

Contextuality and Design Approaches in Architecture:

Methods to Design in a Significant Context

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Abstract—Contextual sensitivity should be amongst the primary concerns of the architect. Understanding the context and considering micro the macro scale is crucial to produce contextually sensitive design solutions. Contextual architecture becomes challenging while studying how the different cultural identities are formed and how they can be translated into the design, in this case, the designers have to study in-depth the surroundings, as places talk and main ideas can be generated from the location. Design should be considered by checking how effectively it uses the context and its sensitivity. It should respect and prioritise the character of place by creating and sustaining the pre-existent identity and harmony. Learnings from the context provide a link between history, society and culture, thus allowing the design to utilise the features of the place and results to become integrated with the roots of city. With organisations and specialists having diverse views on the subject, the need for a cohesive point of view is more than necessary at this stage. The rise of iconic architecture and international style solidifies the need of exploring contemporary architecture and its influence on historic context or the other way around. The quality of new construction and the process of adding new buildings in a historic context is debatable and has always been in discussion. This paper provides the details of key concepts and approaches that can be used in the historic context.

Keywords — *Context; Contextual-design; City-center; Design-interventions; Design-methods.*

Introduction:

This research paper is divided into 6 sections

1. Contextual Architecture with the further subdivisions that include: Climatic, Geographic, Cultural, Economic and Political context.
2. Contextualism with subheadings of Vernacularism, Regionalism and Critical Regionalism.
3. Critique of contextual approach.
4. Contemporary architecture in historical context, further discussing the changes in historic context.

5. Design approaches in historical context, concept of compatibility and concept of distinction.
6. Conclusions.

1. Context & Contextual Design:

According to Miao [1], if we narrow down the word context, it can be understood as the connection between each sentence of an article where every word relates to another to make a cohesive paragraph. Presently, it can be said that context is the background of a certain region, nation or city including geographic condition, cultural atmosphere, traditional transmission, and socio-cultural background. Historical-Urban-Context and sites are a vital part of any city or region as they provide an important insight into the past lifestyle, building techniques, tradition and cultural values. The conservation of these traditional values and revitalization of architectural heritage is essential for the preservation of the culture of an area. "The main goal of conservation is to enliven cultural properties by evaluating their architectural, historical, environmental, visual and aesthetic characteristics" [2] "The relationship between new architecture with its historical context is determined from the values assigned to the meaning of its heritage architecture and consequently its modern interpretation. It is the architect's task to express architecturally his or her era and simultaneously get involved in a dialogue with the context, in which the architect builds" [3]. Hence, it is important to understand the values of the traditional context and the significance of heritage to interpret them with the contemporary design solutions and proposing the project according to the character of the historical urban fabric.

Context has multiple external elements that influence a design. These elements are physical and non-physical. Roads, buildings land contours are examples of physical elements, while non-physical elements are the weather condition, local culture, as well as political and financial constraints [4]. According to the Architectural Site Analysis Guide, the broader meaning of context includes the cultural and social aspects within the definition of context. Therefore, while talking about context architecturally, both tangible and intangible aspects have to be considered. For a new design in the important context,

where one has to consider the tangible elements of climate, geography and economic factors, the list of intangible elements is also a bigger one. The main aspects include the cultural, traditional, social and artistic qualities of the region. Thus to come up with a feasible proposal more concerns have to be catered to and considered accordingly. Now there is much more focus on making an effort towards a design that echoes with the architectural elements of its neighbours. Paul Goldberger in an article for the *Times* archive discusses the notion of changing ideologies that architects are following a philosophy where it may be better to be discreet than to be original. "Whereas modern buildings once tended to be conceived as pure, abstract objects, independent of what was beside them, there is now much more attention paid to the notion of fitting a building into its architectural surroundings" [5].

While studying the contemporary architectural buildings in a historic context, the most significant aspect of context is to know the contextual relevance of the new-built with the provided environment. It is also important to find out the relationship of users, residents, locals as well as visitors who are there for a short time and how they become part of the context.

1.1 Climatic Context:

Relationship between architecture and climate can be described as the following: climate is a creation of nature in every given context, while architecture is a providing designed by inhabitants or builders there by being a human creation.

Pearlmutter describes nature as "an ongoing dynamic of atmospheric processes whose patterns and structure are governed by physical laws and by the peculiarities of our planet. Yet, architecture and climate, which may seem to belong to entirely separate fields of study, have always been intertwined. This linkage is not a one-way relationship, but rather a cyclical chain of human actions and reactions to environmental feedback" [6]. The main purpose of architecture is to make available the physical forms that can provide shelter against natural forces. Architecture design conclusively ends up giving shape to a social, communal and visual climate in which we live, taking its indications from the regional climate that provide the details for the changes in design languages accordingly. Although the technological advancements and ever-improving construction techniques are bringing forth the methods to achieve and realise the designs that can withstand extreme climatic conditions without taking influence from the local and earthy solutions that have evolved over multiple centuries. Therefore, the need and costs of these solutions are arguable as they affect the character of the area.

Across the different continents, countries and regions architecture language changes. In a region where one needs to retain warmth in the snow or to stop the heat

in the deserts, the usage of thermal insulation techniques, use of wood as finishes, cavity walls etc. are some of the examples that are used. Hence, architecture takes direct influences from the impacts of climate. "Architect has been a climatologist far longer than he may realise, because the architect throughout the ages has been exercising control over climate through orientation, site and town-planning devices, such as brise-soleil, tree-planting, wind-breaks, etc" [7]. Human beings have always responded to the climate and developed feasible architecture to counter the impacts of climate. According to famous Architect Hassan Fathy, known for the voice of traditional approaches that cater to environmental solutions and critical regionalists: "A machine is independent of its environment. It is little affected by climate and not at all by society. A person, however, is a member of a living organism that constantly reacts to its environment, changing it and being changed by it" [8]. Hence, consideration of all aspects of the climatic context while designing a project is an important part of the design process.

1.2 Geographical Context:

As defined by Etymology Dictionary, geography comes from the Greek word 'geographia', literally meaning 'earth description' [9]. It is a scientific field that concerns the study of the environment, ecosystems, oceans, landmasses and the interaction between human society and their impact and connections with their atmosphere and surroundings. Geography is the study and research of the earth and its features including surface, vegetation, climates, countries, climates and how humans use the world's resources [10]. According to Sen Nag [11], geography is the study of the earth's physical features and environment including the impact of human activity on these factors and vice versa. These subjects also include the study of human population distributions, land uses, availability of resources and their utility and industrial setups. The interdisciplinary approaches in this subject allow for the observations and analysis of the materials and distributions of the earth space and development solutions accordingly.

Murphy and Sen Nag further describe that geography also interacts with culture and the natural environment. Locations and places can have an impact on people and how they live and adapt accordingly. Geography seeks out to understand the natural resources, how to work with them, how they change over time, where they can be found and how to develop them accordingly. Because the study of geography is broad and a specialised profession, the field of geography can be divided into multiple secondary branches. However, the primary distribution can be classified into physical geographies, cultural geography, developmental geography, human geography, regional geography and settlement geography [12].

- Physical Geography- It is a branch of geography that encompasses the study of the natural features and processes on the Earth.
- Human Geography: It is a branch of geography that deals with the study of how human civilization is influenced by the earth's surface and environment and how in turn, human actions impact the planet.
- Cultural geography: It explores how and why culture and customs differ in space and place. It thus deals with the study of the spatial variations of human cultures including religion, language, livelihood choices, politics, etc.
- Developmental geography: It explores the quality of life and the standard of living of the human inhabitants of the world and attempts to understand how and why such standards vary with place and space.
- Settlement Geography: The study of the earth's surface that consists of human settlements. It explores the urban and rural settlements, infrastructures, economic and social structures, etc.
- Regional Geography: It takes a different approach to specialisation, directing attention to the general geographic characteristics of a region. There are different ways one can define a region, there are different branches that include climate zones, cultural regions, or political regions.

Hence the geographical context is the combination of multiple different aspects of the earth studies and it is an important part to study and consider the geographical context while producing or studying the architecture of/for a specific region.

1.3 Cultural Context:

Schmutz V. Elliott describes the relationship of individual and culture as, "The culture of the individual is dependent upon the culture of a group or class, and the culture of the group or class is dependent upon the culture of the whole society to which that group or class belongs" [13]. Consequently, it can be said that the culture of the society is essential for the individuals and as a broader whole. To study architecture that is built for or in a specific cultural context, Kenny emphasises the importance of the study of society in which an architectural form is built. Reviewing the aspects of the culture is important to understand what has affected the architectural form. "Not all the aspects of the culture are significant in architectural form, certain aspects are more likely to be incorporated into the architecture and only through

a study of past architectural forms can these aspects be revealed" [14]. "Architecture is the portrayal of a nation's culture integrated with all aspects of human life and has a profound impact on it" [15]. Hence from the study of Elliot, Kenny and Ettehad et al., it is apparent that the architecture and culture are interdependent, where architecture represents and portrays the culture of a country and on the other side the architecture draws many influences from the culture of a particular region.

According to Thompson [16], tradition and culture provide the background and knowledge in a structured way. Culture allows us to know what is essential, but sometimes there is a conflict where one group of people will believe they are more correct than the other group. The beliefs and the history of endeavours are questioned and the knowledge that created the tradition or culture has multiple different understandings and points of view. This aspect highlighted by Thompson shows that the diverse views in society are present and should be considered. Deo recommends an architecture of response to the culture, as it has a voice and it represents the culture of the region and area. In this case, there are many forces including nature, inhabitants, place and purpose that shape the buildings and while designing a building one has to respect all these aspects. "Our cities would be experientially rich and meaningful if the places and spaces within them were not impositions but responses to the rich culture of the people within them" [17]. Hence, it can be said that culture and architecture are interdependent entities and architecture that responds to culture become meaningful and sensitive, therefore the consideration of the cultural aspect is a very important factor to consider while proposing a design in a rich context.

1.4 Economic and Political Context:

Economy and politics are influential role players in the production of architecture in different territories. Architect Andrés Jaque explains that politics is a key role player and it has a lot to do with how things are brought together, and to determine the possibility of certain situations that have to be produced by architects and the ones that cannot be considered. He emphasises that "this doesn't mean that all architects are aware of this political performance of what they design, nor does it mean that it is only the architect that makes the architecture perform politically in a particular way; but it means that architects in a way are confronted with, at one point, being aware and taking responsibility or not of the political performance that their building, design, and practices are part of" [18]. According to Swedish Architectural Association, "Architecture and politics belong together. Politics has the task of developing and improving the society we live in. Architecture makes an important contribution towards that kind of social construction. Architecture is both concrete and

visionary. It performs a task and looks ahead but is also something from which we can decipher our common history. It is people, not architecture, who create life, but architecture is capable of underpinning our aspirations and activities" [19]. According to Eltjo R. Poort, architects need to consider and understand the wider context of their solution. "When we view architecture as a set of design decisions, a good measure of a decision's architectural significance is the economic impact of that decision on the collective stakeholders affected by it. So for architects to understand the significance of their decisions, they need to have a firm grasp of the economic context of the solution they are architecting" [20]. Cowan in his studies emphasises that the different urban agencies are biased towards the urban spaces and regeneration projects and the projects of transformation and development are connected with the political and economic factors. Hence, it can be said that the economic, political, social and physical aspects of a region are interconnected while developing a policy to improve the life quality of an urban area and its dwellers [21].

2. Contextual Architecture & Contextualism:

According to Molaee and Mahdavinejad, contextual architecture or Contextualism is the architecture that responds to the specific physical characteristics of its site. "Unlike any specific architectural style, contextualism can be seen as a set of values, which help distinguish the architecture" [22]. Whereas Tabarsa & Naseri define contextualism as "(...) one of architectural approaches that interact with culture and cultural context and emphasize on the climate of a particular region" [23]. Miao describes contextualism as an understanding of the whole environment, partial characteristics, structures. In specific the detailed correlations between site, geography, drainage, plants, street pattern, fundamental space structure, locations of buildings from a broader perspective, architectural features, and the study of macro to micro. Hence, contextual architecture takes its influences from multiple factors, important one's being the relationship of the immediate context, culture, climate and regional considerations. Whereas according to Johnson, "When modern architectural usage is considered, the word context may have more than one meaning. It may refer to the physical built fabric in which a project is situated, it may refer to the ground, or it may refer to the environment in which the architects work taking into consideration the culture, history and other aspects" [24].

Daglioglu while talking about the historical references, discusses that the idea of contextualism existed long before the term has been popularised, it has "(...) a definition beyond the physical features of a site, context is embedded in the notion of *genius loci*, translated today as 'spirit of place', in old Roman architecture. In Renaissance architecture, *decorum*, inherited from Vitruvius's *décor*, was developed as a

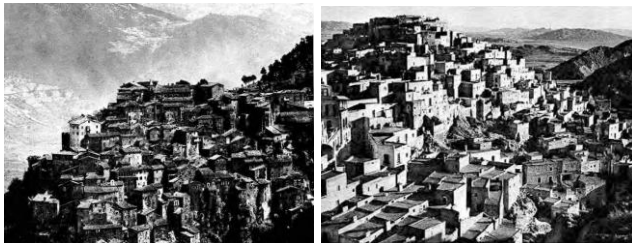
key strategy to communicate with context through symbolism. Ecole des Beaux-Arts introduced *tirer parti*, meaning to make the best from what is found in the existing physical and political context" [25]. Hence, the historical importance of contextualism can be understood with the discussion of historical references. Whereas, a new idea of fitting in has been argued by Paul Goldberger highlights how the perception and approach have changed over time, now there is more attention to fit the building into its surroundings whereas in the past modern designs were conceived to be independent of the context. In other words, "(...) to make certain that the building echoes many of the architectural themes of its neighbours. It is a philosophy of design that suggests, by implication at least, that it may be better to be discreet than to be original" [26]. Contextual approach, as the term itself, communicates in the architectural meaning that it is to be understood as context-dependent. "Contextual architecture is defined as architecture that strengthens the relationship with its specific site or its broader physical, or visual, environment to create whole that is greater than the sum of its parts" [27].

The term 'context' needs not only to be understood in spatial settings of an architectural expression but more widely. "We could begin with a simple and intuitive listing of possible meanings of the term in architecture. First, it would be the spatial context, which in architectural interpretation seems to be more customary. It could mean: 1) a specific building is seen in the context of other buildings (this mainly refers to the city); 2) a specific building seen in the context of the surrounding landscape; 3) a specific element of the building seen in the context of all the other elements of the building; 4) the relationship between a building's exterior and interior" [28]. Any site, location or a place includes several natural features that characterise it and create the context of that place. In architectural design, all these features should be determined, analysed as well as considered during the design process, to integrate the building into its context. Architecturally, it can be said that the context is an entity that unifies the whole and gives meaning to the different parts of the building by combining them. However, contextual architecture, or contextualism, can be defined as the architecture that provides a solution or responses to the main characteristics of the area and the available site. Unlike any specific architectural style, contextualism can be seen as a set of standards, which help differentiate the architectural work and production of design [29]. It can be said that the main branches of contextualism include three distinct types: Vernacular Architecture, Regionalism and Critical regionalism.

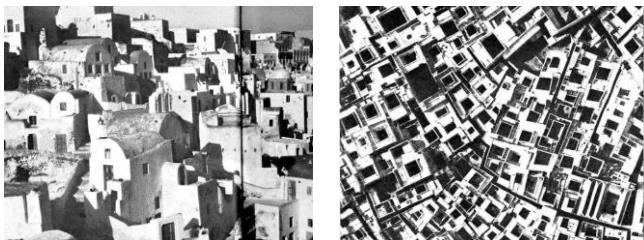
2.1 Vernacularism (vernacular architecture)

According to Brown and Maudlin, "Vernacular Architecture is the language of the people with its ethnic, regional and local dialects, it is

the product of non-experts" [30]. Paul Oliver also share the similar views architecture "the architecture of the people, and by the people (...)" [31], he further argues that "...it is contended that 'popular architecture' designed by professional architects or commercial builders for popular use, does not come within the compass of the vernacular". Vellinga, Oliver and Bridge describe that "from the billions of buildings existent worldwide, 80% or even a higher proportion, to be vernacular architecture [32]. Therefore, it is clear that more than a half of the actual population lives in vernacular dwellings". Hence, the study of vernacular buildings as part of contextual architecture is of great value. "It is relevant to discuss if informal housing is vernacular architecture? What is vernacular architecture? Worldwide, if the majority of people live in vernacular buildings, why has this architecture been less acknowledged? Is it due to its significance, then, what does it mean and what is the value of 'vernacular architecture'?" [33].



A - Italian Hill town – Positano B - Spanish Mojacar Hill town – Almeria



C- Apanomeria Santorini-Greece D - Marrakesh, Quadrangular courtyard housing

Figure 1. (A/B/C/D) Vernacular Housing-Examples 'Architecture without Architects' Bernard Rudofsky

Bernard Rudofsky published a book in 1964 called '*Architecture without Architects*' in the Exhibition of the same name. He made the word 'Vernacular Architecture' eminent in an architectural context, and bought the concept into the eye of public and mainstream architecture, including black-and-white photography of vernacular buildings around the world. The exhibition was extremely popular, "for want of a generic label we shall call it vernacular, anonymous, spontaneous, indigenous, rural, as the case may be" [34].

According to Carlos et al., "Despite the recent developments of this area of study and its thematic enlargement, it is common the use of the terms: Traditional, Vernacular and Popular Architecture as indiscriminately synonyms. This is far from the real

potential of each term, despite their close relation." A further explanation has been added and the difference of the vernacular from the traditional has been explained as: "Traditional architecture is the broadest term; it derives from the actual application of the constructive tradition and empirical knowledge, based on oral transmission between generations...A significant portion of traditional architecture can be considered Vernacular and Popular" [33]. Traditional architecture and vernacular have a connection with each other, there is an inclusion of non-local styles and elements for aesthetic purposes in the traditional architecture and we can see this very often in the temples and palaces. These buildings are not included in the vernacular and have been given a lot of importance internationally by architects and designers [35]. "Many vernacular solutions are today regarded as regional icons, aimed at long processes of appropriation, up to the point of becoming more characteristically representing their region" [33]. Bernard Rudofsky gives an example of Italian hill houses of Positano, Spanish Mojcar Hill-town, quadrangular courtyard housing of Marrakesh and Apanomeria Santorini as examples of Vernacular Architecture (figure 1).

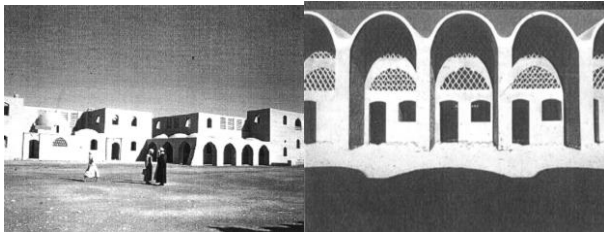
2.2 Regionalism and regional architecture

According to Canizaro, regionalism commonly refers to the formation of connections between new works and pre-existing local and regional characteristics. This process of response is quite straightforward, and sometimes regionalism is minimally interpreted as a response to local climatic conditions or specific topography [36].

According to Harris, when the adjective 'regional' is attached to the word 'architecture' implies that there is something special about the architecture of a particular locality, something that occurs nowhere else. "Regionalism in architecture is about the context and customs of making buildings in a particular region having specific knowledge of the climate, geology, geography and topography of the region [37]. 'Regionalism' refers to an architecture of local characteristics (...) prompted by climate and available materials" [38]. Whereas in another argument it is stated that, "A region's most important resource is its people and not its climate, its topography, nor the particular kind of sticks and stones it has to build with. It is the people's mind that creates the intellectual ferment necessary for greatness" [39]. Drexler gives importance to the tangible aspects of context, climate, geology and geography, whereas Harris gives importance to the intangible factors that include people and their views towards a specific region, giving more importance to the people and considering them the most vital mean.



A - Al-Nasr House, Fayum, 1945. B - Stopplaere House, Luxor, 1950.



C - New Bariz Market Courtyard (1964-1967) D - New Gournia village (1945-1948)

Figure 2. Hassan Fathy Projects - examples of regional architecture [40].

Regionalism is developed by architects relating their designs and taking direct influences from the region. "Regionalism in architecture is about the context and customs of making buildings in a particular region having specific knowledge of the climate, geology, geography and topography of the region" [36]. According to Soha Ozkan, the regionalist approach identifies the vernacular modes of building. Even though it covers such a wide array of attitudes. Regionalism has respect for the local culture, climate, and technology, at its core.

"The most important contributor to conservative vernacularism is Hassan Fathy a regionalist architect. He devoted more than half a century of his professional life to bringing back the vernacular mode, a building tradition in danger of extinction due to massive post-world war II building activity" [41]. "The most important contribution of Fathy to twentieth-century architecture probably lies in his commitment to regionalism. He pulled together a collection of traditional positions and tendencies towards vernacular forms as well as a celebration of local materials and methods of construction" [40]. Mito (1990) analysed Fathy's vocabulary, but the main objective of his thesis was a comparison between Fathy and the Indian architect Balkrishna Doshi's approaches towards vernacular architecture. He considered the two architects as the two most prolific regional architects in the context of modern architecture [42]. According to Lewis Mumford (1928), regionalism suggests a cure for many current ills. Its production is focused in the region, enhancing the local life, cultural and practical activities, while when architecture is not connected with context and dedicated to archaic or abstract schemes even the finest solutions seem out of place and meaningless [43].

2.3 Critical Regionalism

According to Amirjani (2018), it can be argued that the rise of Regionalism planted the seeds of Critical-Regionalism. Regionalism stood against the international style and forces of the post-WWII era of modern architecture [44]. "The term critical regionalism first appeared in print during the early 1980s, in essays by Alexander Tzonis, Liana Lefaiver, and, a little later, Kenneth Frampton. These describe a type of recent architecture that engaged its particular geographical and cultural circumstances in deliberate, subtle, and vaguely politicized ways" [45]. Regionalism differs from critical regionalism in the sense that critical regionalism was an intellectual construct to counter the modernist and post modernist's lack of identity and disregard of context [46]. Critical Regionalism usually refers specifically to the character and not appearance as proposed by Kenneth Frampton in his essay. It's more useful when considered as a practice (a way of thinking and making based on local culture and economics) than a retroactive category applied to things in the same place that has typological or visual similarity. Frampton (1983) thought it had political potential that might allow geographically based cultures to resist the supposedly standardising forces of global resources.

The main task of Critical Regionalism, according to Lefaiver and Tzonis, is "to rethink architecture through the concept of region." Critical Regionalism differs from Regionalism because it "does not support the emancipation of a regional group nor does it set up one group against another" [47]. For Critical Regionalists, a region/place does not coincide with a nation or a territory of an ethnic group but it is mindful of local potentials. As Tzonis says in *Critical Regionalism, Architecture and Identity in a Globalized World*, critical regionalists are "opposed to mindlessly adopting the narcissistic dogmas in the name of universality, leading to environments that are economically costly and ecologically destructive to the human community" [46]. Richard Ingersoll puts it as "The architectural theory of Critical Regionalism is intended as an alternative to both the dehumanizing aspect of modernism and the kitsch of postmodernism. It is a laudable attempt to reverse the trend of placelessness by mass culture, and at the same time, it resists the simulations, the pseudo-places, of vernacular and historic revivals" [48]. In the studies of Eggner [45], Speck [49], Ozkan [41], and Frampton [50], it is seen that Alvar Aalto, Mario Botta, Alvaro Siza, Richard Neutra, Luis Barragan & Tadao Ando are amongst some of the architects who have achieved the work of delicate sensitivity and critical relevance.



A. Quadra San Cristóbal e Fonte dos Amantes (Luis Barragán), B. Saynatsalo Town Hall (Alvar Aalto).



C. Malagueira Housing Evora (Alvaro Siza), D. Santa Maria Degli Angeli Switzerland (Mario Botta).

Figure 3. Examples of Critical Regionalism (Photo Source: Archdaily).

3. Critique of Contextual Approach:

Contextual design approaches have been countered by renowned international modern and contemporary architects. Walter Gropius, the conformed German modernist, supported this attitude, being persistently against allowing the study of traditional architecture to influence the theory of modern design [51]. He asserted that the study of the history of architecture does not contribute to the evolution of a contemporary theory of architecture. He also stated that "when the innocent beginner is introduced to the great achievements of the past, he may too easily be discouraged from trying to create for himself" [52].

The statement from Rem Koolhaas has also been used as the defence against anti contextual approach "As their protagonist, Koolhaas 'fuck context' statement shows, architects, when they become agents of global neoliberalism, can ignore contextual concerns since the purpose of their pragmatism is to allow them to operate in different territories under contradictory political regimes and social conditions" [25]. Architects have tried to move away from the contextual approaches to show their signature style. Many a time while the projects have created international fame and they have bought success and fame for the countries they have been built in. Guggenheim Bilbao is an example of star architecture that has bought the new identity to a rundown industrial city and made it a global tourism destination [53]. "It was long debated and acknowledged that the building became a symbol of urban regeneration and a landmark for the host city, in the same time reference to 'Bilbao effect' or 'wow factor'. The building in the case reached the socio-cultural and economic landmark status at the community level and was invested with brand value and due to public interest and media coverage became a magnet for tourists" [54]. "Frank Gehry and his curved surfaces, Daniel Libeskind and his angular forms, the late Zaha Hadid and her fluid volumes are examples of brands with a focus on creating easily identifiable shapes" [54]. Damla Misirllisoy (2017) argues that the local authorities permit these interventions by ignoring international and local preservation standards and

charters since these iconic buildings become part of a city's brand.

Niculae argues that high-rated and famous architects are working as individualistic, socially insensitive, unethical and destructive designers, hence, cutting off from the contextual inspirations. "The legacy of 'Bilbao effect', a successful 90s urban development concept, lingers nowadays reinterpreted in other geographical contexts. The era of starchitecture is being challenged though by the socially responsible architecture representing the public interest and raising awareness about environmental issues" [54]. Starchitecture has the global impact advantage but doesn't resonate with a local identity, culture or regional practices. The contemporary architecture solutions should respect the context and there should be an aim to tackle social issues within a global society.

4. Contemporary Architecture in Historical-Context:

The value of historic architecture can be understood in terms of its heritage, cultural and traditional roots. Every designed project or a built form has an expression that is transmitted through its multiple architectural layers. There is a historical value of the time and every project that is built serves a specific purpose and represents that era and time. UNESCO defines heritage as "our legacy from the past, what we live with today, and what we pass on to future generations" (UNESCO, 2007). Understanding this notion, one comes to know, that we inherit a place and learn from the achievements of the past, put in our share and then pass the knowledge on to the next generation. "Cities, both through their administration and citizens, are in a run for responding to global trends and, sooner or later, to the contemporary needs of its inhabitants. The importance of keeping up to date means constantly refreshing cities to understand the resources they have to work with and the needs they have to supply. These changes are not innocent or spontaneous; on the contrary, they respond to and reflect the wishes of actors and agencies" [56]. If the new proposed design solutions are reflected and derived from the context, the conversation between old and new creates a thought-provoking phenomenon. "Our cities would be experientially rich and meaningful if the places and spaces within them were not impositions but responses to the rich culture of the people within them" [17].

There are many recommendations and charters available that guide architects, planners and designers to design in the historical urban fabric. "New construction, such as an addition to a historic building, a separate building or an infill, is a contemporary intervention that will inevitably induce change in the urban environment. Whether that change will be positive or negative depends, to some extent, on the guidance available for applicants and evaluators who respectively submit and review new project proposals"

[57]. These guidelines are available for the architects and designers that can help in different stages of the project. "The new intervention project's success in a historic context depends on the prior assessment and the designer's sensitivity toward the context, but it is not guaranteed. The context's prior assessment is supported and guided by the international instruments of conservation policies [58]. Conservation policies have been developed over time in different formats that include recommendations, declarations, charters, guidelines and other documents written by experts and conservationists of the historical environment. International conservation policies have improved over time with the attention paid to the issue of new construction by the concerned authorities and group of experts and now there are over 50 different charters and guidelines available in the online archives of ICOMOS and UNESCO that can be consulted while designing in the historical context. "The degree of application and contrast in building features to achieve visual harmony is an issue that experts and public involving with it are concerned when discussing about new infill design in historical context. For designing in historical context, an important aspect is considering the contextual design approach" [27]. The international heritage charters, recommendations and guidelines prefer and endorse the contextual approaches, there are many international groups and prominent architects that share the opposite point of view. Star Architects have started a phenomenon for the landmark buildings and iconic forms, they strive to leave their signature on every building that they design and take very little from the context that it sits in. "Landmarks become more easily identifiable, more significant, if they have an innovative form, if they contrast with their background, and if there is some prominence of spatial location" [59].

4.1 Changes in Historical Context

A building goes through multiple changes over a period of time, most often it's the internal layouts of the buildings that are changed, the changes to the finishes and materials, however, these changes have to be considered in a way that they do not compromise on the integrity of the building (Orbasli, 2008). Cities are settled, built, developed and urbanised over time, "architecture is timeless, but buildings cohabit periodically in the territory. New and old relationship is an ample debate in historic area architecture intervention discourse" [58]. "The problems of the interrelation between the new and old architecture in the urban fabric are crucial in all cities, which represent physically the combination of the historical part of corridor streets, grid organisation of the roads, squares, green public spaces, free-standing public buildings and buildings articulated in a line with the main facade" [3]. Change is a constant, it is impossible to prevent change, however, it is important to reorganise in a manner that gives importance to unity and wholeness. In a historically

significant structural changes have to be proposed very carefully, unnecessary innovation and extreme conservative methods can damage the city's historic continuousness and harmony [60]. Hence, the development as the continued improvement and preservation to maintain a relationship should be integrated cohesively. "Preserving the identity and special characteristics of a place requires an in-depth understanding of the natural systems in place and immersion into the time-tested cultural responses to that environment's assets and liabilities, which contain the essence of sustainability [61].

"A critical issue facing decision-makers and conservation professionals is accommodating change to heritage places and adding new layers to the historic urban environment in ways that recognize, interpret, and sustain their heritage values. Over the last decade, a vigorous debate has ensued regarding the appropriateness of contemporary architectural insertions into historic urban areas. This debate has polarized sectors of the architectural community, pitting conservationists against planners and developers. It has positioned conservationists as antidevelopment and anti-progress, responsible for stifling the creativity of a new generation of architects and their right to the contemporary architectural expression" [62]. This statement by McDonald sums up the current situation of the historical preservation and challenges faced by architects, developers, planners and city authorities around the world. "The adaptability of the historical setting to 'changes', i.e. to new technologies, new socio-economical standards and life cultures is a necessity for the vitality of it. Introduction of the new buildings is actually one aspect of change but also it is the reflection of changes in many cases on the architecture of the city" [63]. It is the quality of the new building in the historical context a factor that determines if the new form is enriching the existing context or deteriorating it.

5. Design approaches in a Historic Context

"Whether new construction should look like or differ from adjacent historic buildings and structures is one of the most hotly contested battlegrounds in the debate over the reconciliation of heritage conservation and development. Advocates of the traditional outlook fear that contrasting forms will result in the loss of the heritage values and character-defining elements of historical places, whereas advocates of the contemporary outlook fear that similar forms will inhibit design creativity and obstruct the sense of evolution" [57]. According to Schittich, it is a challenge to design in the historical context, when an architect is given a context it imposes a constraint on the designer, there are given restrictions and limits, and hence the solutions can be more creative and fascinating [64].

"Places that have been identified as being of heritage significance to the community have inherent values.

The architect's role is through the creative process: to reveal those values, to interpret them and to sustain the place into the future to create new layers, new life, and, in some cases, achieve the addition of a new level of significance to the place" [65]. Trystan has categorised the approaches in his book *Good and Bad Manners in Architecture* as replication and contrast but has used the terms of "polite" and "rude" in buildings relationships to the surroundings where the more compatible approach to the building is a polite way while the contrasting approach is considered a rude way of dealing with the context [66]. Eleishe has similar views to Trystan considers two main approaches for designing in a historical context replication and contrast [67]. Brolin also recommends the two main ideas of either copying the architectural elements literally from the context 'replication' or using new forms that can enhance and evoke the visual essence of the buildings [68]. Steven W. Semes also focuses on the design approaches in the historical context with his approach as "Differentiated and Compatible: Four Strategies for Additions to Historic Settings". These approaches are further divided into four categories 1) Literal replication, 2) Invention within the same or a related style, 3) Abstract reference, and 4) Intentional opposition [69].

"Replica and contrast may lead to monotony and confusion - two sides of the same coin, both unwelcome in a city" [68]. The strategies that have been defined by Brolin as replica and contrast can be found in the methods designed by concerned and Self-governing attitudes. If we consider the approach proposed by Brolin of the sympathetically designed structures in a historic context, we can further discuss the approaches that are important and innovative while designing with a contextual approach. To go beyond the compatible and contradictory approaches for the solutions of contextual design and the experiments within this process, the skills and personal efforts are amongst the top requirements.

5.1 Concept of Compatible/Harmony (Compliment – Replication)

One of the approaches is to use the same style and materials as the original building, or, to build in the original style. To avoid the physical alterations to the historic buildings, mostly the experts determine that the best and easiest way is to make a new building look like the existing one or to scale it and make it appropriate to the existing structure. However, this approach has many downsides, as Keith Ray says in his book *Contextual Architecture*, it is not necessarily the easiest or the best of the solutions. "Before this practice is employed, the designer must understand the original style very well in order to obtain good results, otherwise it is likely to result in a 'parody' of the original style instead of a reproduction. This approach also raises the question of misrepresentation. By adding to a historic building

using the same style and design elements it could affect the later interpretation of the building and the understanding of what is really historic and what is not" [70].

"To reach 'compatibility', new buildings in a historic area should attain a contextual fit with the existing historic built environment and not create any conflict that weakens the local urban identity. In addition, 'cohesiveness' can be achieved by creating a homogenous built environment and not fragmented with a myriad of styles. In this way, a coherent urban design pattern would help in strengthening an identity of an area" [71]. Whereas harmony and unity are defined by Lauer and Pantek as the combination of objects as close to their definitional analogy of integrity as possible, considering it a rule within art. It is not a coincidence but the composition of elements in a certain way to bring a harmony of objects with each other to make them belong for a certain location. It is further stated that if the relationship is not harmonious and is unrelated or separated will not achieve unity. Under the heading of 'Ways to Achieve Unity', they note that the elements such as shape, texture, colour, direction etc. if repeated can create achieve unity [72].

Meiss declares repetition and similarity as the factors for the establishment of unity [73], whereas, Brolin on the other hand, argued that there are no guidelines that tell and guide how to design. To achieve visual harmony, integrity and unity in design it is important to build considering the characteristics present within the context, after the analysis of these characteristics it can be decided to build in the similarity or differentiation. Some of the points that have to be considered while creating a new design in harmony with the surroundings include: Set back from the street, spacing from adjoining buildings, Massing: how the main volumes of the building are composed. Approximate height, Facade proportions and directionality, Shape and silhouette, Window and door dispositions, window and door size and proportions, Material, colour and scale. Sotoudeh also agrees with Brolin and sets out similar guidelines. He mentions that neighbouring building's characters must conform. The particular characteristics that will make a building harmonise with its surroundings or its neighbour's character are defined by Sotoudeh as height, surface covered, mass, scale and proportions, materials and colours to more minute aspects such as details, ornaments and reliefs. "If change is inevitable, then it should be moderated and controlled so as to prevent violent dislocation and regenerate a maximum of continuity with the past" [74].

In the publication of National Trust for Historic Preservation '*Old and New Architecture: A Design Relationship*', the list of suggestions is concerned with compatibility theory are fairly similar. These are used to judge a building as appropriate or inappropriate as well and include scale, proportion, volume, texture, materials, massing, fenestration patterns, height, respect for alignment, colour, as well as the space

around a building. A variation fits in with a varied environment and a context of a series of similarities needs similar massing, volume and scale. The greatest chance of achievement of compatibility comes with a combination of all these efforts, beginning with a healthy respect for the site, careful analysis of the existing building or group of buildings, accurate determination of their essential characteristics and the weaving of these data into an uncompromising contemporary design concept [75]. According to Gehl et al. scale, rhythm, transparency, texture, a mix of functions, and facade rhythms appeal to senses. These ideas are compatibility theory because as a rule. New urban infill construction desires to relate in this way to an existing context [76].

5.2 Concept of Distinction, (Contrast – Conflict)

In 1921 Mies Van Der Rohe declared while submitting a design proposal for a historical site in Berlin's Friedrichstrasse "Instead of trying to solve new problems with old forms, we should develop the new forms from the very nature of the new problems" [77]. According to Mies Van Der Rohe "It is hopeless to try to use the forms of the past in our architecture. Even the strongest artistic talent must fail in this attempt. Again and again, we see talented architects who fall short because their work is not in tune with their age. In the last analysis, despite their great gifts, they are dilettantes; for it makes no difference how enthusiastically they do the wrong thing. It is a question of essentials. It is not possible to move forward and look backwards; he who lives in the past cannot advance" [78]. "Another approach calls for using a similar or slightly different style. This approach, also known as abstraction" [70].

Decision-making

Decision making is the most important part when it comes to building new projects in a significant context. "Understanding the *genius loci* is a good starting point when beginning a study of the site. The sensitive perception of the spirit or nature of a place often provides the key to charting the direction for future developments. Peeling back the layers of history which encrust the modern city reveals the reasons for its present form and function. Knowing how that which is, came to be is a sound basis for future actions" (Moughtin et al, 1999, p. 29). Hence, it can be said that the most vital part is to understand the context, site, area and locality. After knowing the fundamentals about the site, the design process and approach can be initiated accordingly.

Conclusion

To achieve a design that unites past and present is a challenging task. There is no single correct method, the new design must enhance the character of the

settings. Contemporary additions always create a debate when they are built in a location that has been developed generation after generation and holds a sentimental, traditional and cultural value. There is no checklist that determines the successful outcome of a project, even after meeting the international conservation criteria, projects do not successfully revive the historic city centre. Complimentary or contradictory design strategies have their own advantages and disadvantages; design has to be fundamentally driven and anchored into the context. Can contextual approach by the solution? Designing in contrast can create a one-time wonder but then repetition of the same idea will diminish the historic value of the site and slowly the past roots will diminish. Architects should take the historical material as a source of inspiration and conceptually translate them into the design.

Context is one aspect that provides most of the answers. In this thesis the methods that took element from the context and utilised it with deeper understanding provided results that weave old and new. This creates a story and interprets the essence of the place. Contemporary strategies if linked with the identity of the place can interpret the historical forms, materials and ideas in new ways. The historic neighbourhood and its surroundings should be analysed as a source, not only as a product of past but as a living organism that is continuously adapting changing and growing. In this sense, new additions should be in harmony with the context, showing their own time and having a contemporary stamp. During the design phase, careful consideration has to be given to the socio-cultural, economic and symbolic meaning of the surroundings. Contrast and conflict can create an attraction, iconic design can bring in attention but its repetition over time will end up vanishing the existing and historic characteristics will diminish soon afterwards. Context and contextual solutions can end up resulting in a hybrid strategy and an abstraction to interpret the historic context, creating a link instead of the conflict. Architects have the tools to deal with historic architecture as a learning material to create meaning and inspiration.

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