

AESTHETIC FITNESS OF NEW ARCHITECTURAL DESIGN IN URBAN
HISTORICAL CONTEXT IN THE CITY OF SHIRAZ

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DEDICATION

This thesis is dedicated to my beloved wife Saeideh, who has put more than her share of life during my study, also to my father and mother because without their presence, support, and comprehension I would have not achieved my goal.

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ABSTRACT

The aim of this research was to establish the quality that contributed to the aesthetic fitness of new architectural design in urban historical context. Although the international organizations such as UNESCO and ICOMOS in dealing with urban historical area as world heritage site had clear policies and guidelines to be followed with the aim for preservation, they were basically generic and did not critically address the needs of those historic cities to be relevant in the face of modern development. Besides the usual conservation approach, new aspirations and activities necessitated new interventions and spatial qualities within the urban historical areas. As well-documented in the literature, the degree of the existing design approaches within the built environment fluctuated between two extremes, which were compatibility and contradictory. Therefore, identifying building physical attributes those contributed to their historical contextual fitness regardless of the design approach, and the responses toward their aesthetic qualities were paramount in this research. Methodologically, a case study of Shiraz Historical City was adopted as it allowed an in-depth inquiry into the subject matter. The investigation has led to the construction of the city's morphological development and recognition of the building components and characters that contributed to the quality and physical presence of the historic city. Visual preference survey and interview were carried out to gauge both laypersons' and experts' preferences of the building aesthetic values and contextual fitness of new building interventions within historical areas based on existing historical built environments through photographic identification technique. The focus of the investigation was on the formal, symbolic and expressive aspects of adopted design strategies. Initially, the obtained data were analyzed quantitatively utilizing such as correlation, variant and estimation methods and then triangulated with the qualitative data that were obtained through in-depth interview, and also with the established theories. There were four main findings with regards to the aesthetic fitness quality that need to be considered in designing new interventions in urban historical context, which were characteristics of contextual compatibility, presence of diversity, novelty, coherence and style. There were also three main implications that need to be observed in dealing with such built environment, especially in terms of theory, design framework and public participation in general. These findings and implications were discussed in relation to the condition of Shiraz Historical City and may only be applicable to historical cities with similar characteristics. The main contribution of this research to the body of knowledge, however, lies in the establishment of the more definitive design parameters in dealing with new design interventions that contribute to their aesthetic fitness in urban historical context.

ABSTRAK

Matlamat kajian adalah untuk menghasilkan kualiti yang menyumbang kepada kemantapan estetik bagi reka bentuk seni bina baru dalam konteks bandar bersejarah. Walaupun usaha pertubuhan antarabangsa seperti UNESCO dan ICOMOS dalam mengendalikan kawasan bandar bersejarah sebagai tapak warisan dunia mempunyai polisi dan garis panduan yang jelas untuk diikuti dengan tujuan untuk pemuliharaan, pada dasarnya ia bersifat umum dan tidak mengutarakan keperluan bandar bersejarah berkenaan untuk terus relevan dalam menghadapi pembangunan moden. Selain pendekatan pemuliharaan yang biasa, hasrat dan aktiviti baru memerlukan campur tangan dan kualiti ruang baru di dalam kawasan bandar bersejarah. Hasil literatur mendapati terdapat perbezaan pandangan terhadap tahap pendekatan reka bentuk sedia ada dalam alam bina, iaitu yang mempunyai keserasian dan bercanggah. Justeru kajian akan mengenal pasti sifat fizikal bangunan yang menyumbang kepada kemantapan konteks bersejarah tanpa mengira pendekatan reka bentuknya dan maklum balas terhadap kualiti estetikanya. Metodologi yang digunakan adalah kajian kes di mana Bandar Bersejarah Shiraz dipilih kerana ia membolehkan siasatan terperinci dilakukan terhadap perkara yang ingin dikaji. Kajian dilakukan terhadap morfologi bandar dan pengenalpastian komponen bangunan serta karakter yang menyumbang kepada kualiti dan fizikal bandar bersejarah pada hari ini. Soal-selidik dan temu bual digunakan untuk mengukur kecenderungan pendapat orang awam dan pakar-pakar terhadap nilai estetik bangunan dan kemantapan konteks bagi pembinaan bangunan baru di kawasan bersejarah berdasarkan alam bina bersejarah sedia ada di mana kedua-dua teknik tersebut melibatkan penggunaan pengenalpastian foto. Fokus kajian adalah terhadap aspek formal, simbolik dan ekspresif yang diguna dalam strategi reka bentuk. Justeru data yang diperoleh akan di analisa secara kuantitatif terlebih dahulu, seperti pendekatan korelasi, variasi dan anggaran, kemudian ditriangulasikan bersama-sama data kualitatif yang diperoleh menerusi temu bual mendalam dan teori sedia ada. Penemuan menunjukkan, empat faktor berkaitan dengan kualiti kemantapan estetik perlu diambil kira di dalam mereka bentuk binaan baru di dalam konteks perbandaran bersejarah iaitu, ciri-ciri kesesuaian konteks, kehadiran kepelbagaian, sesuatu yang baru, kepaduan dan gaya. Implikasi kajian pula dapat dibahagikan kepada tiga perkara apabila berurusan dengan alam bina iaitu, terutamanya dari aspek teori, rangka kerja reka bentuk dan penglibatan awam secara am. Penemuan dan implikasi yang dibincangkan adalah berhubung dengan keadaan Bandar Bersejarah Shiraz dan hanya sesuai diaplikasikan terhadap bandar bersejarah dengan ciri-ciri yang sama. Sumbangan utama kajian adalah kepada bidang pengetahuan, namun ia bergantung pada pembentukan parameter reka bentuk yang lebih jelas dalam berurusan dengan campur tangan reka bentuk baru yang menyumbang kepada kemantapan estetik dalam konteks sejarah perbandaran.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	xiii
	LIST OF FIGURES	xxii
	LIST OF ABBREVIATION	xxv
	LIST OF APPENDICES	xxvi
1	INTRODUCTION	1
	1.0 Introduction	1
	1.1 Background to the Problem	3
	1.1.1 Global Concern	3
	1.1.1.1 New Developments in Historical Context	3
	1.1.2 Local Issues	8
	1.1.3 Research Gap	10
	1.2. A Research Agenda	12
	1.2.1. Scenario	12
	1.2.2. Research Aim	13
	1.2.3. Objectives of the study	13
	1.2.4. Research Questions	13
	1.3 Methodology	14

1.4	The Case Study	18
1.5	Significance of the Study	19
1.6	Limitation of this research	20
1.7	Definition of Key Terms	21
1.8	Structure of the Study	22
2	THEORETICAL AND CONCEPTUAL FRAMEWORK	25
2.0	Introduction	25
2.1	New Design in Historical Context	26
2.2	Historical Preservation and New Design	27
2.2.1	Historical Context as Cultural Heritage	29
2.2.2	World Lead Organization Recommendations and Guidelines	30
2.3	Contextualism	35
2.3.1	Contextualism in Architecture: Brief History	37
2.3.2	Component of Contextualism in Architecture	39
2.3.2.1	Reflecting the Character of Place	40
2.3.2.2	Expressing Formal Association	41
2.3.3	Design Strategies in Historical Context	42
2.3.4	Building Characteristics and Conceptual Framework for Measuring Contextual Design	52
2.3.5	Summary	54
2.4	Aesthetic Control of New Design	55
2.4.1	Aesthetic Response	58
2.4.2	Appraisal of Aesthetic Quality of City	63
2.4.3	User Participation	65
2.4.4	Difference of Preference among Subgroups of People	66
2.4.5	Environmental Preference Research Models and their Analysis	68
2.4.5.1	Exploratory Model	69
2.4.5.2	Predictive Model	71
2.4.5.3	Experimental Model	72
2.4.6	Aesthetic Components	73
2.4.6.1	The Formal /Aesthetic aspects	73

2.4.6.2	The symbolic Aspects	75
2.4.6.3	Expressive Properties	77
2.5	Perceptual, Cognitive Theories' Application to the Aesthetic Fitness	78
2.6	Theoretical Framework of Research	85
2.7	Conclusion	88
3	RESEARCH DESIGN AND METHODOLOGY	90
3.0	Introduction	90
3.1	Scope of Research	91
3.2	Choice of Methodology	91
3.2.1	Review of Previous Research	92
3.2.1.1	Environmental Preference Research	92
3.2.1.2	Previous Environmental Preference Methods and their Technique	93
3.2.1.3	Contextual Compatibility Research	96
3.2.1.4	Environmental Instruments	98
3.3	Research Type	98
3.4	Methodology Adopted for this Research	99
3.5	Research Techniques	101
3.5.1	Quantitative Technique	102
3.5.1.1	Questionnaire Design	102
3.5.1.2	Research variables	103
3.5.1.3	Pilot Survey	105
3.5.1.4	Normality test	106
3.5.1.5	Reliability Test	107
3.5.1.6	The Survey Location	108
3.5.1.7	Respondents Sample Selection	109
3.5.1.8	Quantitative Data Analysis	114
3.5.1.9	Presentation of the Environment	117
3.5.1.10	Categorization of Variables	118
3.5.2	Qualitative techniques	120
3.5.2.1	Semi-Structured Interview	121
3.5.2.2	Structure of Interview	122

3.5.2.3 Interview Sampling	124
3.5.2.4 Qualitative Data Analysis	125
3.5.2.5 Procedure of Content Analysis	127
3.5.2.6 Descriptors of Rank Building Scenes	128
3.5.2.7 Criteria for Evaluating Most and Least Preferred Design	129
3.5.2.8 Reliability and Validity of Content Analysis	133
3.5.3 Photo-Documentation	134
3.6 Triangulation Method	140
3.7 Conclusion	142
4 THE STUDY AREA	144
4.0 Introduction	144
4.1 General Information about Shiraz	144
4.2 Transformations during History	147
4.2.1 Shiraz before the 18th Century	148
4.2.2 Shiraz after the 18th Century	149
4.3 Modernization in Shiraz	152
4.4 Conservation and Development Policies of Historic Areas in Iran	155
4.5 New Buildings among Old Structure	157
4.6 Current Architectural Intervention Policies and Design Regulations for New Buildings in Shiraz Conservation Plan	160
4.7 Location of the Study Area	163
4.8 Street and Building Characteristics	167
4.9 Facade Characteristics	168
4.10 Conclusion	169
5 DATA ANALYSIS AND DISCUSSION	170
5.0 Introduction	170
5.1 Description of Subjects' Background	172
5.2 Preference Rating of most Appealing Relationship between Building and its Surrounding	174
5.2.1 Questionnaire Data	174
5.2.2 Qualitative Data	180

5.2.3 Discussion and Findings of most most Appealing Relationship between Building and its Surrounding	185
5.3 Preference of Contextual Attributes	170
5.3.1 Quantitative Data	187
5.3.1.1 Means and Standard Deviations of Six Groups of Building Components	188
5.3.1.2 Similarity and Differences between Expert Non-expert	189
5.3.1.3 Most Preferred Contextual Attributes	191
5.3.1.4 Most preferred Attributes between both Groups	196
5.3.1.5 Relationship between Design Strategy and Contextual Attributes	198
5.3.2 Qualitative Data	202
5.3.3 Discussion and Findings of Contextual compatibility	208
5.4 Analysis of Aesthetic Responses	213
5.4.1 Quantitative Data	213
5.4.1.1 Differences between Aesthetic Evaluation of Respondents for each Design Strategy	217
5.4.1.2 Summary of ANOVA Test	225
5.4.1.3 Relation between Environmental Aesthetic Responses and Contextual Attributes	227
5.4.2 Qualitative Data	231
5.4.3 Discussion and Findings of Aesthetic Responses	234
5.5 Conclusion	239
6 CONCLUSION	244
6.0 Introduction	244
6.1 Research Agenda	244
6.2 Main Research Findings	248
6.2.1 Physical Characteristics Contribute to the Contextual Design	249
6.2.2 Aesthetic Responses to the new Intervention within Urban Historical Context	252

6.2.3 Relation between Aesthetic Responses and Physical Characteristics	254
6.2.4 Qualities of Aesthetic Fitness Design in Urban Historical Context	255
6.3 Research Implications	259
6.3.1 Theoretical Implication	259
6.3.2 Developing Framework for Design Review in Urban Historical Context	260
6.3.3 Public Participation and Design Quality	262
6.4 Contributions of Research	263
6.5 Recommendations for Further Research	265
6.6 Conclusion	266
REFERENCES	268
APPENDICES A- D	287-298

LIST OF TABLES

TABLE NO.	TITLE	PAGE
2.1	Various aspects of aesthetic evaluation that were identified in previous researches	62
2.2	The preference matrix of evolutionary theory of Kaplan	79
3.1	Summary of quantitative methods and strategies adopted in environmental research	96
3.2	Reliability statistics for experts in pilot survey	106
3.3	Reliability statistics for non-experts in pilot survey	106
3.4	Reliability test for experts questionnaires	107
3.5	Reliability test for non-experts questionnaires	108
3.6	Table for determining sample size from a given population based on Krejcie and Morgan (1970)	111
3.7	Required sample size for various sampling errors at 95% confidence level (simple random sampling)	113
3.8	Sample sizes required based on population homogeneity and desired accuracy	113
3.9	Attributes of mass and space elements	118
3.10	Result of factor analysis	119
3.11	Factor analysis grouping for facade style	120
3.12	Descriptors utilized by the experts and non-experts in their appraisals (with frequency of mention)	131
5.1	Proficiency of experts group	172
5.2	Education levels of both groups	172
5.3	Characteristics of gender for experts and non-experts	173

5.4	Age groups of experts and non-experts	173
5.5	Distribution of experts and non-experts in gender, educational level and age for interview	174
5.6	Best building score in both groups	175
5.7	Best strategy score in both groups	175
5.8	Preference ratings for each building scene among two groups	176
5.9	Preference ratings for each design strategy among two groups	178
5.10	Independent sample t-test results for four strategies between experts and non-expert	179
5.11	The most appealing buildings among both groups (with frequency of mention)	180
5.12	The least appealing building between both groups (with frequency of mention)	183
5.13	Preference of expert and non-experts on most preferred design strategy	185
5.14	Preference ratings, mean and standard deviation for 6 groups of building elements	188
5.15	Independent sample t-test for six groups of building features between non-expert and experts	189
5.16	Mean and standard deviation for the group of overall organization	192
5.17	Mean and standard deviation for the group of sensory elements	192
5.18	Mean and standard deviation for the group of mass elements	193
5.19	Mean and standard deviation for the group of space elements	194
5.20	Mean and standard deviation for the group of fenestration elements'	195

5.21	Mean and standard deviation for the group of symbolic elements	195
5.22	Mean and standard deviation for most preferred attributes	198
5.23	The correlation results between invention within style design strategy and six groups of building characters for experts	198
5.24	The degree of contextual preference belonging to the each design strategy among experts based on mean rating	200
5.25	The correlation results between four design strategies and seven groups of contextual properties for non-expert	201
5.26	The degree of contextual preference belonging to the each design strategy among non-experts based on mean rating	202
5.27	Most preferred design among both groups and more than five times mentioned	203
5.28	Rank of subcategorized factors according to frequency of mention	205
5.29	Preference of expert and non-experts on formal variables of most appealing building	210
5.30	Preference of expert and non-experts on symbolic variables of most appealing building	212
5.31	Independent sample t-test results for 9 aesthetic evaluative response among experts and non-expert	214
5.32	Mean and standard deviations: four design strategy and three aesthetic variables	218
5.33	Anova results: four design strategy and three aesthetic variables	219
5.34	Mean and standard deviations: four design strategy and five aesthetic variables	220
5.35	Anova results: four design strategy and five aesthetic variables	224

5.36	Mean and standard deviations: four design strategy and three visual congruity aesthetic variables	223
5.37	Anova results: four design strategy and three aesthetic visual congruity variables	224
5.38	Results of anova in various aspects of aesthetic response between experts and non-experts	226
5.39	Result of correlation test between environmental aesthetic factors and contextual aspects for both groups of respondents	227
5.40	Result of correlation test between environmental aesthetic and attributes of mass element for both groups of respondents	232
5.41	Result of correlation test between factors of environmental aesthetic and attributes of overall organization for both groups of respondents	230
5.42	Result of correlation test between factors of environmental aesthetic and attributes of sensory elements for both groups of respondents	233
5.43	Most corresponding descriptors of aesthetic among both groups and more than five times mentioned	232
5.44	Summary of results for both groups of respondents in case of Shiraz historical context	242

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
1.1	Visual confusion in historical context of shiraz, A: facade confusion – B: mass and facade confusion	10
1.2	Structure of the thesis	24
2.1	I.m Pei's glass pyramids, 1993	37
2.2	Literal replication strategy, kennedy- warren apartments; a. original structure 1929, b.addition hartman cox 2004	48
2.3	Invention within style, reichstag, berlin, foster's glass dome has been praised as differentiation the new german parliament from its prewar predecessor while offering a degree of continuity	49
2.4	Abstract references, west end of the via conciliazione, new and historic classicizing facades linea boulevard conceived according to modernist urbanism and scaled to the automobile	50
2.5	Intentional opposition, brooklyn museum 1895, with new entrance 2004.oppositional approaches exaggerating the difference between new and old can result in the disfigurement of historic landmarks	51
2.6	Groat's conceptual framework (1986)	53
2.7	Nasar's aesthetic response model to building attributes	83
2.8	Theoretical conceptual framework (groat, 1992; Nasar, 1997; kaplan 1989, semes, 2009, Ries and Lay, 2011)	87
3.1	Sampling area of this research in historical context of shiraz	110

3.2	Literal replication group	137
3.3	Invention within style group	137
3.4	Abstract references group	137
3.5	Intentional opposition group	138
3.6	Position of each group in the range between replication and contrast	138
3.7	Literal replication group	139
3.8	Invention within style group	139
3.9	Abstract references group	140
3.10	Intentional Opposition group	140
3.11	Research design diagram	143
4.1	Location of fars state and shiraz in map	145
4.2	Location of old context of Shiraz plan, B: The plan of historical context of Shiraz	146
4.3	Physical structure evolution in shiraz,	149
4.4	Shiraz map in zand period (18 th century)	151
4.5	Proposed master plan for shiraz in 1966	154
4.6	Visual confusion in new construction	158
4.7	Height differences between the new building and historical surrounding and its location in plan of Shiraz historical context	159
4.8	Differences of material and facade composition between the new building and historical building and its location in plan of Shiraz historical context	160
4.9	Inconsistencies between the new building and historic surroundings that destroy visual harmony of context	163
4.10	Situation of three main areas of shiraz historical context	163
4.11	Shahecheragh monument, district 2	162
4.12	Some image of district 1	164
4.13	Image of district 3	165
4.14	A part of district 2 that is under urban regeneration	166
4.15	Situation of various architectural intervention in Shiraz historical context	166

4.16	Intentional interference with municipal for urban regeneration in the study area	167
4.17	Building character in shiraz historical context	168
4.18	Some elements of the facade in shiraz historical context	168
4.19	Facade elements of historical building in shiraz	169
5.1	Represents the most preferred building scenes with the highest rate between experts and non-experts	177
5.2	Represents the least preferred building scenes with the lowest rate between experts and non-experts	178
5.3	Experts preference of the most appealing building to design in historical context of shiraz	181
5.4	Non-experts preference of the most appealing building to design in historical context of shiraz	182
5.5	Experts preference of the least appealing building to design in historical context of shiraz	184
5.6	Non-experts preference of the least appealing building to design in historical context of shiraz	184
6.1	Contextual relationships of environmental characters and evaluative responses	246
6.2	Formal and symbolic aspects of physical characters that contribute to the contextual design	252
6.3	Aesthetic responses that contribute to the aesthetic	253
6.4	Relations of two main affective factors on quality of new design in historical context of Shiraz	258

LIST OF ABBREVIATION

UNESCO	-	United Nations Educational, Scientific and Cultural Organization
ICOMOS	-	International Charter for the Conservation and Restoration of Monuments and Sites
EH	-	Historic Building and Monuments Commission for England
CABE	-	Commission for Architecture and the Built Environment
NSWH	-	New South Wales Heritage Office
HOI	-	Heritage organization of Iran
NJP	-	Naghshe Jahan Pars Consultants
NPS	-	An agency of the interior department responsible for the national parks in United States.

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Structure of Groat's conceptual framework	286
B	Questionnaire form	287
C	Interview Structure	294
D	Results of Normality test	297

CHAPTER 1

INTRODUCTION

1.0 Introduction

This study investigates aesthetic quality of new architectural design that contributes to the sympathetic fitness in historical context. It addresses various aspects of environmental perception and aesthetic response in evaluating the appreciation of fitness in the historical context. Initially, the intention is to identify significant attributes of aesthetic properties that are essential to the achievement of aesthetic fitness. In this research “aesthetic fitness” is considered as a key concept that allows historical contexts and new additions to work cohesively, respecting and promoting each other’s. It is imperative that feasible design guideline being established to promote the use of appropriate design elements for preservation of historical contexts.

The appearance and relationships of new buildings with their surrounding have been a serious design problem (Brolin, 1980; Groat, 1983; Eleishe, 1994; Wolford, 2005; Semes, 2009) for the last decades which has become a serious issue in many places. This design problem becomes more sensitive when context of new designs is historic and considers as built heritage. This issue discusses the essence of architectural design, new methods of buildings, and the new functions that affect the built environment by creating visual forms that should coexist with their historical

context. In the historical area, the main concern is to protect built heritage against various threats. Therefore, it is essential to review the theory of historic preservation and relevant guidelines and recommendations by leading global organizations for the new addition in the aforementioned environment in order to preserve urban cultural heritage. In addition, the importance of quality infill design has been widely confirmed as essential to preserve the sense of place of a historic district (Gorski and Cuvalo, 2009). This research investigates aesthetic quality of the new design that constitutes a deeply felt human good and consequently plays a very important role in sense of place in urban historical context.

During the development of historical settings, different stakeholders, developers and owners, government officials, and designers such as architects, planners, and landscape architects exert their influence according to their particular specialization and interest. Operating within their scope of interest, rules and regulations or professional expertise, each decision maker perceives the historic parts of city and its future development differently. The main purposes of this research is to investigate commonalities and differences between the perception of different groups like architects, conservationists, urban designers, urban planners as expert, and lay public as non-expert about the issue of aesthetic fitness. It focuses on their attitude towards various aspects of design quality of new construction in the historical context. Therefore, this study presents a historical review of the issue of contextualism in architecture. It is followed by an illustration of the various contextual design approaches. This research also reviews selected problems in the cities as a result of the divergent attitudes and roles of the different players involved in the urban development process. Subsequently, people's environmental perceptions and aesthetic responses, which were based on previous studies that had significant influences on judgments of community satisfaction, are discussed in the light of major perceptual and aesthetic theories. The main goal of these theoretical overviews is to formulate the basis for the following investigation of the issue of aesthetic fitness as perceived by various groups. This study also examines the concerns of aesthetic fitness of new infill design and its contribution to the two main dimensions of aesthetic; cognitive and affective. In additions, in order to find relationships of aesthetic responses and physical attributes of the environments, this

research presents the interaction of formal and symbolic associations between aesthetic dimensions of new buildings and their surroundings. The result of this examination forms the basis for the proposed research methodology and subsequent discussion of this research.

1.1 Background to the Problem

New additions in urban historical context implicate various responses. It may give different experiences and perception to different persons who regard each built environment as a notable place. One critical aspect in dealing with such intervention is the idea of compatibility. Whether it is replication or contradiction, the aim is to achieve aesthetic fitness.

1.1.1 Global Concern

1.1.1.1 New Developments in Historical Context

Cities' growth and the accompanying building activities are inevitable for their development and liveability. During this development, historic core and historic urban sites also need to be developed as an integral part of cities. Cultural built heritage should be considered in its full scope and complexity in the process of planning and ordering the dynamics of urban growth. Although new developments are inevitable, it is still possible to learn from historical environments to prevent the creation of new developments that contribute to urban sprawl, placelessness, and the loss of cultural identity (Lekagual, 2002). Cultural built heritage should begin to impose itself as a major component to be considered in the process of evolution and transformation of cities (Rodrigues and Lay, 2012). Therefore, any development in

historical settings is associated with historic preservation and respect to the values of heritage. In the preservation field, additions to historic environments as a part of development have always been a debatable issue (Groat, 1986; Tyler, 2009; Ames and Wagner, 2009). There have been many discussions about the proper way to approach a historical context when it is in need of expansion in order to create more usable space for a new or expanding use (Torres, 2009).

In recent decades, with the increased awareness of historic preservation, came an increased awareness of the need to be able to design new buildings in historical context. Thus, two issues are raised within this necessity. The first one is found in the lack of control and concern for aesthetic quality and visual appearance of historical cities, and lack of clear guidelines in a lot of countries of the world (Alderson, 2006, Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011), particularly in Third world countries like Iran (Hanachi and Fadaei Nezhad, 2011). The second one is the lack of examination of the intervening variables that affect the perception of aesthetic fitness for new design in this area (Al-Izzi, 1989; Eleishe, 1994; CABE, 2001; Vosmek, 2008; Rodregues and Lay, 2012).

In the context of historical cities, according to Rodregues *et al.*, (2012:1) the regulatory mechanisms of projects are directed more to define “the constructive potential than the aesthetic quality of new buildings, and compatibility with the pre-existing structures”. It seems that shortage of urban law for preservation of built heritage, also lack of regulatory mechanisms and control of urban aesthetics, end up in the destruction of local cultural heritage and growing disqualification of the landscape and visual appearance of historic cities (Torres, 2009; Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011). Therefore, for preventing destruction of local cultural heritage, it is necessary to establish a regulatory framework to control aesthetic quality of new intervention within historical context. This can be obtained through exploring of people perception and preferences in dealing with new infill design in historical context and their evaluation with respect to the aesthetic response. A comprehensive study must consider all aspects of environmental aesthetic and physical characteristics that influence in peoples’ evaluation of new design in historical context. Based on the previous researches, there are two kinds of

aesthetic responses, tangible and intangible. Tangible responses refer to physical characteristics of environment and intangible responses relate to the expressive evaluation of human affection.

Some organizations like UNESCO and ICOMOS have some recommendations and guidelines for intervention in historical context as cultural heritages to conserve and prevent damage to them. According to Torres (2009: 5) “usually these guidelines or recommendations for adding to a historic area are not clear guidelines or recommendations. None of these regulations give suggestions on what should be the key elements to address, more than general indications of mass, scale and materials, in order to design”. In addition, according to Alderson (2006:26), “preservation standards and lead organization policies supported by a regulatory-enforcement process can protect historic buildings, encourage sensitivity to historical contexts, and allow for new contributions but cannot make a less-creative architect more creative or be counted on to bring about outstanding design solutions”. Alderson believes that preservation standards alone encourage, but cannot cause, either preservation or design excellence in historic-context response. Also in UNESCO’s conference on “World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape” which was held in 2005 Australia, it was widely discussed “the criteria and guidelines for conservation management of the historic urban landscape are urgently needed and that existing charters and recommendations in this regard are no longer sufficient” (UNESCO’ newsletter, 2005: 1). Therefore, a notable gap could be seen where new design parameters are necessary in order to form a guideline for new intervention in urban historical context.

In discourses of new construction among historical context, one of the main treatment that suggested by professionals (Groat, 1988; Eleishe, 1994; Vosmek, 2008, Torres, 2009) and lead organization (UNESCO, 2004; ICOMOS, 2011) is the issue of compatibility. Compatibility of new building with its context has been widely discussed in the theory of contextualism. However, the centres of the discussion were varied in terms of formal patterns till climate patterns. According to Vosmek (2008), the most contextual issues in the previous researches were

considered base on formal components of buildings more than symbolic aspects of environment. Brolin (1980), Groat (1983), Eleishe (1994), and Torres (2009) in their researches have been emphasized only in the assessment of formal relationship of the new buildings and their surroundings as a contextual relationship. While, Lang (1987) believed that in the environmental assessment process, historic buildings and historical districts tend to be perceived positively and should be considered in both aspects of formal and symbolic together. Low (1992: 165) believed that a “symbolic relationship formed by people giving culturally shared emotional/affective meanings to a particular space or piece of land that provides the basis for the individual’s and groups’ understanding of and relation to the environment”. Therefore, in order to assess any contextual relationships, it is vital to consider both aspects of environmental variables instead of only formal variables.

Another issue involves in dealing with new construction in urban historical context is debate of regulatory mechanisms and control of urban aesthetics (Torres, 2009; Rodregues *et al.*, 2012; Hanachi and Fadaei Nezhad, 2011). Decision makers and design professionals attempt to develop and introduce new approaches to create new construction schemes in such a way that they can support the older surroundings, particularly those located within the historic area. Design control is one of the major ways for protection of the built heritage against the destructive or disruptive issues. Design controls attempt to have a control over individuals’ acts for good of the community. Throughout the world design review, as a part of design control, is particularly employed in the large cities (Da Luz Reis and Lay, 2010). In order to achieve success, all design controls whether administrative or discretionary should be based on proper appearance guidelines which are obtainable by research (Nasar, 1997). For this reason, study of different aspects of the built environment, specially the built heritage and new addition to this context, play a significance role in control of aesthetic quality of historical context to form a comprehensive guideline for further developments.

It has been shown that peoples’ appreciation of their environment including aesthetic appreciation is affected seriously by several environmental factors. According to the literature reviews there is no information between these factors and

aesthetic relationship of new construction in a historical context. In the Aesthetic assessment of new construction in historical context, it should be considered the relationship of evaluative responses with physical characters. According to Lang (1987) in the evaluative response, there are probabilistic relationships between perception and cognition with the physical characteristics of built environment and each other as well. The aesthetic experience seems to elicit from the observer the combined exercise of human capacities of perception, cognition, and affection (Nasar, 1997; Chon, 2009). Within the aesthetic experience these capacities appear to be integrated: perception makes possible cognition; cognition influences perception; emotional states indistinctly affect perception and cognition; and both perception and cognition give rise to different emotional reactions in the observer (Olascoaga, 2003). Chon (2009) considered two broad components in evaluative response to the aesthetic as 'perceptual/cognitive' and 'emotional/affective' properties that related to the two types of environmental variables including formal and symbolic. Furthermore, in earlier studies conducted by Kaplan (1987), Nasar (1997), and Gifford *et al.*, (2002) about aesthetic evaluation, some expressive properties had been identified as the intangible aesthetic responses for evaluating built and natural environments. These studies identified some 'emotional/affective' variables such as expression, pleasantness, interestingness, friendliness, exciting; and some 'perceptual/cognitive' variables such as complexity, simplicity, meaningfulness, coherence, novelty, familiarity and experience. Affections of these variables in evaluating aesthetic fitness are understood easier for designers to communicate with their clients as well as the inhabitants of the historical context. Therefore, for establishing aesthetic fitness of new building and its historical neighbours, this research considers comprehensive relationship of both aspects of environmental variables: formal and symbolic and their association in perceptual/cognitive and emotional/affective responses of aesthetic evaluation.

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