

Article

Ornament in Contemporary Iranian Architecture (Case Study: Prominent Buildings in Tehran after the Islamic Revolution)

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Abstract: This paper addresses the status of ornamental practices in contemporary Iranian architecture, specifically after the Islamic revolution, using a descriptive–analytical method. In this regard, the external appearances of 92 prominent buildings constructed in Tehran between 1979–2013, were examined, and their means of visual expression were analyzed. The results indicate that half of the samples lack ornament; in the others, a noticeable increase in the ornamental element size and visual complexity, as well as a significant decrease in their semantic contents (as compared with traditional ornament) were observed. These are changes that mostly resulted from modernization and subsequent processes such as industrialization and rationalization, as well as the long-lasting influence of modernists’ arguments against such practices. The presence of ornament in architecture, however, is necessary due to its crucial role in increasing the visual coherence of the environment and fulfilling the human desire for order and beauty. Therefore, this paper suggests the replacement of the current dualistic model of thought, which is dominant in the profession and schools of architecture in Iran, with one that provides an opportunity for the coexistence of concepts such as ornament and structure, form and function, and the sensuous and the rational, hence providing a revitalization of ornament in contemporary architecture.

Keywords: ornament; design; decoration; detail; form; function; contemporary architecture of Iran; Tehran

1. Introduction

Ornament has been present throughout recorded time, revealing human desires, activities, and beliefs (Abercrombie 1990; Brodin 1985; Focillon 1948; Gombrich 1979). It has emerged as a result of human existence and the urge to relate to the environment through adding qualitative features to objects, alongside their quantitative states (Sağlam 2014). Not surprisingly, a discussion of ornament and its role in architecture was addressed in the very first architectural treatise (i.e., the *Ten Books on Architecture* (15 BC)) (Vitruvius 1960), and has persisted into 21st century debates, regardless of ebbs and flows in its status. However, over recent decades, this subject has received unprecedented attention from Western scholars, since the technological advances in the field of design and construction have provided a brilliant opportunity to produce new generations of ornaments that challenge modernist arguments against such practices (Mitrache 2012). Parallel to such developments, several scholarly texts have been published in Western countries, in which the nature and function of ornament in contemporary architecture have been re-examined from a variety of perspectives.

However, such investigations into the status of contemporary ornamentations are rarely found in Iranian architecture literature, as the focus of most existing studies has been on the formal description of traditional ornaments and their symbolic content. One could imagine a couple of reasons for this gap, including the absence of significant ornaments in contemporary architecture (which is true with regard to a considerable part of Iranian market-oriented constructions in recent decades), and practices in which ornament status is diminished to the status of mere decoration, employed unthoughtfully for showing off the power and wealth of the building owner or the designers' personal aesthetic tastes. This is a process of degradation, during which ornament has "shifted from a pattern that was integrated with the structure to the role of revetment, from symbolic to commemorative, and from meaningfully designed to arbitrary" (Khorashahi 2013, p. 41).

However, does this mean that Iranian contemporary architects also failed to make significant achievements in the field of ornamentation? This is the question that this paper attempts to answer through an investigation of the visual expression of 92 prominent buildings constructed in Tehran after the Islamic revolution. For this, the nature and function of ornament in architecture and the necessity of its presence in contemporary practices will be discussed first. Then, the means of visual expression and ornamental characteristics of the research samples will be analyzed according to seven criteria, to reveal the quality and quantity of ornament application in Iranian contemporary architecture. Finally, the factors that influenced ornament status quo, and some suggestions for its revitalization, will be addressed.

2. The Function of Ornament in Architecture

2.1. Ornament, Beauty, and Delight

While there is no consensus among scholars regarding the definition of ornament, all of their accounts share the idea that ornaments are mostly additive elements whose main task is the beautification of their carrier (building, furniture, human, etc.); the purpose of this function is to attract the viewer's attention to the ornamented object and to facilitate its conception process through the creation of pleasure and delight (Grabar 1992).

Ornament, according to Austrian art historian Ernst Gombrich, is the product of a biological impulse to generate an underlying structure. In the struggle for existence, he claims, organisms developed a sense of order, which allows them to categorize their surroundings according to degrees of regularity, and the obverse. This is vital, as perception requires a framework against which to plot deviations from regularity. Under the influence of this sense, the human mind craves a "careful balance" between complexity and order and constantly edits environments to extract situations (such as ornaments and other fractal-like patterns) that meet this demand (Gombrich 1979).

However, Alois Riegl associated human artistic practices such as ornamentation with an imminent creative drive called "Kunstwollen" (artistic will). By severing the stylistic development of ornament from external influences, such as technical procedures (suggested by Gottfried Semper) or a desire to imitate nature, he presented a continuous history of vegetal ornament from ancient Egypt through to Ottoman Turkey in his seminal book *Stilfragen*, in which individual motifs developed according to purely artistic criteria (Riegl 1992).

Another scholar who addressed the reasons behind the longstanding presence of ornaments in architecture is the Australian mathematician and architectural theorist Nikos Salingaros. He argued that

In the design of buildings, there are several scales—corresponding to the human range of scales, 1 cm to 1 m—that are difficult to justify purely on structural grounds. Yet, in order to define a connected hierarchy of scales, which is a prerequisite for the visual coherence of the objects, those scales have to be present in the structure (Salingaros 2000).

Therefore, either the design should allow for the emergence of structure and subdivisions on those scales, or the substructure has to be intentionally generated on those scales (Alexander et al. 1977;

[Salingaros 1999](#)). Ornamentation—according to him—is one of the methods by which designers create such small-scale structures to reinforce the hierarchy of scales in architecture.

This quality, i.e., visual integrity, can be best exemplified by the Islamic architecture of Iran, where the application of common patterns such as the “cross” across a wide range of scales, from city plan-scales to small surface details, has led to a sense of unity. In traditional Iranian cities, even individual buildings contain ornaments of different sizes and levels of detail, which were designed in accordance with the speed and distance by which they are observed by beholders ([Figure 1](#)).

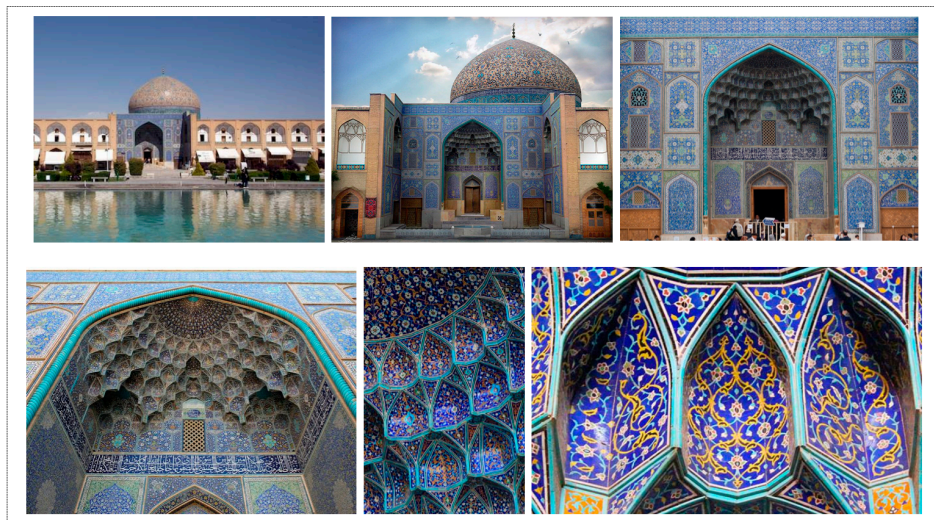


Figure 1. Hierarchy of scales in the design of Sheikh Lotfollah mosque in Isfahan, Iran, 1716.

Islamic ornament also has a “performative” value, according to renowned art historian and archeologist Oleg Grabar. He claims that ornaments do not represent, but mediate. They bring about a new state for the beholders to contemplate them in time, and require imaginative and subjective participation to bring their effects into being ([Grabar 1992](#)). The lively interaction between the figure, the ground, and the infinite repetition of patterns in the arabesque style, for example, draw the beholder out of himself and invite him to try to feel the ungraspable infinity of God, which is why they are lavishly used in Iranian religious buildings.

2.2. Ornament and Communication

The British architect Charles Robert Cockerell defined architecture as an unfolding narrative and an epic performed in the language of ornament ([Bordeleau 2016](#)), and the French art historian [Focillon \(1948\)](#) introduced ornament as the first alphabet of our human thought as it comes into contact with space. From their perspective, ornament is a type of visual communication that transcends spoken language; it is a poetic form of storytelling in metaphoric images that can convey the history of a building site and the expectations for its use.

Generally speaking, ornament could be loosely classified into two groups: tectonic and semantic (symbolic), based on the type of concepts they communicate. Tectonic ornaments represent the visual attributes of physical activity circulating in the world at large in a place that is external or within the microcosm of the body being ornamented. In architecture, for example, such ornaments facilitate the human perception of buildings through visualizing and accentuating the construction technology and the dynamic forces (such as motion and growth) that are invisible in the structure. In other words, they perform an ontological function ([Semper 2010](#)).

However, symbolic (or semantic) ornaments represent non-tectonic concepts that are concerned with the order of society. They usually contain beliefs, values, and myths of nations as well as ideological and abstract concepts such as freedom, justice, and progress ([Farrell 2005](#)). In this way,

they educate people on multiple aspects of their social lives and add several layers of meanings to the buildings, which helps to sustain their appeal for the viewers beyond the initial discovery.

During the Islamic period, the application of symbolic ornaments was very prevalent in the traditional architecture of Iran. Under the influence of Islamic philosophy, Iranian traditional artists considered beauty to be a hint for reaching spiritual truth. Accordingly, they adopted various methods to communicate sublime meanings through their design, including the application of symbols (sacred shapes, numbers, and colors), geometry (proportion, order, and centralism), the addition or subtraction of material in buildings, and the mystic presentation of elements such as water and light (Hejazi and Mehdizadeh Seraj 2014).

The role of ornaments is extremely influential insofar that the spiritual entity of traditional Iranian buildings would be hardly imaginable in their absence. Concepts such as ‘unity in multiplicity’, God’s emanation, a universe in continuous flux, etc., are some of the key constituents of the Islamic world view that are referred to through ornament, such as in the arabesque style.

One more symbolic aspect of ornament function is related to its capability for representing the distinguished status of their carriers, be they humans, buildings, objects, etc. Ornament is a lasting sign of humanity’s intellectual and physical power, consumed for acknowledging something lovable; a form of sacrifice (Ruskin 1849). Accordingly, due to the time and resources used for production, ornament adds a value that distinguishes its owner from others. A richly ornamented opening in the plain passageways of a building, for example, is an effective means of directing the users to the main entrance and increasing the legibility of the building’s spatial organization.

2.3. Ornament and Utility

While ornament is mostly known for its aesthetic and symbolic functions, it sometimes fulfills instrumental purposes as well. This includes bearing the structural load, dividing the interior spaces of the buildings, modifying the light intensity, and/or insulating the walls against moisture, etc. It is notable that the application of *azin* (i.e., objects whose sole task is the beautification of its carrier) was severely despised by Iranian traditional artists, since it conflicted with one of the major principles of Iranian traditional architecture, i.e., purposefulness (Pirnia 2008).

Taking into consideration the aforementioned points, ornaments’ role in architecture can be classified as shown in Figure 2.

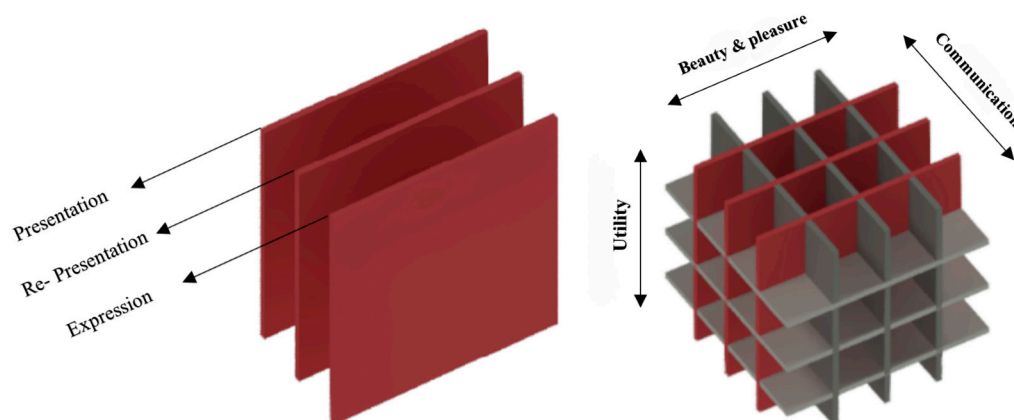


Figure 2. Cont.

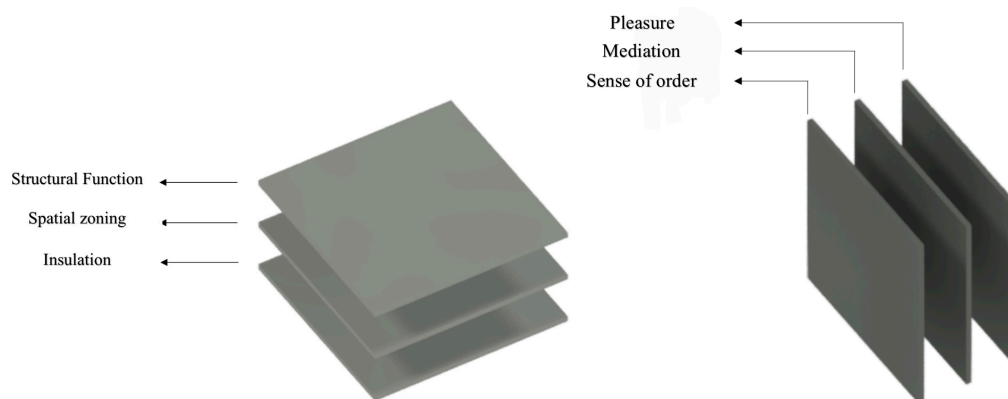


Figure 2. Function of ornament in architecture.

3. Ornament in Iranian Contemporary Architecture

Following the intensification of relations between Iran and Europe during the Qajar dynasty (1758–1925), the tradition of Iranian architecture entered a new phase, during which the congruence of its styles was eventually replaced with the variety of new architectural patterns and methods, which were mostly adopted from Western countries (Ghobadian 2013). However, this transformation did not weaken the presence of ornamental practices until the Pahlavi period, when modern architecture (and the proliferation of its dogmas regarding ornamentation as comprising useless, seductive, and outdated practices), was promoted in Iran through the works of foreign designers and Iranian architects who had been educated in Europe. During this period, ornamental practices that had been inseparable and significant parts of Iranian architecture for a long period of time were dismissed in many constructions, and experienced a considerable reduction and simplification in the sense of their form and quantity in others.

This situation changed, at least at the discourse level, after the Islamic revolution of 1979 in Iran. When Islamic norms and criteria prevailed, society and concepts such as the revitalization of traditions and Islamic-Iranian identity and meaning received much attention in architectural discourses (Bani Masoud 2002). Accordingly, the dominant political system promoted approaches that value the aforementioned concepts such as traditionalism, neo-traditionalism, regionalism, and postmodernism, and the laws of the economic, social, and cultural development plans of the Islamic Republic of Iran clearly addressed the necessity of conforming to Iranian-Islamic architecture. These measures paved the way for the return of ornament to architectural discourse as a distinct aspect of Iranian architecture and a powerful carrier of Islamic symbols that should be revitalized in contemporary practices. It also led to the application of Islamic ornamental patterns in many governmental and religious buildings during this period, which in most cases are low-quality copies of the original ones.

However, in market-oriented constructions in recent decades in Iran, the situation seems to be different, since the popularity of Western classical ornament is significantly increasing, as a means of showing off the power and wealth of building owners, and resulting in an “honesty crisis”. Several scholars address this trend, which is very popular among people of average and high economic class, as one of the major challenges to contemporary Iranian architecture needing urgent attention. In this regard, the present paper will examine some of the leading Iranian architectural practices in order to find an appropriate model of ornamentation in accordance with contemporary demands and conditions.

4. Research Methods and Materials

This study employed two major research methods: a literature review and survey for evaluating the ornamental practices in contemporary Iranian architecture. The literature review was conducted to collect the theories and accounts regarding the nature and functions of ornaments, its distinctions from

closely-related concepts such as decoration and design, and the reasons behind the ups and downs of its status in the profession and teaching of Iranian architecture. The survey was adopted to identify the existing condition of ornament in samples, for which characteristics and methods of selection are presented.

4.1. Research Samples and Data Collection Methods

In this research, 92 prominent buildings that were constructed in Tehran between 1979–2013 were examined. This was a period of time during which several major political and social changes took place in Iran. One of the most influential changes was the Islamic revolution of 1979, which replaced the Pahlavi dynasty with an Islamic Republic regime, and provided a brilliant opportunity for the institutionalization of Islamic ideologies in several aspects of Iranians' lives, including architecture. Consequently, the revitalization of Iranian-Islamic identity through the application of concepts and components of Islamic traditional architecture turned to a common agenda during this period, particularly in governmental construction. However, this trend soon faced an opposite force called globalization, which seeks to unify the world. The consequences of this confrontation with respect to ornament practices will be examined in this study.

It is also notable that due to time and budget limitations, the scope of the present study is restricted to those buildings which fulfill at least one of the three following conditions: (1) they are acknowledged by scholars as "prominent buildings" in key Iranian architecture books and journals; (2) they are the winners of national or/and international architectural awards; or (3) they have a considerable national or urban value due to their scale, influence, or use.

As a result of evaluating Tehran's contemporary buildings according to the aforementioned criteria, 122 cases were identified, among which 92 were selected based on Cochran's formulas. In the next step, all 122 buildings were categorized according to their locations and occupation types. For this, the area of Tehran city was divided into five zones (north, south, east, west, and center), and seven types of building usages (including residential, commercial, cultural, official, healthcare, and utility) were assumed. Then, the frequency of occupations in each zone were calculated, and the samples were selected in a way to replicate those shares.

It is also notable that all of the data regarding the physical and visual specifications of buildings were gathered through library studies, direct observations, and photographs.

4.2. Evaluation Criteria and Data Analysis Method

Samples were examined in two stages: firstly, their means of visual expression were identified; then, an analysis of their ornament nature and function was conducted. It is notable that aside from the definition of ornament addressed earlier, three more types of agents for visual expression (including "design", "detail", and "decoration") were assumed, whose definitions according to scholars' accounts are presented.

4.2.1. Decoration

Both decorative elements and ornament enhance the beauty of their carriers. However, ornament (Figure 3a) performs the aforementioned task through depicting nature's patterns and order, while decoration (Figure 3b,c) enhances the objects propriety by representing non-tectonic subjects related to society (Bloomer and Jespersen 2002). In other words, decorations are not necessarily beautiful objects, but pleasing arrangements of real objects that gain their legitimacy due to their conformity to "decorum" (i.e., particular requirements of good taste and social propriety).

Moreover, the bonding of decorations with buildings is mostly weak, and decorations can be removed with no major damage to the work of architecture. This means that there is no mutual dependence and compromise between decorative elements and their carrier, unlike ornament, which creates a physical and symbolic bonding with its carrier that is deeply impressed on the host entity through both function and meaning (Carlson-Redding 1996).

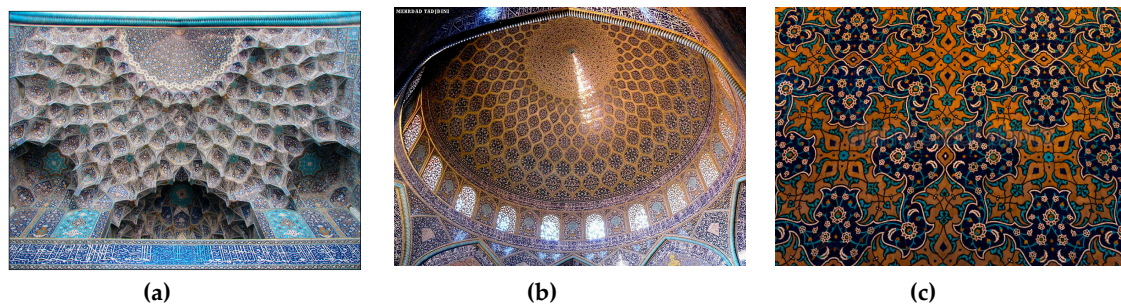


Figure 3. Muqarnas in the entrance of Imam Mosque, Isfahan, Iran, 1629 (a); the arabesques on the wall and ceiling of Sheikh Lotfollah mosque, Isfahan, Iran, 1617 (b,c).

4.2.2. Design

Objects remain structurally intact, recognizable, and capable of performing instrumental function in the absence of ornament and decoration, but not design. Design (Figure 4) is neither structure nor skin, but rather both at the same (Trilling 2003). Unlike ornament and decoration, which are mostly additive and small-scale elements, design presents a situation in which beauty is derived from the inherent qualities of the whole object body. It is also capable of communicating both tectonic and non-tectonic concepts, which perform ontological and representational functions at the same time.

4.2.3. Detail

Trying to differentiate between two types of constructional elements, Kelly Carlson-Redding, an architecture professor at University of North Carolina in Charlotte, used the words “detail” and “Detail” (Figures 3 and 4) in his article. According to him, both concepts refer to constructional elements that fulfill an instrumental purpose relative to the life of the building. However, the former may encompass the poetic amplification of the construction, structure, materials, processes, use, or operational characteristics of the building, while the motives behind details remain at a basic level, and are related practically to the necessities of general construction, structure, or systems. In other words, details are unintentional with regard to expression, and are purely ontological in their non-referent being (Carlson-Redding 1996).

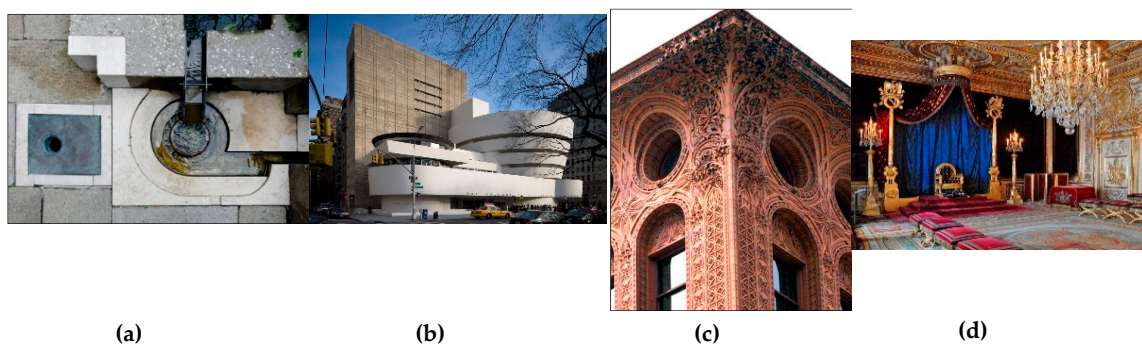


Figure 4. Detail of water feature by Carlo Scarpa (1949) in Querini Stampalia foundation (1869), Venice, Italy (a); Guggenheim Museum in New York, NY, USA (1959) by Frank Lloyd Wright (b); the Guaranty Building (1896) in Buffalo, New York by Louis Sullivan and Dankmar Adler (c); Throne room of Napoleon in the Palace of Fontainebleau (redecorated in 1808), Paris, France (d).

Based on the above definitions, 5 criteria could be suggested which further clarifies the distinction of the aforementioned concepts would be possible (Table 1).

Table 1. Criteria for Distinctions of Form, Detail, Ornament, and Decoration (Bloomer and Jespersen 2002; Carlson-Redding 1996; Trilling 2003).

Criteria	Form	Detail	Ornament	Decoration
Subject Matter	Tectonic and Non-Tectonic Concepts	Tectonic Concepts	Tectonic and Non-Tectonic Concepts	Non-Tectonic Concepts
Reference Mode	Representational and Ontological	Impurely ontological Representational	Impurely Representational	Representational
Necessity	Essential	Essential	Essential	Inessential
Content	Constructional Elements	Constructional Elements	Rhythmic and Transformed Motifs	Real Objects
Permanence	Bonded	Bonded	Bonded	Portable

It is notable that a combination of quantitative and qualitative research methods was employed for ornament analysis in the second stage of examination. Coding is considered “one of the most important qualitative methods of data analysis in architecture” (Habib et al. 2012, pp. 517–38), and is used here to reach the criteria for the evaluation of ornament nature and function. The codes were derived from the theory, questions, and variables of this research, and determined through three stages, including open, axial, and selective coding. This process ultimately resulted in two major sets of criteria, which were employed during the process of direct observations and content analysis of the buildings’ photos. The first group is related to the physical aspects of ornaments, including their form, scale, permanence, and production method, while the second group consists of criteria such as utility and communication (with two sub-criteria: reference mode and symbolic content), related to the functional aspect of ornament (Table 2). In the end, SPSS (IBM, Armonk, NY, USA, version 19) was used for calculating statistical analysis.

Table 2. Criteria for Evaluation of Ornaments.

Functional Aspects of Ornament				Physical Aspects of Ornament	
Utility	Mostly Utilitarian Function			Form	Geometric Pattern
	Mostly Non-Utilitarian Function				Vegetal Pattern Calligraphy Human/ Animal Figure Constructional Forms
Communication	Reference Mode	Mostly Representational		Scale	Visible form Distance Detail Both Types
		Mostly Non-Representational	Abstract Subjectless	Permanence	Integrated with Structure Additive
	Symbolic Function	Symbolic Content	Iranian Symbol(s) Non- Iranian Symbol(s) Both Types		Both Types
		Non- Symbolic Content		Production Method	Mostly Handmade Mostly Manufactured

5. Results

According to the results, the following statements can be made:

“Ornament” and “detail” (Figures 5 and 6) are respectively the least and the most prevalent means of architectural expression in the studied building. In fact, ornament is absent in more than half of the samples, while details are employed in all of them (Figure 7 and Table 3).

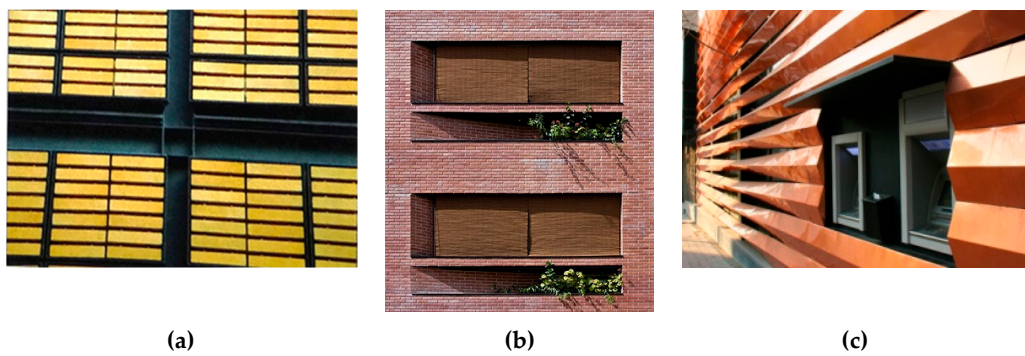


Figure 5. Mahmoodieh official building by Faramarz Sharifi (a); residential building in Tehranpars by Alireza Taghaboni (b); Mellat Bank by Kamran Afshar Naderi (c).

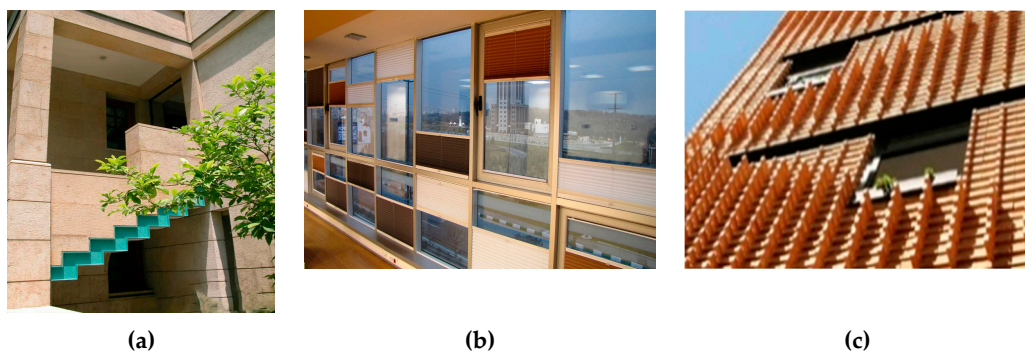


Figure 6. Amiri's villa in Dezaship by Faramarz Sharifi (a); central office of Goldiran Company by Mehdi Grami (b); Ajobaft residential building by Alireza Mashadi Mirza (c).

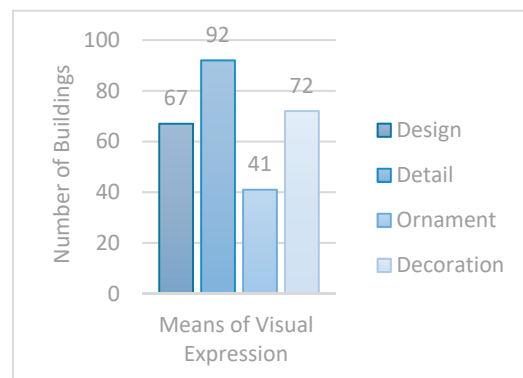


Figure 7. Means of aesthetic effect in the samples and their frequency.

Table 3. Means of aesthetic effect in the samples and their frequency.

Means of Aesthetic Effects	Frequency	Percentage
Design	67	72
Detail	92	100
Ornament	41	44
Decoration	72	78

“Design” (Figure 8) and “decoration” (Figure 9) are also employed extensively in 72% and 78% of the samples, respectively. Nevertheless, as building interiors are excluded in our investigation,

the observed decorations mainly include small-scale objects (such as flags, flowerboxes, logos containing the building name and number, lighting furniture), which naturally have less of an aesthetic impression on the viewers compared to design. In other words, despite the close frequency in the application of design and decoration in the samples, the former could be considered the second most prevalent agent of visual expression in buildings (Figure 7 and Table 3).



Figure 8. Mellat Park cineplex by Reza Daneshmir (a); Iran Telecommunication Research Center by Ali Hamidi Moghadam (b); white Horse Sport Center by Ismaeil Talaei (c); Sharifiha residential building by Alireza Taghaboni (d); Azadi cinema by Babak Shokoufi (e); Barian ski hotel by Rira design studio (f).



Figure 9. Golandook villa by Faramarz Sharifi (a); Azadi cinema by Babak Shokoufi (b); Mellat bank by Kamran Afshar Naderi (c).

According to Figure 10, in 23 out of 41 buildings (56%), only large-scale ornament (Figures 11 and 12) was used. This shows a considerable break with Iranian traditional architecture, as the visual richness of past practices is mostly a result of the lavish application of surface details and ornaments designed across a wide range of scales ranging from 1 cm to 1 m, in accordance with the position and walking speed of the observers (Figure 1). However, in our samples, such small-scale ornaments were found to exist only in seven buildings.

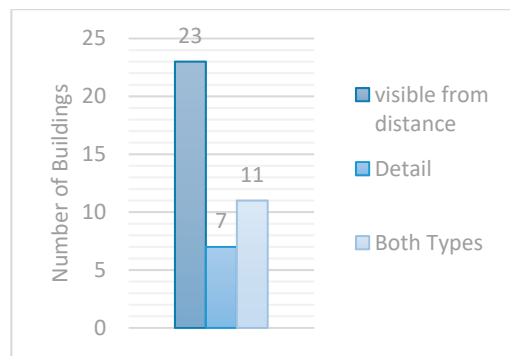


Figure 10. Scale of Ornaments.

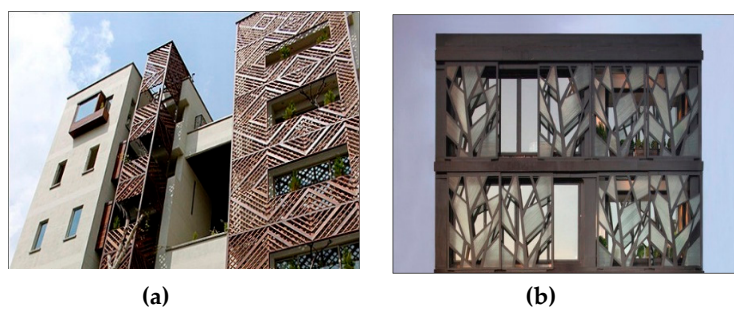


Figure 11. Bagh Vanak residential building by Reza HabibZadeh and Arezoo Khalili (a); Danial residential building by Reza Sayyadian and Sara Kalantari (b).

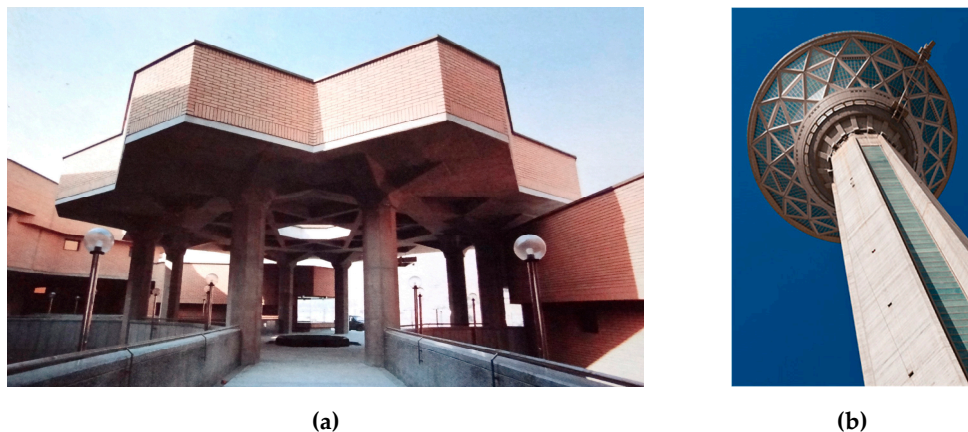


Figure 12. The entrance of the National Library by Yousef Shariat Zadeh (a); Azadi tower by Mohammadreza Hafezi (b).

Figure 13 indicates that additive and structure-integrated ornaments (Figures 11 and 12) were respectively employed in 24 and 29 out of 41 samples (i.e., 59% and 70%), respectively, which is a noticeable finding as it connotes the increasing inclination of leading contemporary architects toward the application of ornaments that fulfill instrumental purposes, in addition to symbolic and aesthetic ones. This claim, which is also supported by the result presented in Figure 14, denotes the prevalence of utilitarian ornament in the samples. However, in traditional Iranian architecture, the application of applied ornaments such as tile revetment were very prevalent, as they could be produced and repaired more easily and faster than integrated ones, and accelerated the building process by providing the opportunity for hiding construction faults (Pirnia 2008).

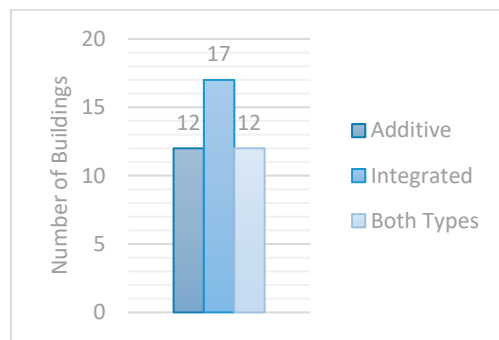


Figure 13. Permanence of Ornaments.

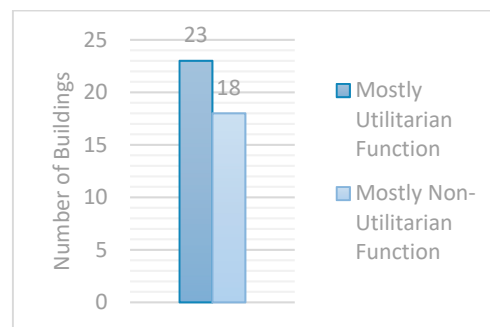


Figure 14. Utilitarian Function of Ornaments.

No sample contained representational ornaments. However, non-representational ornaments were observed in 44% of the buildings, out of which 32% were abstract, and the rest were subjectless (Figure 15).

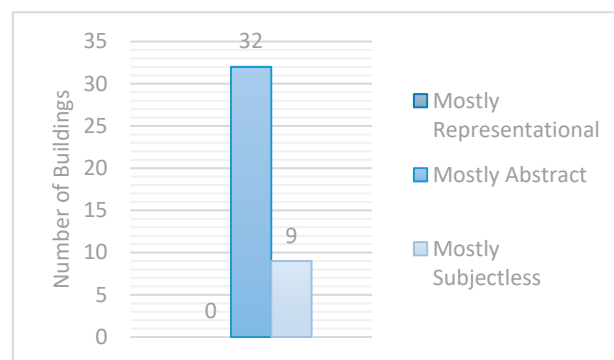


Figure 15. Ornaments' Mode of Reference.

Geometric and vegetal ornament were the most prevalent types of abstract ornament, employed in 32% and 11% of the examined buildings respectively, while calligraphic ornament was used only in seven buildings, mainly for religious and governmental use (Figures 16 and 17).

It is notable that the preference for abstract depictions in traditional architecture is a result of the position of the Islamic holy book, the Qur'an, which cautions artists against competing with God, who is the only creator. It is thus an indication of an artist's submission and acceptance as well as his effort to emphasize the distinction of his creations from the original ones created by God (Marks 2007). However, in contemporary practices, the prevalence of subjectless patterns and the absence of symbolic

content in the majority of the samples signifies a different approach, according to which the existence of non-tectonic content (representational of the abstract) is disapproved.

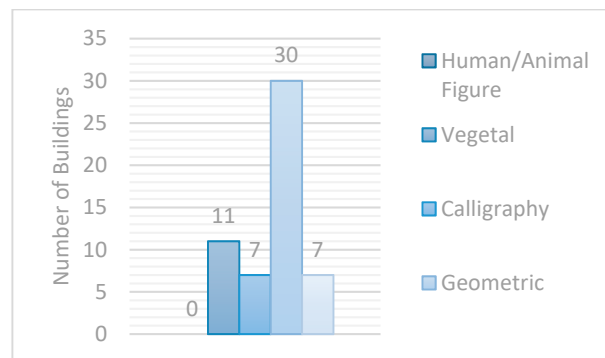


Figure 16. Form of Ornament.

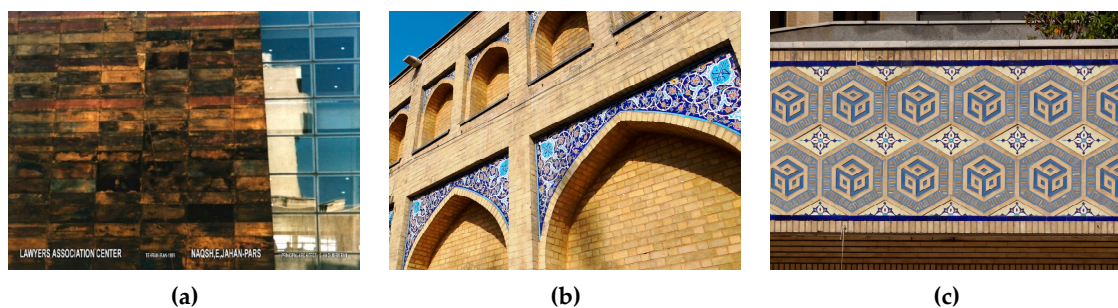


Figure 17. Lawyers Association Center by Seyyed Hadi Mirmiran (a); Sanati Sharif mosque by Mehdi Hojjat (b); Haj organization building by Jahangir Mazloom (c).

According to Figures 18 and 19, 78% of the ornamented samples lacked symbolic patterns (Figure 17), and non-Iranian symbols existed only in one building, the Vanak sport complex. Supporting the arguments of Section 5, this finding shows one of the main distinctions between contemporary and traditional architecture, as well as the leading Iranian designers' disinclination toward the application of historic and symbolic references, particularly those that are not rooted in Iranian culture.

The results showed that only 19 out of 41 buildings contained handmade ornaments (Figure 20), while manufactured ones existed in all 41 samples.

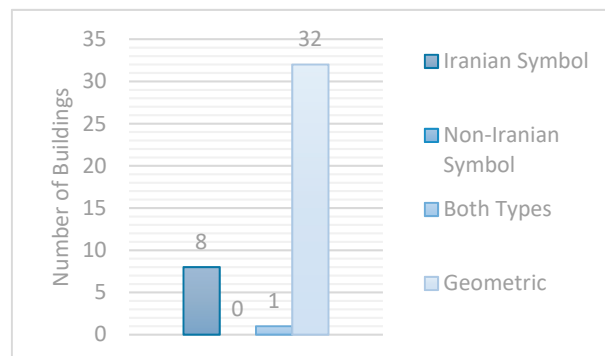


Figure 18. Symbolic Content of Ornaments.

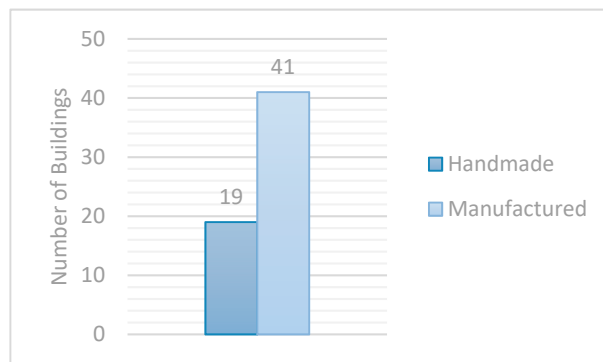


Figure 19. Production Methods of Ornaments.

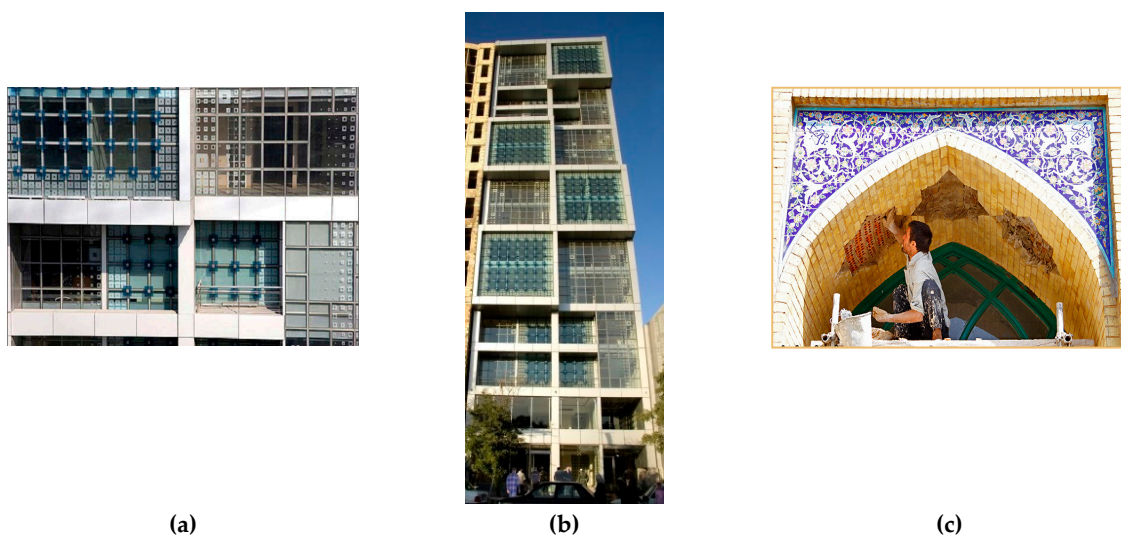


Figure 20. Shah Karam commercial and residential building by Hooman Balazadeh (a); Shah Karam commercial and residential building by Hooman Balazadeh (b); Sanati Sharif mosque by Mehdi Hojjat (c).

6. Discussion and Conclusions

This paper examined the status of ornament in the contemporary architecture of Tehran after the Islamic revolution. In this regard, 92 prominent buildings that were constructed between 1979–2013 were selected, and their agent(s) of visual expression were analyzed. Results indicated that unlike the traditional Iranian architecture in which ornament presence was immanent, almost half of the studied buildings lacked such elements. In contrast, “Detail” and “design” were employed extensively in the samples, which implies the designers’ preferences for creating visual expression through the honest presentation of the inherent qualities of building materials and their constructional elements, rather than employing non-tectonic, symbolic, and additive patterns.

An examination of the ornamented buildings, as the next step, also revealed a noticeable increase in the ornamental elements’ size, and a significant decrease in their visual complexity and semantic contents (compared to traditional ones). Moreover, there seems to be a strong inclination among leading Iranian architects towards the application of structure-integrated and “performative” ornaments, rather than the additive and applied ornaments that are prevalent in traditional Iranian architecture. Handmade ornaments were also rarely found in the samples; this connotes a reduction in the buildings’ symbolic value, which was traditionally shown by the artisan’s creative effort in the process of ornament production. For such transformations of ornament, one can think of several reasons, which can be loosely classified into the following three groups:

1. **Context-related Factors.** An examination of the samples indicates that there is a clear relationship between the speed and distance by which people can observe the building and the types of visual expression. For example, ornaments and other surface details are mostly employed on the ground level of facades in high-density urban contexts, where they are exposed to pedestrians. In contrast, design, as the largest scale of aesthetic effects, is used in free-standing buildings that are located near highways or over hills, whose form should be designed in a way to be visible to car drivers from long distances. Another context-related factor that influenced the buildings' visual expression is the existing codes and regulatory requirements for new constructions in some areas of the city, especially the historic areas. The new Malik library and museum (Figure 21) in one of the historical districts of Tehran, for example, is one of the studied samples whose facade was designed in total accordance with the principles of a traditional architectural style called Isfahan.
2. **Mediator Factors**
 - **Building program.** Studies reveal that the diminishing number of skillful artisans after the advent of the industrialization process in Iran, and the limitation of available project funding and time, are among the main reasons behind the absence of handmade ornaments in a considerable number of contemporary constructions.
 - **"Building use"** is also found to be influential in architectural expression. Results indicate that traditional types of ornament (such as arabesque and muqarnas style, etc.) are mostly used in religious and governmental buildings, while in functional and industrial buildings such as healthcare and service centers and factories, "design" and "Detail" are the main agents of aesthetic affect.
 - **Tastes and Desires.** Clients have a considerable impact on the direction of the architectural design process and the quality of their final products. In fact, they may direct the creation of either significant or worthless buildings through the type of designer they hire, their level of intervention in the process of design, and the proper or arbitrary implementation of the project (in cases where they are the construction superintendent as well). Accordingly, some experts attributed the existent chaos in Iranian market-oriented constructions of recent decades to the unprecedented authorization given through postmodernism theories to clients who mostly lack good aesthetic and architectural taste. However, this is not the case in our study, as most of our samples were designed by leading architects that have a high level of architectural knowledge and sufficient authority to pursue their ideas. In this regard, the prevalence of detail and design as the major agents of visual expression, and the weak presence of symbolic and applied ornaments in their designs, could be interpreted as signs of the popularity of modernism among Iranian architects, and the influence of other context-related and mediator factors, as discussed earlier.
3. **External Factors.** External factors can be divided into the two following sub-groups:
 - **National-level Factors.** Taking into consideration that architecture schools and competitions play a significant role in the formation and transmission of architectural theory and practice through affecting architects' tastes and thought, some of our findings regarding the architects' preference for employing "design" and "detail" would be understandable. The prioritization of "form" over "ornament", which was a part of the modernism agenda in the first decades of 20th century in Europe, became very popular in Iranian architecture schools during the 1940s and 1950s (Bani Masoud 2002), when a noticeable number of national architecture competitions referees and the majority of Iranian leading architects (including 80% of the studied buildings' designers) were students.
 - **Global-level Factors.** The results revealed that the application of structure-integrated and performative ornaments has increased in contemporary Iranian architectural practices. One of the reasons behind the popularity of such ornaments is the unprecedented

advancement in design and construction technologies in recent years, and the emerging interest in structure as a generator of form. This development has resulted in the formation of a new relationship between skin (facade) and bones (structure), crossbreeding ideas of structure and concepts of decoration. In these new typologies, the use of overt patterning in structural systems blurs the line between what is structural and what is decorative, and results in a third type, deep decoration—decoration that is both below and on the surface, and creates new spatial effects (Rappaport 2006).



Figure 21. The new Malik library and museum building by the design office of Astan Ghods Razavi (a); the new Malik library and museum building by the design office of Astan Ghods Razavi (b).

However, modernization and its subsequent processes, such as rationalization and industrialization, could also be considered some of the main underlying causes that influenced ornament life in Iranian contemporary architecture. Starting in Europe around the mid-18th century, modernization required the transformation of the community to society through the individualization and suppression of collective practices and beliefs: “in this process everything which falls outside the framework of formal rationality and hinders the rationalization project is eliminated: anything sensuous, non-rational, non-quantifiable and unpredictable” (Engels-Schwartspaul 2001, p. 198).

Modernization also weakened collective memories and their byproducts, such as ornaments, by intervening in the gradual process of their development. This is because the fast-paced growth of the cities and their infrastructure required more accelerated methods of construction and production, which stood in total contrast to traditional ones.

In the process of ornament marginalization, the role of rationalization was also crucial. It promoted a dualistic model of thought that prioritized rationality, “scientific knowledge” and “discursive reasoning” over emotion, and “common-sense knowledge”, “non-discursive reasoning” and disdained ornament as something, related to the latter. In this way, it paved the way for the more extensive suppression of ornamental practices that were conducted later by the modern movement in architecture (Engels-Schwartspaul 2001).

Modernism pioneers used several strategies to eliminate ornaments from contemporary architectural discussions and practices. However, that which guaranteed the survival of their anti-ornament beliefs is “naming”. According to Featherstone, “naming” is an important strategy on the part of groups engaged in struggles with other groups. Based on this method, modernists ascribed several flaws such as deception, (moral and cultural) decadence, disutility, wastefulness, recession, and lack of spontaneity to ornament (Ahani and Etesam 2016). These are arguments that still make designers stay away from ornamental practices as a form of self-control.

Following such a model of thought, Iranian architecture schools whose education systems were influenced by Western doctrines for 50 years still rely on a gesture of certainty and objectivity that acknowledges only rational-based knowledge. Engels-Schwartspaul (2001) argued that this is “particularly problematic in fields that deal intrinsically with non-verbal, non-rational subject matter, such as design”. According to Alexander (1964, p. 99), “efforts to organize design knowledge in rationalized and systematic verbal concepts can lead to rigidity and abstraction, subsequently

impairing the ability of designers to see beyond them". Unfortunately, no major measures were taken by the Iranian Ministry of Higher Education to rectify this approach. Only four credits out of the 154 required for a bachelor's degree in architecture are devoted to courses that address ornament.

However, ornaments, as discussed earlier, are essential parts of architecture that perform very important tasks. They increase the visual coherence of the environment, and strengthen the architectural bonding with society by fulfilling the human sense of order and desire for beauty. They educate people about the history, values, and dominant beliefs of their society, and add several layers of meaning to buildings, which helps them sustain their appeal for the viewers beyond the initial discovery. In this regard, the present paper suggests some reforms with regard to the architectural profession and education in Iran, which are expected to result in the revitalization of ornament status in contemporary practice.

Firstly, the dualistic and arborescent model of thought, which are still dominant in Iranian architecture schools and popular among leading architects, should be replaced with a new rhizomatic model that provides an opportunity for the coexistence of concepts such as ornament and structure, form and function, and the sensuous and the rational. This new model of thought would value common-sense knowledge that takes into account people's desires and architecture students' interest in artistic practices, while also appreciating scientific knowledge, discursive reasoning, and professionalization.

Moreover, some amendments in architecture syllabi at the undergraduate level are suggested. These include increasing the number of courses dedicated to the subject of ornament and attaching an addition to the existing syllabus to highlight the necessity of addressing the ignored aspects of ornamental practices, including their implementation methods and the reasons behind their decline in the recent practices of Iranian architects, etc.

Lastly, we suggest a revision in some of the policies of the Ministry of Housing and Urban Development of Iran, including those which necessitate the application of Islamic ornamental patterns to building facades, especially governmental ones, as a way to reinforce the Islamic identity of Iranian cities. We believe that such measures, while not problematic per se, have mostly led to the unthoughtful and superficial use of ornaments and decorations, due to the absence of appropriate supervision by responsible organizations such as municipalities.

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References

- Abercrombie, Stanley. 1990. *A Philosophy of Interior Design*. New York: Harper & Row.
- Ahani, Fatemeh, and Iraj Etessam. 2016. Directions and Intellectual Bases of Ornament Criticism in Modern Architectural Literature. *Rupkatha Journal on Interdisciplinary Studies in Humanities* 8: 298.
- Alexander, Christopher, Sara Ishikawa, Murray Silverstein, Joaquim Romaguera i Ramió, Max Jacobson, and Ingrid Fiksdahl-King. 1977. *A Pattern Language*. New York: Oxford University Press.
- Alexander, Christopher. 1964. *Notes on the Synthesis of Form*. Cambridge: Harvard University Press.
- Bani Masoud, Amir. 2002. *Contemporary Architecture of Iran*. Tehran: Nashre Honare Memarie Gharn.
- Bloomer, Kent C., and John Krestem Jespersen. 2002. Ornament as Distinct from Decoration. Available online: http://ornament-scholar.blogspot.com/2014/02/ornament-as-distinct-from-decoration_5274.html (accessed on 6 March 2016).
- Bordeleau, Anne. 2016. *Charles Robert Cockerell, Architect in Time: Reflections Around Anachronistic Drawings*. London and New York: Routledge (Taylor & Francis group).

- Brolin, Brent C. 1985. *Flight of Fancy: The Banishment and Return of Ornament*. New York: St. Martin's Press.
- Carlson-Redding, Kelly. 1996. detail, Detail, Ornament, and decoration: A Taxonomy. In *84th ACSA Annual Meeting: Theory and Criticism*. Washington: Association of Collegiate Schools of Architecture.
- Engels-Schwartzpaul, Anna Christina. 2001. Myth, Symbol, Ornament: The Loss of Meaning in Transition. Ph.D. Thesis, University of Auckland, Auckland, New Zealand.
- Farrell, Gavin R. 2005. Ornament: Semantics and Tectonics in Contemporary Urban Architecture. Master's Thesis, University of Cincinnati, Cincinnati, OH, USA.
- Focillon, Henri. 1948. *The Life of Forms in Art*. New York: Schults Wittenborn.
- Ghobadian, Vahid. 2013. *Theories and Styles in Contemporary Architecture of Iran*. Tehran: Elm e Memar.
- Gombrich, Ernst Hans. 1979. *The Sense of Order: A Study in the Psychology of Decorative Art*. London: Phaidon.
- Grabar, Oleg. 1992. *The Mediation of Ornament*. Princeton: Princeton University Press.
- Habib, Farah, Iraj Etesam, S. Hadi Ghoddusifar, and Nahid Mohajeri. 2012. Correspondence Analysis: A New Method for Analyzing Qualitative Data in Architecture. In *Digital Fabrication*. Edited by Kim Williams. Basel: Springer.
- Hejazi, Mehrdad, and Fatemeh Mehdizadeh Seraj. 2014. the Relation of Meaning, Beauty, Shape and Structure in Islamic Architecture. *Researches in Islamic Architecture* 2: 7–22.
- Khorashahi, Fariba. 2013. A Revetment. Master of Architecture, Waterloo, ON, Canada.
- Marks, Laura. 2007. The Haptic Transfer and the Travels of the Abstract Line: Embodied perception from classical Islam to modern Europe. In *Verkörperungen/Embodiment*. Edited by Christina Lammer, Catherin Pilcher and Kim Sawchuk. Vienna: Löcker Verlag.
- Mitrache, Anca. 2012. Ornamental Art and Architectural Decoration. *Procedia—Social and Behavioral Sciences* 51: 567–72. [[CrossRef](#)]
- Pirnia, Mohammad Karim. 2008. *Study on Styles of Iranian Architecture*. Edited by G. H. Memarian. Tehran: Soroush Publications.
- Rappaport, Nina. 2006. deep decoration. *30/60/90 Architectural Journal* 10: 95–105.
- Riegl, Alois. 1992. *Problems of Style: Foundations for a History of Ornament*. Princeton: Princeton University Press, Original Edition, 1893.
- Ruskin, John. 1849. *The Seven Lamps of Architecture*. New York: J. Wiley.
- Sağlam, Hakan. 2014. Re-thinking the Concept of “Ornament” in Architectural Design. *Procedia—Social and Behavioral Sciences* 122: 126–33. [[CrossRef](#)]
- Salingaros, Nikos A. 1999. Architecture, Patterns, and Mathematics. *Nexus Network Journal* 1: 75–86. [[CrossRef](#)]
- Salingaros, Nikos A. 2000. The Structure of Pattern Languages. *Architectural Research Quarterly* 4: 149–61. [[CrossRef](#)]
- Semper, Gottfri. 2010. On the formal principles of adornment and its meaning as a symbol in art (second section). *RES: Anthropology and Aesthetics*.
- Trilling, James. 2003. *Ornament: A Modern Perspective*. Seattle and London: University of Washington Press.
- Vitruvius. 1960. *The Ten Books On Architecture*. Translated by Morris Hicky Morgan. New York: Dover Publications.



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