitioner), there is no certain distinction between these actors in the city; both are actors who perceive, conceive or live the city.

In addition to de Certeau’s emphasis on the experiences down-below, Jane Jacobs (2016[1961]), highlights the importance of approaching the city through the eyes of practitioners and street-level experiences. Jacobs indicates how the built environment and the social life of streetscape construct the ‘ballet’ of everyday life. She also introduces notions like “public character” which contributes to the senses of privacy, belonging, and safety by keeping their “eyes on the street”. Through the discussions of everyday life of the city, human eye experience, and the built and social environment of the streetscape, how the knowledge of the city is to be

comprehended? What are the methods of investigating everyday life experiences?

Neil Leach (2005) suggests that through the act of reading (semiological model) and experiencing (phenomenological model), the city can be understood and its knowledge is revealed. In terms of Leach's holistic method of analysing the city, the work of Roland Barthes is important to mention. Although Barthes focuses on mostly writing and reading the city through its 'language', he also emphasizes the importance of experience. Barthes (1982) states that to understand the knowledge of the city "(…) you must orient yourself in it not by book, by address, but by walking, by sight, by habit, by experience (…)" (Barthes, 1982: p.36). Barthes's method of revealing the knowledge of the city refers to mundane practices. Thus, it might be said that understanding the city is through becoming part of everyday life, looking at the city through the eye of practitioners. In this case, to better understand the cities, tools adopted from an ethnographic approach (like the suggestions of Barthes) compromise the basis of the methodology of this study. The methodology of this study consists of several complimentary fieldworks: Participant observation, semi-structured interview (pilot study with two Moda Settlers), individual site visits, and mappings. Participant observation leans on the urban observation technique of Perec which he proposes in his book *Species of Spaces and other Pieces* (1997) and narrates implementation of this technique in his book *An attempt at Exhausting a Place in Paris* (1982/2010). Perec notes every event/happening, person or object he encounters in the public space without any filtration, that represents an objective narration of the mundane, ordinary or even irrelevant detail of the public space.

The critical and alternative ways of mapping as a tool to understand and represent the "perceived, conceived and lived" experiences of the city are elaborated in the following chapter.

A Search for Alternative Mapping Techniques

Maps are representations of how we understand our surroundings, our world. They have a great potential of narrating the knowledge of the place. As much as they are related to "power and hegemony" (Halder & Michel, 2018), they are also "tools to navigate, control, understand, imagine and transform the territory of the city" (Dovey & others, 2017: p.1). Mapping is a useful tool for juxtaposing new layers of information with an abstraction of a place to make a better understanding. But using a mapping technique that abstracts the city just to "collection of transportation networks, buildings, parks, rivers and so on" excludes the everyday life practices because the city also includes human existence (Leach, 2005: p. 2).

To navigate on alternative mapping techniques, it is essential to understand how the background of the conventional map-making is built on power structures of the cultures, and the modernist reductionist processes. "This Is Not an Atlas" is a collection of counter maps and the editors Severin Halder and Boris Michel (2018) review the word atlas through time and alter new approaches to it. According to Halder and Michel, beginning from the 16th century there is a notion of "showing the world as it really is" and atlases are places of describing the world as it is with objectivity and neutrality. And through time 'showing as it really is' notion is evaluated into being a basis for planning. According to a landscape architect and scholar James Corner (1999), during the 20th- century, mapping had expressed a "quantitative and analytical survey of existing conditions", because maps were seen as objective representations of the reality, basis for the decision making and planning processes (Corner, 1999: p.91). This leads to seeing maps as unimaginative practices for the forthcoming imaginative process of designing. Corner also argues that contemporary urbanisation (he implies urbanisation in the '90s) requires a new approach that is speculative and creative with an understanding of the complexity and dynamics of space where this time "mapping precedes the map". His approaches about maps and mapping are the act of "mapping as a creative activity" rather than "map as a finished artefact" thus these new ways of mappings can create new practices. Also, Halder and Michel (2018) focus on the process of map-making and the bilateral effect of maps that "articulate statements shaped by social relations, discourses, and practices" but are also influenced by them. In this sense, the role of the critical map maker or the cartographer is to mix the representation and understanding of the place as it is and the place that is imagined with a qualitative approach as much as the quantitative approach.

Alike Corner's search for new ways of mapping and speculating space and time, this paper is searching for alternative ways of mapping. The examples that Corner provided as a contemporary urbanist and architectural mapping approaches (maps of Guy Debord, Rem Koolhas, and Raoul Bunschoten) represent an innovative step. But why do we still search for alternative mapping techniques? And why do we still try to emphasize the importance of a street-level approach to cities while Jacobs, Lynch, and others emphasize these notions since the 1960s? There are always new challenges of everyday life in urbanism to tackle; which require an inquiry, but problems are similar. Exclusivist synoptic practice in planning and decision-making continues to domesticize conventional ways of looking at the city. Editors of 98 issue of Oase Journal, Havik et al. notes that conventional narrative methods are insufficient to respond to the problems in the contemporary urban environment and by using alternative narrative approaches as a method of planning, designing,

and researching today's urban space can move away from the dominant and prescriptive approach of traditional city planning and create an alternative to some of the problems it leaves out (Havik et al., 2017). With similar concern, C. Dana Tomlin (2011) criticizes conventional mapping techniques by using-and criticizing- the geographic information system (GIS) for map making. Even though GIS enables extracting various sets of information of a place it also illustrates a reductionist way of understanding the world. Tomlin (2011) offers to see the world through "worm's-eye" perspective instead of the common approach of bird's-eye perspective which simplifies the world to "set of points, lines, and/or polygons" and geographical objects such as "buildings, roads, forests…" and so on (Tomlin, 2011, pp.145-149). Tomlin's GIS mappings present a critique of the bird's eye perspective through the bird's eye perspective. Thus, mapping can be a critical way to reinterpret the planning process through walkers' eyes.

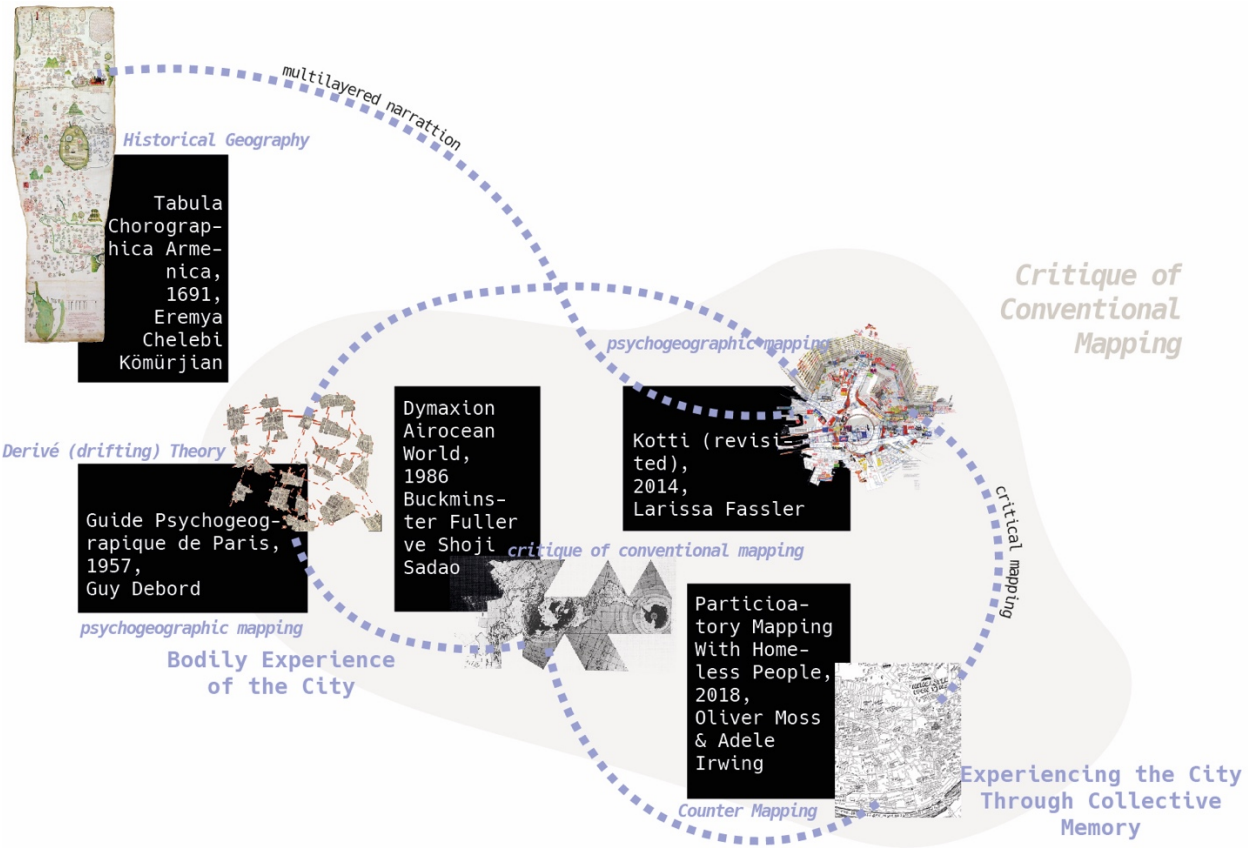


Figure 1. Diagram of theoretical background on critical mapping

Alternative mapping techniques such as counter-mapping, psychogeographic mapping, and collective mappings have a critical approach to conventional mapping techniques which practice map- making with a vantage point that represents angles we never experience in everyday life (Corner, 1999). Likewise, a critical map can represent a way of thinking we never experience in life and can be as simple as a map with south on top which is the opposite position of the conventional maps (Wood, 2010, p.114) or dividing the world into triangles like Dymaxion map of Fuller and Sadao (1986). As much as this practice reproduces an alternative way of mapping, it also reproduces an alternative way of thinking in the social and spatial environment. While counter-mappings are a critical way of showing the social problems of a place, psychogeographic mapping that emerged with the situationist movement may reveal subjective experiences and perceptions within urban spaces; and collective mapping can express subjective experiences of multi-participants.

Psychogeographic mapping is a practice of representing the surrounding through individual experiences. Psychogeographic mappings are mostly associated with the Situationist movement which manifests a "critique of the environment" (Sadler, 1998). Situationists Guy Debord and Asger Jorn that are known for the psychogeographic maps of Paris going through evictions and urban renewal, "explored the city's structures and uses, criticized traditional mapping, and investigated the relationship between language, narrative, and cognition" (Sadler, 1998: p.60) Maps produced by their personal experiences uses the situationist practice of drifting (derive) which is "a technique of rapid passage through varied ambiances" with a "behavior and awareness of psychogeographical effects" preferably done with multiple participants (Debord, 1959: p.62). Drifting

is an important method in terms of reading and experiencing the surroundings. It includes the process of perceiving the surrounding and re-describing its knowledge through bodily experiences. A contemporary example of psychogeographic mapping is the works of Canadian activist artist Larissa Fassler. She visits the Kottbusser Tor (Kotti) transportation hub in Berlin in years -which he names her work after- and produces a series of mappings by updating it with her observations and experiences (Fassler, n.d.). Focusing on the relations between space and people, Fassler works on the psychological and physical effects of the city's architecture on people, as well as the perception, understanding, and use of space, creating the built environment with her psychogeographic mappings (Fassler, n.d.).

Even though descriptions of certain mappings are being made, there are ambiguous boundaries between the techniques argued throughout the study. For instance, situationist mapping emerged as a counter-movement of the modernist planning and way of seeing the city. Thus, the psychogeographic mappings of Situationists can be considered also as counter-mappings. Counter-mappings are critical maps that exhibit the problems such as "violence, poverty, pollution and inequity" (Dovey, 2017: p.2) or include what is excluded in the conventional mapping such as experiences, people, or cultural groups. Collective mapping is a tool for juxtaposing multiple experiences to critically look at the environment. It is a technique that reveals the "everyday knowledge and experiences of participants" (Ares & Risler, 2018). When compared to the other mapping techniques addressed before, collective mapping is the one that mostly expresses senses, practices, and the experiences of the (participants) inhabitants of the city.

Another aim of this paper is to think beyond planning processes and including the academic research processes in the scope of searching for alternative techniques to express the problems, dynamics, and potentials of contemporary urban life. In this case, where is the researcher located in the process of research? It is highlighted that looking at the city at eye level is important in terms of planning and decision-making processes but what about researching the city at eye level? Especially through the map-making processes. Lefebvre's rhytmanalisis method draws an important framework for researching at eye level. Especially for this study, the rhytmanalyst's way of looking at the city demonstrates a great tool. Lefebvre suggests that the rhytmanalyst first analyses their body and learns from it, observing their surroundings through their own "repetitions", "measurements" and "rhythms" in a way that the rhytmanalyst's "body serves him as a metronome" (Lefebvre, 2004, p.19). According to Lefebvre, a rhytmanalyst should be both inside and outside of what is analysed; that is to be in the observed, to be a part of daily life, and to drift in the streets and squares of the city; it also requires seeing/observing from the outside by taking a distance from it, perhaps even through bird's eye view. The dialectic approach of being inside and outside of what is observed and the way Lefebvre puts the rhytmanalyst body in the process of analysing urban life, enlightens the inquiries of the research. It shows that as well as looking through the eye-level is important --which is what is emphasized throughout the study-- also looking with a synoptic distance is part of the process. Lefebvre's dialectic approach of taking distance from and being part of the observed, also brings concepts of being stranger or known/indigenous. These both approaches to everyday life of the city brings different perspectives according to the objectiveness of a stranger and potentials of bonding with the surrounding by being known. According to sociologist Georg Simmel (1950[1908]), the stranger-a sociological form of metropole- has the freedom that allows "to experience and treat even his close relationships as though from a bird's-eye view" (Simmel, 1950, p.405). On the other hand being known or indigenous allows researcher to gain insight of the surrounding, create social and spatial bonds and with Mayol's approach it is related to identity which allows "to take up a position in the network of social relations inscribed in the environment" (Mayol, 1998, p.9). With acceptance of simultaneous presence of these concepts in the contemporary city, the researcher locates herself in the streets of Moda both as an anonymous stranger, and as a known persona to the neighborhood benefiting from the dialectic approach of rhythmanalysis.

Rhytmanalisis also has importance because as the researcher is the metronome, every research produces particular results, especially in qualitative studies which are highly subjective. Just like mapping, a researching process is an act of abstracting data and comprehension from the infinite pool of knowledge, the literature, thoughtfully selecting the parts or quotes from studies. Thus mapping and researching can be seen as similar practices and applying alternative approaches to researching as well as mapping can bring a new perspective.

An Attempt to Critically Map Everyday Life in Moda

Moda Neighbourhood is located in Kadıköy District, in Istanbul. Due to its geographical condition of being surrounded by the Marmara Sea from Kadikoy Rihtim to Yogurtcu Park, Moda has an introverted structure that constitutes a distinctive identity and everyday life. In this case, how does the built and social environment of Moda construct the everyday life experiences? And can alternative ways of mapping help rediscover the potentials and challenges of street-level experiences of Moda Neighbourhood? Using alternative mapping techniques at Moda such as counter-mapping, psychogeographic

mapping, and collective mappings can have the potential to generate a multi-layered, contrary, or critical perspective of the city and its practices. Participant observation and semi- structured interviews are used to gather the experience of Moda Neighbourhood through site visits and mapping is used as a representation for these ethnographic tools. Also, participant observation and cognitive mapping are a mixture of the experience derived from the inhabitants and the experiences of the author. Meanwhile, semi-structured interviews and collective mappings are tools to represent mostly the experiences of the inhabitants of Moda. In the following, these alternative mapping techniques are associated with Moda and notions that are related to everyday life.

As much as a city is experienced through practices and activities it is also experienced through the verbal and written discourse, daily language of the city. Therefore 'names' of places accommodate a strong position in this discourse. De Certeau (1988) refers to names of places (proper names) as "constellations that hierarchize and semantically order the surface of the city operating chronological arrangements and historical justifications" he also highlights that, names gain different meanings that are given by the passers-by (de Certeau, 1988, p.104). It is not a stable notion; the relationship between names and places is defined by people through memories, and given meanings. Defining places by name relates to creating a sense of place and belonging which also provides a cognitive experience of the city as well as serving the collective memory of urban life. In this sense, using the most common daily discourse of the city -place naming- streets and nodes of Moda Neighbourhood are examined with a chronologic prospect (Fig. 2).

Figure. 2. Map of streets with changed names

With comparisons of PervititchMaps of Moda generated in the years of 1938-39 and satellite maps of 2020, it is seen that most names of reference buildings (such as Saint-Joseph High School), nodes (such as Yoğurtçu Park), and streets remain the same. Although some names of streets and squares are changed through time, the use of daily language mainly remains. For example, the axis, which is now called General Asım Gündüz Street, is named as Bahariye Street in Pervititch Maps. Despite the official name change, the older name of this street has been adopted as Bahariye Street in daily language. Counter-mapping Moda, with changed street names, provides a way of seeing the city through what is forgotten and what is remembered. Looking at Moda through collective memory and its traces reveals the bonds of the inhabitants and users with the neighbourhood. After all, as Barthes puts it "the city is a discourse, and this discourse is actually a language: the city speaks to its inhabitants, we speak to our city" (Barthes, 1988). As much as collective memory and history is important, in terms of emphasising rhytmanalysis method, personal experiences and observations are crutial as well. Thus, by walking in a certain route that connects two parks (Moda Park and Yoğurtçu Park) and the main square (Mehmet Ayvalitas Square) of the Moda Neighbourhood a psychogeographic mapping is done. Using a mental mapping method throughout the walk, the memory and the cognitive experiences of the route are represented (Fig. 3).

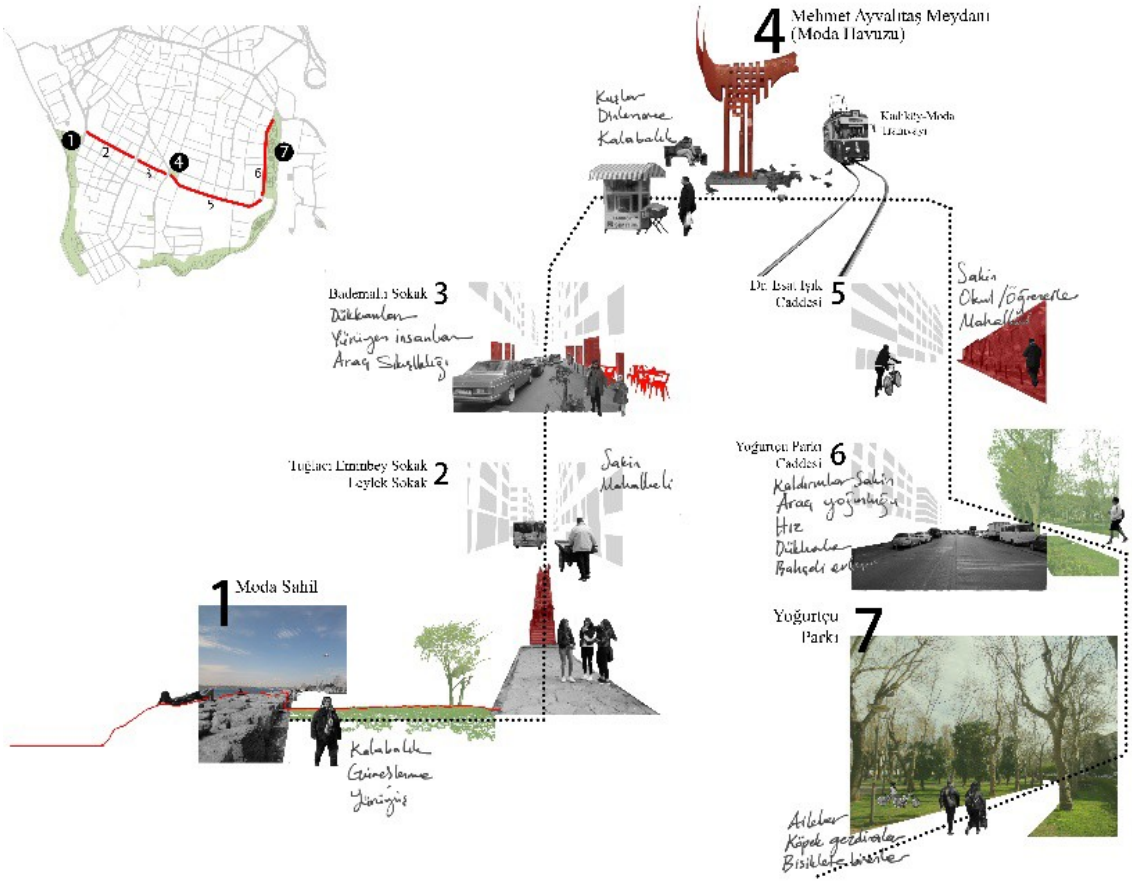


Figure 3. Cognitive mapping of Moda

By strolling in the streets, the senses, experiences, and instant observations are noted and photographs are taken to construct the first impressions of the route. This practice framed a general comprehension of the neighbourhood and provided a base for further fieldwork. This practice differs from the drifting (derive) method of Situationalists because the author does not wander around in the city with "spontaneous preferences" (Wood, 2010) the route is pre-decided, but the experiences are spontaneous. Thus it can be considered as a psychogeographic mapping in terms of representing the bodily experiences in the city of the researcher herself.

Another technique used in Moda Neighbourhood is participant observation. The axis of streets[3] extending through Moda and connecting public nodes are observed and mapped to examine the built environment, actors, and events of everyday life (Fig. 4). These observations are done spread to time and through becoming part of the everyday life in Moda; observations are done in different places that intersect with the streets while spending a

[3] In the order of location from West to East: Tuglaci Emin Bey Street, Leylek Street, Bademalti Street, Mehmet Ayvalitas Square, Dr. Esat Isik Street, Yoğurtçu Park Street.

coffee break in a café watching the street or in the park sitting on a bench, chatting about casual subjects and Moda with business owners and workers, petting stray animals and chatting with voluntary people who feed them. In time this practice turned into getting to know people and even greeting one another. One of those people is a man who comes to Moda every day to feed the birds in Mehmet Ayvalitas Square; he also helps the simit seller (simitçi) on the same square for his business. He is a known person in that region in which the elderly chat when they come to spend time in the square, or people leave their shopping bags to him to take back on the way home. He can be considered as a "public character" that Jacobs points out. Because he keeps his eyes on the streets and ensures the feeling of safety, he is a persona that people can trust with their belongings. Interventions like graffiti and craftworks of anonymous urbanites and artists or flowerpots on streets show that the neighbourhood is embraced by people and there is an urge to interpret the environment they live in which is very much related to a sense of place and creates identity. Likewise, another interesting activity that can be seen throughout the neighbourhood is the notes that business owners leave on the doors of their shops giving their phone numbers and names which is such personal information to share in a metropole. Although this act is seen multiple times in the neighbourhood it was mostly seen in the shops that are there for a long time. These events present traces of rootedness and belonging in Moda Neighbourhood.

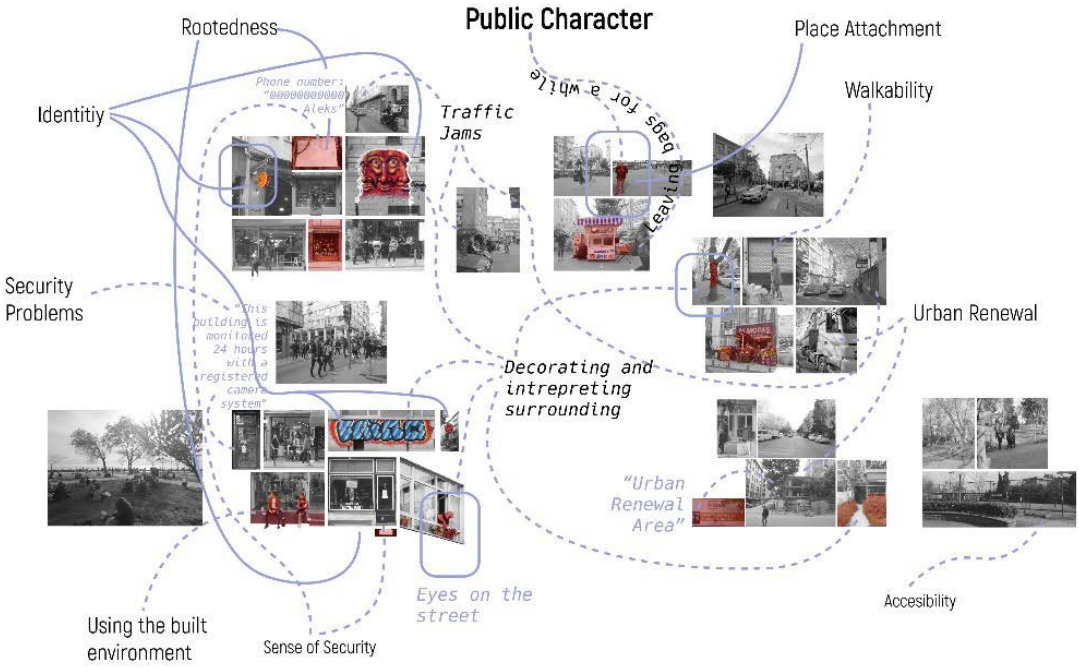


Figure 4. Moda at street-level

There are examples of identity, sense of place; rootedness, and belonging in the neighbourhood nevertheless, there are also problems that Moda encounters with. There is a problem of security which can be seen through the observations of notes on the apartment doors stating "This building is monitored 24 hours with a registered camera system" or doubts of the Moda habitants expressing that there are too many strangers in streets. There is also urban renewal going on throughout the neighbourhood causing heavy vehicle traffic, sound pollution, and change in the social and built environment. Also, all the experiences of sense of place, rootedness, and belonging are on the threshold of change. Therefore, it is important to research, document, and speculate about the Moda Neighbourhood through all the potentials it has and the challenges it faces.

Like mentioned before critical maps reproduce the way of thinking of the surrounding, and also mapping. Thus, thinking outside the codes of conventional mapping like scale, orientation, legend or the vantage point, vertical mapping of Moda (Fig.5) tries to look at the built environment in a different plane. Silhouettes might not only produce "angles we never experience in everyday life" but it also cracks the code of looking at the city from a vantage point. Through observations and in-depth interviews in Leylek Street (a part of the route chosen for the study), the traces of everyday life is represented in-situ.

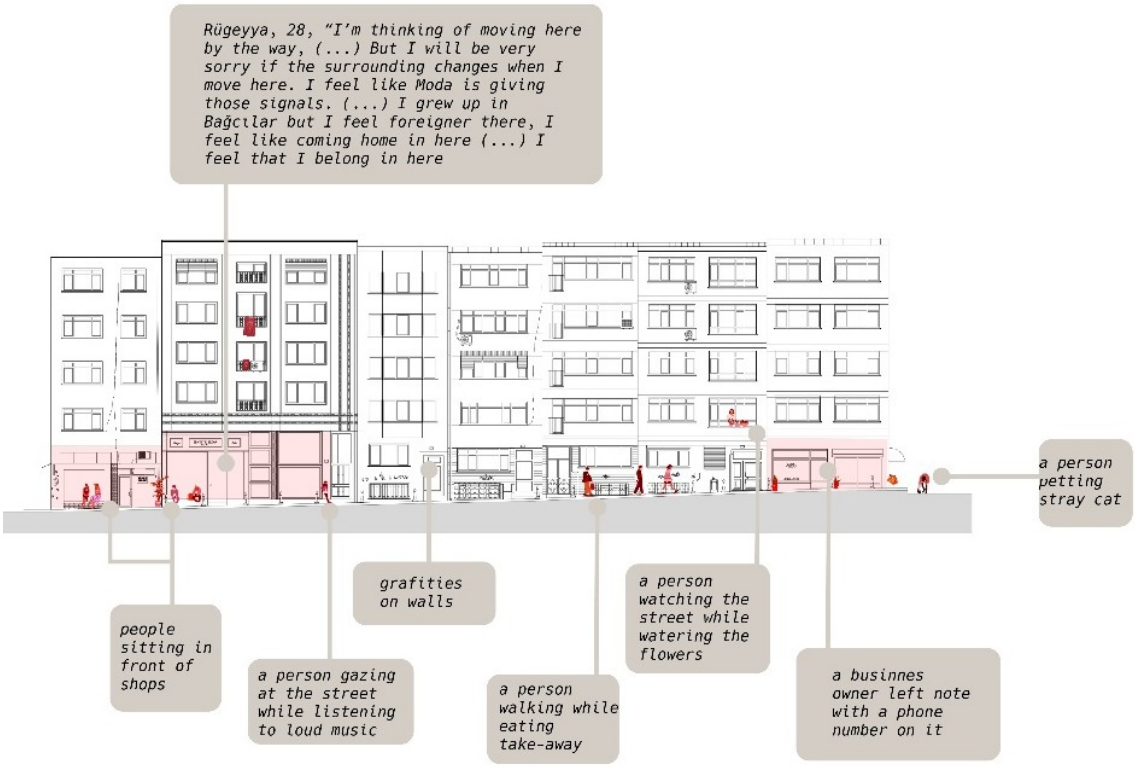


Figure. 5. Vertical Mapping

.

Concluding Remarks

This study emphasizes that studying the social life of the cities in the context of their built environment can help understand the dynamics, habits, and flows of urban life. In the scope of this study, three alternative mapping techniques

- counter-mapping,
- psycho-geographic mapping,
- and collective mappings

are discussed in terms of their theoretical background. Other mapping techniques are also mentioned such as mental mapping and cognitive mapping.

In the light of the above-mentioned mappings, the study gives important insights and understanding of the cities through streetscape for the decision-making process of designing and planning and vice versa. Mapping Moda with alternative mapping techniques reveals the potentials and challenges of the social and spatial environment with a critical perspective. In the streets of Moda being a stranger or known/indigenous, attached or detached creates various experiences and the study aims to reveal those experiences. Moda is an important settlement to study everyday life practices in terms of being related to human scale and dimensions in a city --that is becoming humongous in contrast with the human scale.

One of the main discussions of this study is that, beyond designing and planning the city at eye level, finding ways of researching the city at eye level since this axis of interpreting the city is less discussed in the design field. The alternative mapping techniques present a new way of researching the city with: looking at the city on a different level, revealing the unseen challenges and emphasizing the crucial problems of the place, extracting the insight of the district through the everyday life practices. What makes the mappings critical is that they have unveiled sections from the everyday life: both the potentials and dynamics of this district has been visualised and analysed.

In the light of critical discussions, alternative mappings can be considered as a tool for an alternative way of thinking and seeing the world; seeing the world through the eyes of inhabitants. Moda's mapping exemplifies this. Thus, through the attempt of alternative mappings done in Moda, problematizations of de Certeau, Jacobs and others are criticisised in the contemporary public spaces of Moda.

Critical mapping techniques which are out of the boundaries of this study such as protest mapping, forensic maps, narrative maps (Dovey, 2017; Wood, 2010) can be further investigated in future works.

References

Ares P., & Risler J. (2018). *Manual of Collective Mapping*, Kollektif Orangotango (ed.), This Is Not an Atlas: A Global Collection of Counter-Cartographies, Transcript

Barthes, R. (1982*). Empire of Signs*, trans. Richard Howard (New York: Hill and Wang, 1982)

Barthes, R. (1988). *Semiology and Urbanism. The Semiotic Challenge*.

Bennet, A. (2005). *Culture and Everydaylife,* SAGE Publications, London.

Corner, J. (1999). *The Agency of Mapping: Speculation, Intervention and Critique*. Chapter 1.12, p. 89-101.

De Certeau, M. (1984). *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984).

De Certeau, M., Giard, L., Mayol, P., & Luce. Giard. (1998). *The practice of everyday life*. Vol. 2, Living and cooking. University of Minnesota Press.

Debord, G. (1959). *Theory of the Derive*, Situationist International Anthology

Dovey, K., Pafka, E., & Ristic, M. (Eds.) (2018). *Mapping Urbanities: Morphologies, Flows, Possibilities*. Routledge.

Fassler, L. (n.d.) *Biography,* http://www.larissafassler.com/biography.html

Halder, S. & Michel, B. (2018). Editorial-This Is Not an Atlas, Kollektif Orangotango+ (ed.), This Is Not an Atlas: A *Global Collection of Counter-Cartographies,* Transcript

Havik, K., Notteboom, B., & de Wit, S. (2017). *Narrating Urban Landscapes. Narrating Urban Landscapes*, OASE, (98), 1–5. https://www.oasejournal.nl/en/Issues/98/Narratingurbanlandscapes

Hidalgo, M. C., & Hernandez, B. (2001). *Place Attachment: Conceptual and Empirical Questions*. Journal of Environmental Psychology, 21(3), 273-276.

Jacobs, J. (2016). *The Death and Life of Great American cities*. Vintage.

Leach, N. (Ed.) (2005). *The hieroglyphics of space: Reading and experiencing the modern metropolis*. Routledge.

Lefebvre, H. (1991). *The Production of Space,* trans. Nicholson-Smith, D. Blackwell: Oxford. Lefebvre, H. (2004). Rhythmanalysis: Space, time and everyday life. A&C Black.

Perec, G. (1997). *Species of Spaces and Other Pieces*, (ed. & trans.) Sturrock, J., Penguin Books.

Perec, G. (2010). *An Attempt at Exhausting a Place in Paris*. (trans.) Lowenthal, M., Cambridge, MA: Wakefield Press.

Sadler, S. (1999). *The situationist city.* MIT press.

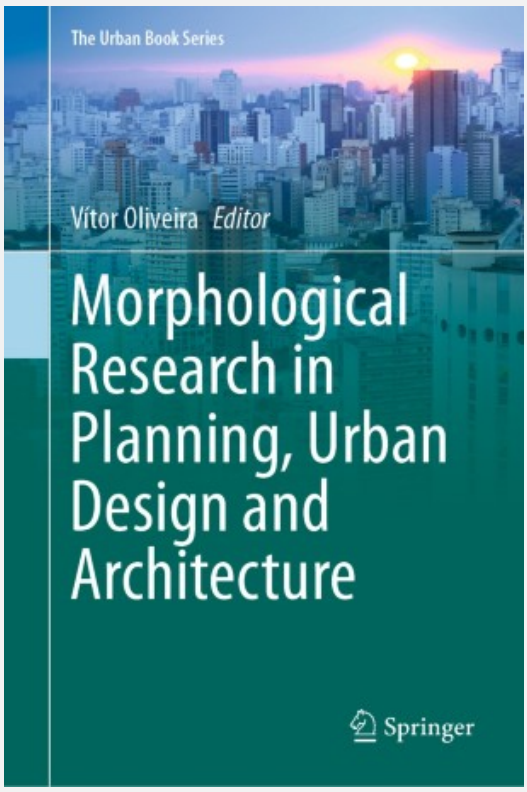
Shipwright, F. (2016). *Larissa Fassler's Psychogeographic Cartographies*, Uncube Magazine, No.42, Walk the Line, https://www.uncubemagazine.com/16549313

Simmel, G. (1950). Stranger, Kurt Wolff (çev.) *The Sociology of Georg Simmel*. New York: Free Press, ss. 402 - 408

Tomlin, C. D. (2011). *Mapping What Isn't Quite There*, Perspecta, Vol. 44, pp. 145-152, MIT Press.

Wood, D. (2010). *Rethinking the Power of Maps,* New York: Guilford Press.

Book Reviews



Book Title: **Morphological Research in Planning, Urban Design and Architecture**
Author's (Editors) Name: **Vitor Oliveria**
Publisher's Name: **Springer Nature**
Reviewer's Name: **Nevter Zafer Comert, Eastern Mediterranean University, Cyprus**
ISBN Number: **978-3-030-66460-2**
Dimensions of the Book: **7.7 x 0.6 x 9.4 inches**

Number of Pages: **XXIII, 230**
Number of Illustrations: **28 b/w illustrations, 100 illustrations in colour**

KEYWORDS: **Urban Geography, Urbanism**

Journal of Urban Research and Development
2021, Vol. 2 69-70

https://ojs.emu.edu.tr/

The book is about the relationship between scientific research and professional practice in urban landscape. Generally, the book addresses the linkage between morphological research and practice in planning, urban design, and architecture. The physical form of cities is structured in many forms within the urban context, and these elements are combined into distinct patterns in different places of the city. These forms are continuously changing due to different agents and processes of change. Within this framework, the activities of urban design and architecture have a significant impact on these elements. It could be acceptable that this action on the physical form of cities could be linked to the knowledge, which is continuously being produced in universities, but actually, it is not. There are many reasons which can explain this gap. One of the reasons is the lack of significant examples of how these bridging issues have happened. That is precisely the issue addressed in this book. The book presents many cases developed in different geographical contexts that can exemplify how to move from scientific research to professional practices. The book includes different chapters written by different authors on the process of the city building. The first part of each chapter presents the authors' morphological view. The second part illustrates how these authors translate the morphological research into practice by focusing on the building or owner plan designed by the chapter author. The last part covers the practices in architecture from different points of views.

Also, this book tries to understand in different fields of knowledge, from architecture to urban morphology, how this gap was common for the other fields of knowledge such as health education, law, and economics. The gap between sciences and practices is neither new nor exclusive to the urban landscape fields. The other focus of this book is to understand the wide gap between research and practice. Even the practices are not a "whole" thing; there are incredible differences between architects, urban designers, and planners. While researcher and practitioner are principals of this book, on the one hand, this book brings several policies, plans, and buildings developed in recent years in different geographical contexts designed by academics who undertake research and practice on the urban landscape. On the other hand, it aims to make explicit how a morphological view can lead to the design of policies, plans, and projects and consider how they can be better situated to the urban landscapes to which they relate and to the needs of citizens.

Accordingly, part one of the book starts with Jeremy Whitehand, who explores the applicability of the historico-geographical approach into planning practice. It then continues by Peter Larkham and Nick Morton by exploring the urban morphology practices in conservation plans at planning level. Part two covers two plans of urban design by Ivor Samuels and

Karl Kropf. The third part of the book explores urban morphology and architecture, starting with Wowo Ding, who practices rehabilitating the small village in China. Then it continues with Giuseppe Strapp, Matteo Ieva, and Gianpiero Moretti by using typo-morphological approaches in practices at the architectural level. The last two chapters by Portuguese-speaking authors - Vitor Oliveira and Ana Claudia Monteiro – are about the renewal of their houses by using morphological theory into practice. Finally, the book ends with Frederico Holanda exploring his houses in Brazil.

JURD

Journal of Urban Research and Development (JURD) is a peer-reviewed international and multidisciplinary academic journal published by EMU Press on behalf of Eastern Mediterranean University (EMU) Urban Research and Development Center (URDC), for urban and planning issues, covering a wider range of disciplines contributing to past, current and future concerns of cities and urban development. The journal welcomes contributions from qualitative as well as quantitative research including contemporary comparative urban perspectives and case studies.

Aims and Scope

Journal of Urban Research and Development (JURD) aims to provide a discussion platform for original research on urban and planning issues, covering a wider range of disciplines contributing to issues and challenges in urban development. JURD intends to be an easily accessible resource for researchers and practitioners in the fields of urban and regional planning, urban design, landscape architecture, human geography, urban sociology, urban economics, urban infrastructure, etc. as a unique platform for dialogue and exchange of ideas.

The journal addresses mainly, but not limited to, the following topics:

- Urban Design Theory
- Urban Design Education
- Urban Regeneration
- Urban Conservation & Revitalization
- Urban Culture
- Urban & Regional Planning
- Urban Landscape
- Urban Morphology
- Urban Housing
- Urban History
- Urban Representations
- Urban Image & Identity
- Urban Public Space
- Urban Policy
- Urban Strategies
- Urban Sustainability & Sustainable Urban Design
- Urban Sociology
- Urban & Environmental Psychology
- Urban Economics
- Urban Growth

Types of Articles

JURD will accept the following types of article:

- Original research articles, guest editorials
- Book Reviews

Original research articles, guest editorials

Authors should submit original research articles electronically via the journal's electronic submission system. Articles should be between 5000 – 8000 words. All articles should include the following information:

1. Article Information File which should include title of the article, name(s) and affiliation of the author(s), full contact details (including email, postal address and phone and fax numbers) for the corresponding author
2. Article File which should include title of the article, abstract (not exceeding 150 words), 3-6 key words, the main text covering introduction, materials and methods, results/discussion, conclusion; acknowledgments (if any), references,
3. *Figures and Tables – tables with caption(s) (on individual pages) and figures; figure captions (as a list)*

Book Reviews

Book Reviews should be between 1200 -1500 words. The following information is required about the book being reviewed: Book Title, Author/s or Editor/s Name/s, Publisher, Year of Publication, Retail Price, Number of pages, Hardcover/Paperback, ISBN. The book reviews should critically review the book contents against scholarly discussions focusing on the aims, objectives and key ideas outlined in the book by addressing the target group as well as evaluating its strengths and weaknesses.
Book Reviews should be submitted directly to jurd@emu.edu.tr.

Review process

Double blind peer review: *JURD* is committed to peer-review integrity and upholding the highest standards of review. Once your paper has been assessed for suitability by the editor/s, it will then be double blind peer reviewed by independent, anonymous expert referees. *JURD* follows the Eastern Mediterranean University ethical rules and regulations.

Ethics policy

JURD follows the Eastern Mediterranean University ethical rules and regulations.

Submissions

The Submission must be done electronically via the journal's website. By submitting to JURD the author indicates that the article:

- Is an original contribution (all papers would go through plagiarism check upon submission).
- Has not been published elsewhere (except as a part of authors thesis, or conference abstract)
- In not under consideration for publication in any other journal.

JURD conducts a double-blind review for all submission after editorial check and quality control. The author(s) might be asked to implement revisions to the manuscript according to the assessment of the reviews and/or editorial team. The article could be accepted or rejected after the revision process is completed. Please note that the article cannot be further revised after it is accepted for publication. Please make sure that the manuscript is accurate and updated.

The proficiency of the English language including the proper usage of grammar, uniform spelling must be checked prior to submission of the manuscript. Both American and British spellings are acceptable as long as it remains constant throughout the manuscript. If the manuscript does not pass the initial quality control, the author(s) will be advised to use a professional proofreading service before the reviewing process began. In order to accelerate the publication process, the authors are advised to ensure language proficiency prior to submission. The Journal uses a natural language and the usage of pronouns such as "I", "we", "our" should be avoided if possible. The manuscript must remain anonymous throughout the reviewing process, so all names (including the acknowledgement) must be removed before the manuscript is accepted for publication. The name of interviewed individuals, participants, and collaborators can be added only with a written contest. Please make sure that all supplementary materials (tables, figures, maps, charts, etc) are embedded in the text and submitted separately with the highest quality for print. Please follow the complete guideline for submission from our website.

References

JURD fallows Harvard referencing style. It is comprising of authors' last name and the year of publication enclosed in parenthesis. The page number must be provided if quoted directly. All listed references must have a corresponding in-line citation. References must be organized according to the alphabetical orders of the first author's last name, the use of Endnote or similar indexing software are highly encouraged. The detailed guideline for referencing style can be found on our webpage.

Please find the full guideline for Authors at JURD's webpage.

Contact

Corresponding address:

Journal of Urban Research and Development
Eastern Mediterranean University
Famagusta, Northern Cyprus
(Via Mersin 10 - Turkey), 99450

Phone : +90 392 630 2588
Fax : +90 392 630 2865
E-mail : jurd@emu.edu.tr or sebnem.hoskara@emu.edu.tr
Website: : https://ojs.emu.edu.tr/index.php/jurd/index

JURD

Journal of Urban Research and Development (JURD)
Special Issue

CALL FOR PAPERS
CITIES AND PLACES IN CONFLICT

GUEST EDITORS
DR. ALI A. ALRAOUF & DR. MÜGE RIZA

> ***"Warfare in the twenty-first century goes well beyond conventional armies and nation-states. In a world of diffuse conflicts taking place across sprawling cities, war has become fragmented and uneven to match its settings. Yet the analysis of failed states, civil war, and state-building rarely considers the city, rather than the country, as the terrain of battle."***
> ***Cities at War, Global Insecurity and Urban Resistance***
> ***Mary Kaldor and Saskia Sassen (eds). 2020, Columbia University Press***

Around the world, there are multitudes of cities that have been affected by war and conflict. Cities are fragmented by violence in their urban landscape. Conflicts such as these force people to flee their cities, creating refugees, who in turn face another form of conflict as they immigrate to places with anti-immigrant attitudes. The current Russian-Ukrainian conflict has caught the world's attention since the conflict in this dimension has not been seen in the European context since WW2. However, war and conflict are an everyday reality in many geographies for decades as a global crisis. According to the United Nations, nearly two billion of the world's population is living in conflict and tension zones. More importantly, conflict is getting cities to be more fragmented and communities to be more fractured. Therefore, researchers need to examine cities as sites of contemporary warfare and insecurity.

Conflict refers to 'situations where individuals and groups have incongruent interests that are contradictory and potentially mutually exclusive but contained'; violence is the manifestation of that conflict (Moser & Rodgers 2012: 2). With every conflict, we lose people. We lose our loved ones. We lose human beings. We lose our homes. We are forced to migrate. Our cities are destroyed. Our identities are shocked. And we lose our cultural and urban heritage.

As the home for JURD, Urban Research and Development Center of the Eastern Mediterranean University, we deplore the lives already lost and threatened by the deterioration of the situation in the Ukrainian territory as well as in other territories in any region. We also fear the loss of heritage in every conflict zone. Like many other organizations, we would like to call for respect for the core values of humans: respect for human rights, democracy, rule of law, the values of peace, and respect for our shared history and cultural heritage.

With these in mind, this special issue will be addressing conflict in cities and its impact on the built and natural environment, while also discussing socio-cultural and economic perspectives of urban conflict. Hence, The issue seeks to understand Cities and Places in Conflict as arenas of increased conflicts, particularly with respect to the role that architecture and the urban fabric play as a setting and background for everyday activities and events. Accordingly, the special issue is welcoming papers including but not limited to the following themes:

- Urban conflict
- Urban resilience
- Post-war development
- Post-war heritage reconstruction
- Cities and Conflict: Exploring Urban Adaptive Reuse
- Shaping the Socio-Spatial Structures and Physical Environment
- Endangered heritage in conflict zones
- Refugees and the city
- Mobility in conflict zones
- Conflict theory
- Territorial Conflicts and National Identities
- Urban development in conflict zones
- Displacement
- Placelessness
- Divided Cities and Territories.

We encourage researchers from multidisciplinary backgrounds to contribute particularly from domains like architecture, urban studies, politics, geography, and sociology.

DEADLINE FOR FULL ARTICLES: OCTOBER 15TH, 2022

All articles will go through a peer-review process and should be submitted directly to Müge Riza: muge.riza@emu.edu.tr

Eastern Mediterranean University

URDC

Eastern Mediterranean University
Urban Research and Development Center
is Supporting SDGs

The 2030 Agenda for Sustainable Development

Eastern Mediterranean University

URDC
Urban Research and Development Center

Journal of
Urban Research and Development

ISSN 2822-2806

Print: EMU Printing house
Eastern Mediterranean University Press