Confrontation of Iranian contemporary architecture with the electronic era

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Abstract

Technology has had many influences on the Iranian society in different eras. Today, information and telecommunication technologies have revolutionized the basic structures of society and a new network society has been propagated inside the traditional and semi-modern context. In countries like Iran, which are in the process of modernization, a chaos deriving from the transition period is observed that leads to a certain peculiarity. In this transition era the norms of traditional societies, which offer discipline for these societies, have been eliminated in favor of new norms that are not codified yet. The transformation to the new situation and also the confrontation with the electronic world has instigated many disorders and anomalies in the society, with its physical expression becoming visible in contemporary architecture. Today, Iranian architecture is affected by Kitsch Art and has become superficial. Using attractive visual capsules and exploiting the human habit of imitation, information viruses have spread everywhere and have changed the physical world dramatically. The propagation of networks has made this process even faster. This paper reviews the confrontation of Iranian architecture with the electronic realm and investigates the role of visual viruses in the formation of the physical fabric of Tehran. It is argued that in the future, emphasis on design supported by collective intelligence [1] and individual creativity can decrease physical anomalies in the built environment.

Keywords: Era of transformation, Social anomaly, Meme and visual viruses, Architecture, Urban design

1. Introduction

It has been said that the industrial revolution transformed our environment and because of automobiles, trains, airplanes and other advances, spatial distances have been conquered and places have become closer, leading to an increase in relations. Contrary to the classic age, in which changes presumed to be linear, regular and predictable, new theories such as String Theory, Chaos, Quantum and Special Relativity depict a non-linear and dynamic picture of a world changing in which widespread relations between differing parts has made them closer to each other [2]. Moreover, in network societies, concepts of space and time have been revolutionized and human life has been based on the flows of information. This new world is a multidisciplinary one, which has made us confused. It is therefore possible to argue that we have failed to find our true position in the network society.

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2. Transition to modern society

Inevitably, modernity, industrialization and other global movements affect Iranian contemporary architecture. In Iran, the transition to a modern society started a century ago, however, inappropriate management, sudden population growth and migration to urban areas are among the parameters that had a negative impact on Iranian architecture, causing quantitative growth and a decline in concerns for quality and therefore the construction of low quality buildings purely designed to secure investment. This speculative investment has substituted many productive operations and has overflowed the housing market, leading to an inflation of prices.

In this atmosphere, the dominant logic for architecture is pluralism in which individualism and egotism are rampant and collective intelligence and knowledgeable participation (as the requirements for establishing a coordinated system) have remained neglected. Chaos and divergence have become the main problem that architecture has to grapple with. Moreover, an increase in quantitative needs has resulted in widespread construction of mass housing mainly carried out by individual constructors (without the necessary knowledge or experience), construction companies and the government.

3. Anomalies in Iranian society and architecture during transition to modernity

Urbanization and industrialization have changed traditional life styles and demolished many moral values and concepts. However in this new condition, very little new set of values has been created. According to Durkheim, anomaly is the feature of societies during a transition period. The norms of traditional societies, which used to discipline these societies, have been eliminated and new norms are not codified yet [3].

Contemporary Iranian architecture is the embodiment of our society and chaos and anomaly are its main features. Many ideas of modern architecture, such as expansive and straight streets, inner and outer city highways, tall skyscrapers and high-rise construction have been utilized in our built environment. A desire to break from the traditional past has led to the destruction and demolition of many valuable urban fabrics. Moreover, an imitation of the modern style has not only failed to convert plurality into unity, but it has also exacerbated the matter of regional and domestic identities in many societies. In this process many of the valuable concepts proposed by the modern movement in order to abolish discrimination have not only lost their implications through misunderstanding, but they have also converted into anti-values. Thus, the modern movement has transformed our homes and towns and has created both superficial and deep alterations in the Iranian lifestyle.

3.1. Iranian architecture during transition to modernity

One of the characteristics of modernity in Iran is an increase in the number of towns and cities and the population therein. In Tehran, these changes are more widespread and noticeable. Figures 1 and 2 show the same district in the North of Tehran in two different period of time. These figures show the increase in high-rise construction and their diversity of forms (cubic, pyramidal and others) that have disintegrated the skyline of North Tehran.

The modern and mechanized life requires an ever-increasing need for transportation infrastructures. Development of highway networks in recent decades has changed the urban textures, particularly historical towns, and eliminated the integrity and beauty of traditional architecture. It is clear that many of these modern public spaces have been constructed without necessary respect or attention to qualitative factors. Iranians are accelerating towards modernity, which requires special and new spaces such as underground stations, technology parks, research centers and institutes, cultural centers and other spaces that were not required in the past. Architects are trying to keep up, yet their language is divided, without focus on a special style or doctrine. Many Iranian architects only try to express their individuality and their own interpretation of the current condition. Some others try to revive traditional architecture while others choose technology as their inspiration and imitate hi-tech architecture. There are even those who attempt to create a unique style of their own. Yet, it is very difficult to see any appropriate rules, concepts or paradigms governing such architectural productions.

4. Towards Network Society

The information and telecommunication technologies have created a great revolution. They have been spread throughout the world in a short period of time and transformed everything. This change is called the information revolution because like any other revolution it has brought great change in a relatively short period of time. During the information revolution, technology affects, transfers, and processes information all over the world. According to Castells "these are technologies to act on information, not just information to act on technology" [6]. In the information age, the logic of networking is predominant and the flexibility and reversibility of processes are considered as its main features.

Networks have transformed many fundamental aspects of human life and revolutionized relationships in human societies. When interviewed by Harry Kreisler from the University of California Berkeley, Castells said "... the definition, if you wish, in concrete terms of a network society is a society where the key social structures and activities are organized around electronically processed information networks. So it's not just about networks or social networks, because social networks have been very old forms of social organization. It's about social networks which process and manage information and are using micro-electronic based technologies" [7].

By using microchip-based technologies, network societies

Fig. 1. Urban texture, north of Tehran [4]

Fig. 2. Urban texture, north of Tehran [5]

have revolutionized the structure of traditional societies. Accordingly, the structures of all cities, homes, and even families, as the smallest component of each society, have changed too [8]. Information technology has threatened the very existence of the traditional family. Houses are filled with electronic and telecommunication tools pacing forward towards an electronic cottage [9]. In a network society, concepts of time and space are transformed and consequently architecture changes too. Traditional and modern architecture, expressing the essence of their age, cannot meet the requirements of contemporary societies, which are experiencing a highly dynamic and rapid development.

5. Iranian architecture during transition to network society

In developing countries like Iran, a certain chaos caused by the transition from tradition to modernity is evident. However, in more developed countries, a more endogenous development can be observed [10]. In such societies transformation occurs at the very core, while traditional and modern infrastructures work in harmony. Understanding the issues Iranians are facing with can assist them in policymaking, planning, and architectural design for a better network society.

Although there will be those in the society who will support, guide, and supervise city structures, in compliance with the essence of the age, and guide society in the transition era to redefine its identity, it is certain that a chaotic structure will be the main feature of Iranian cities in the transition era. However, in any network society, one cannot ignore the role of memes as information pieces that affect cultural evolution and also change the built environment.

5.1. Memes as replicators

According to Salingaros: "It is necessary to ask then: what entities other than ourselves inhabit this informational universe? Sure enough, we share the physical universe with all biological life forms, but here is a non-biological realm. Which entities compete with our ideas, our knowledge, our thoughts, and our cultural products? The answer is as simple as it is disturbing: pieces of freely propagating clusters of information. These are called «memes». They are informational entities that are greatly simplified versions of patterns, and which gradually replace patterns in organizing

our interaction with the world" [11].

In the world of information, there are many junk and even detrimental information, in addition to useful, reproductive ones that are multiplied due to their special properties. These junk or detrimental information pieces can be called "information viruses", although, Richard Dawkins describes them as "detrimental Memes." Dawkins uses this new term in his book" The Selfish Gene" exploiting the similarity between the words Gene and Meme to invoke that Memes, like Genes, contain information codes with extra multiplication capabilities and their only difference is that they sometimes seem useless or even detrimental items. According to Dawkins, a Meme includes every idea or behavior bearing non-material conditions and can be transferred from one person to the other via learning or imitation [12]. He refers to some of the features of memes: immateriality, having extreme power of multiplication, sometimes useless and even detrimental, multiplication in cultural-social context (network society), including thoughts, ideas and theories; taking account of modes, moods and attitudes, dance, songs, and so on.

Memes are new types of replicators, which act as units of cultural evolution. Unlike genetic evolution, memetic evolution is between any two individual and will happen by communication and imitation. In a thousand years, humans have not basically changed on a genetic level whereas their culture has undergone the most obvious changes. In table 1 the differences between memetic evolution and genetic evolution has been depicted.

According to Salingaros "... Memes are propagated in the collective mind of a society. A meme could be a catchy tune; an advertising jingle; a visual image; a religious or cult symbol; a political slogan; a chant; an idea or opinion (either sensible, or totally unfounded) about some topic; a message tied to an emotionally appealing issue, etc. Memes spread not because of any benefit or advantage to us, but because they have something attractive that makes them stick in one's mind. Memes offer seductive features to people, who then propagate them" [11].

To be replicated a meme must pass four important stages:
1. Assimilation, understanding and accepting by the host;
2. Retention in the host's mind;
3. Expression by the host in language, behavior and another instruments; and
4. Transmission of message to other hosts.
In diagram 1 the life-cycle of memes has been depicted.

Table 1. The differences between memetic evolution and genetic evolution

Memetic evolution	Genetic evolution
- between any two individual;	- from parents to off springs;
- replication by communication and imitation;	- replicate by sexual relation;
- memes replicate even in hours;	- genes replicate several years;
- transmit horizontally; and	- transmit vertically; and
- memes are contagious, (cultural genes).	- genes are not contagious.

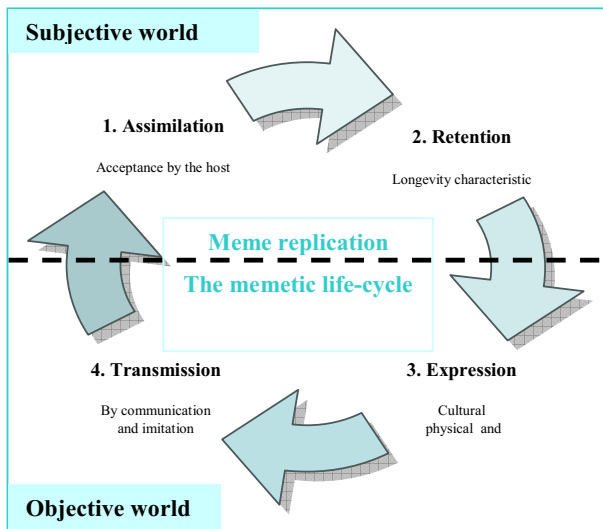**Table 1.** The differences between memetic evolution and genetic evolution

Diagram 1. The life cycle of memes

5.2. Memes as information viruses

Memes can act like viruses in the information world. These kinds of memes are called Information viruses (simple virus structure distinguish it from other living creatures and help it to enjoy a significant multiplication capability.). Information viruses achieve their reproduction power due to their extreme communication capabilities. The secret lies in their simplicity, assisting them to spread like contagious viruses in the information world and, sometimes even, replace effective paradigms (For example, void ideas and modes substitute proper paradigms). A detrimental information virus can be disguised by a beautiful cover or capsule showing a deceptive appearance, while it moves inside a person's mind and transfers from one person to the other. Sometimes, the relation between an idea and its expression is astonishing. An idea can connect to totally unrelated things, helping them to spread and transfer. Information viruses tend to destroy useful files in the human mind and replace them with other substitutes. They spread impudently and can detach humans from their spiritual beliefs. In large information networks, information can multiply all over the world rapidly and infect those minds suffering from an ineffective protection system. In this scenario, a host person or society helps the development of detrimental and false information and a detrimental circle starts, the consequences of which are reflected in the physical world, in society, and even personal relationships [13].

5.3. Influences of Information Viruses on the Built Environment

Networks entail all kinds of information and transfer them without discrimination. Emphasis on the value of the information requires some criteria for judgment. In architecture, this information includes schemes of a building or its plans, three-dimensional images and descriptive texts created by the computer. Some of the information offered is covered by an attractive sheath free from any significant value.

Sometimes, an architectural virus lives in the physical and informational world simultaneously. This information realm includes human memory, mass media, computer data, and saving terminals [14].

In the architectural movements of the twentieth century, computer aided design plays an important role and acts as a laboratory in which useful or detrimental pieces of information are produced before entering the physical world. Sometime, architects assume that computer generated images are more complete than real buildings and for this reason they commit fundamental errors. The virtual imagery can attract a viewer, but they cannot transfer the real sense of a place and the physical property of the building and its spatial qualities. "Generating alien forms on a computer thus becomes an innocent game because it is divorced from the physiological and psychological consequences those full-size built forms will have on human beings. ..." [11]. Virtual space offers a good opportunity for the simulation of external realities, but it is so deceptive and misguiding that in a computer game, it seems normal to kill other humans, even though such actions are unthinkable in the real world.

If we go through architecture books and magazines, we find a world full of strange images, completely separated from the real world we live in. In this virtual world, every thing is degraded and reduced to two or three-dimensional imagery and this kind of brevity helps the multiplication of information. It is worth mentioning that in the modern movement, the simplicity of ideas and the elimination of decorations in architecture created forms that are transferable all over the world. Yet this has caused many problems, particularly in developing countries, as these forms are merely copied and imitated without proper rooting in the indigenous culture and society [11]. Although nowadays technology has benefited Iranian architecture, one can nonetheless sense a lack of artistic competence and real spatial understanding among the new generation of architects.

In the majority of architecture schools today, memes are realized as approved models; and computer generated designs are offered as good ideas to copy. Academic architects conform to those memes in the belief that they are being "original". However, such architects tend to live in an isolated world of images, without a strong connection to the reality of constructing buildings. Their creative output can be judged strictly via a virtual portfolio much like how architectural competitions and prizes are awarded on the basis of virtual imagery.

Consequently, alien buildings adversely affect the people because they conflict with and replace their traditional architecture. They also make it difficult to build new, innovative buildings that constitute a lively built environment. Therefore superficial images do far more damage to a civilization than the physical destruction of the built environment. Alien images penetrate into people's subconscious and profoundly influence their worldview and consequently their interaction with lived reality.

Alien buildings embody a randomness that is the antithesis of nature's organized complexity. The danger is that such buildings are now registering subconsciously and used as mental templates for understanding and creating complex

physical order. One's worldview is stored in the brain's permanent memory, which is being corrupted by alien images of a sleek, transparent and broken architecture. It follows that these images will influence everything we design — undoing all our achievements in understanding complex systems and how our world works" [11].

Every architectural information which enters the host's memory must pass four stages. At first the image or information assimilates and settles in the host's memory. In the next step it expresses the physical world as a pattern or virus and in the last step it is transmitted to other hosts by communication and imitation (diagram 2).

The harmful influences of visual viruses on developing countries like Iran is more obvious. For example, a sample of some of Tehran's buildings shows a blind imitation of western styles while the others are imitation of traditional Iranian architecture. These examples portray how a visual architecture, separated from its origins, can act as a virus in the physical world. Some obvious examples of visual architectural viruses in Tehran can be described as follows:

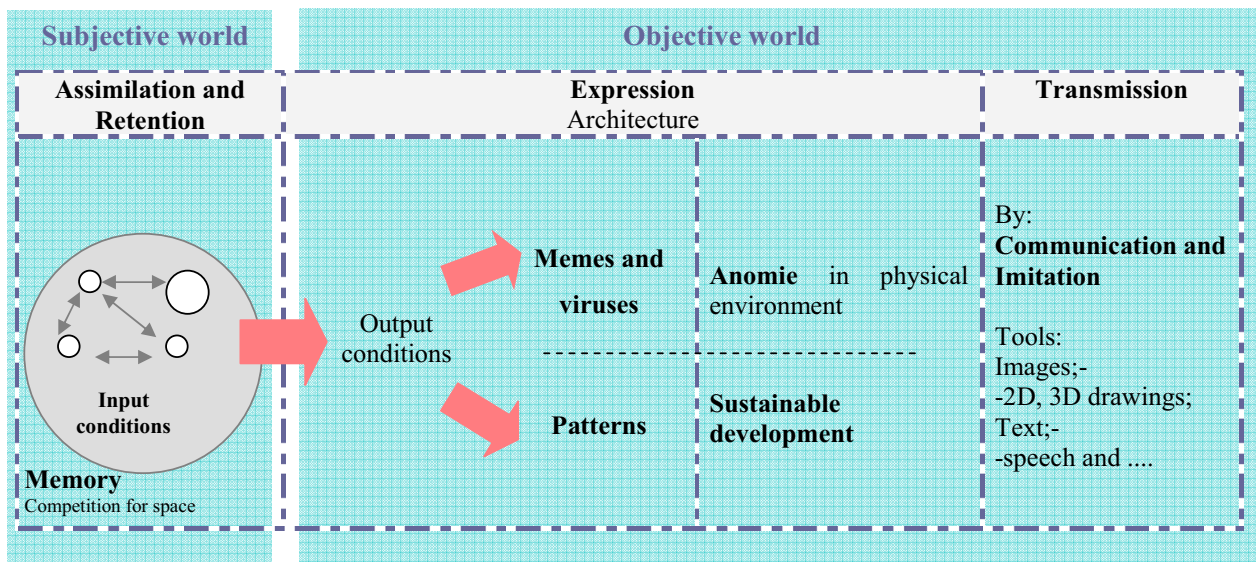(1) Superficial imitation of Western architecture (Deconstruction (table 2), Modern

Diagram 2. The life cycle of architectural input conditions
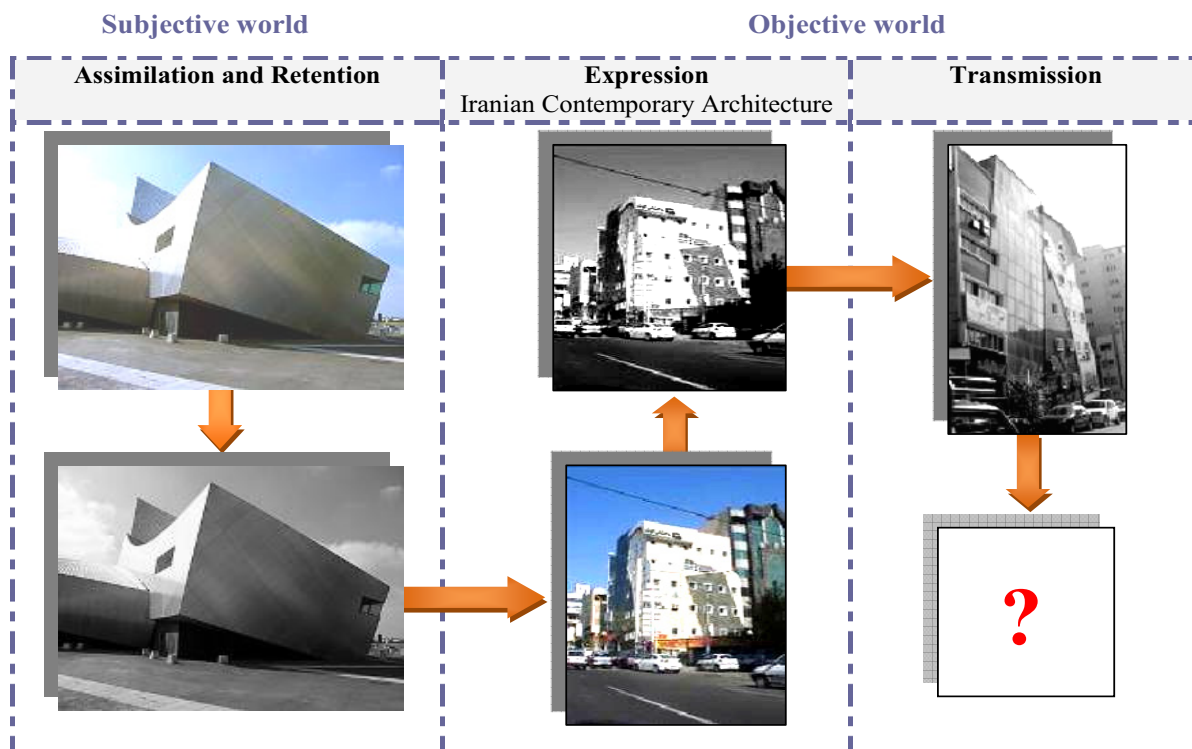

Table 2. Imitation of Deconstruction style in Iranian contemporary architecture

(table3), Postmodern and Art Nouveau style (table4) and other styles);

(2) Superficial imitation of Iranian traditional architecture in different eras (table5 and 6);

(3) The largest scale is dominant, with no respect to rules of urbanism in many of high-

 rise buildings;

(4) Inappropriate use of plate-glass walls, reflective metal sheets, and flat, prefabricated

 concrete panels on many of facades (table3);

(5) No proper boundaries, many of buildings in Tehran are cut abruptly;

(6) Contrast between traditional architectural forms with other buildings around them; and

(7) No harmonic polyphony in many urban spaces, which leads to visual disturbance.

Some contemporary buildings in Tehran are not understandable in that they have not been designed for any specific purpose and that they are results of a purely visual architecture influenced by informational viruses from the
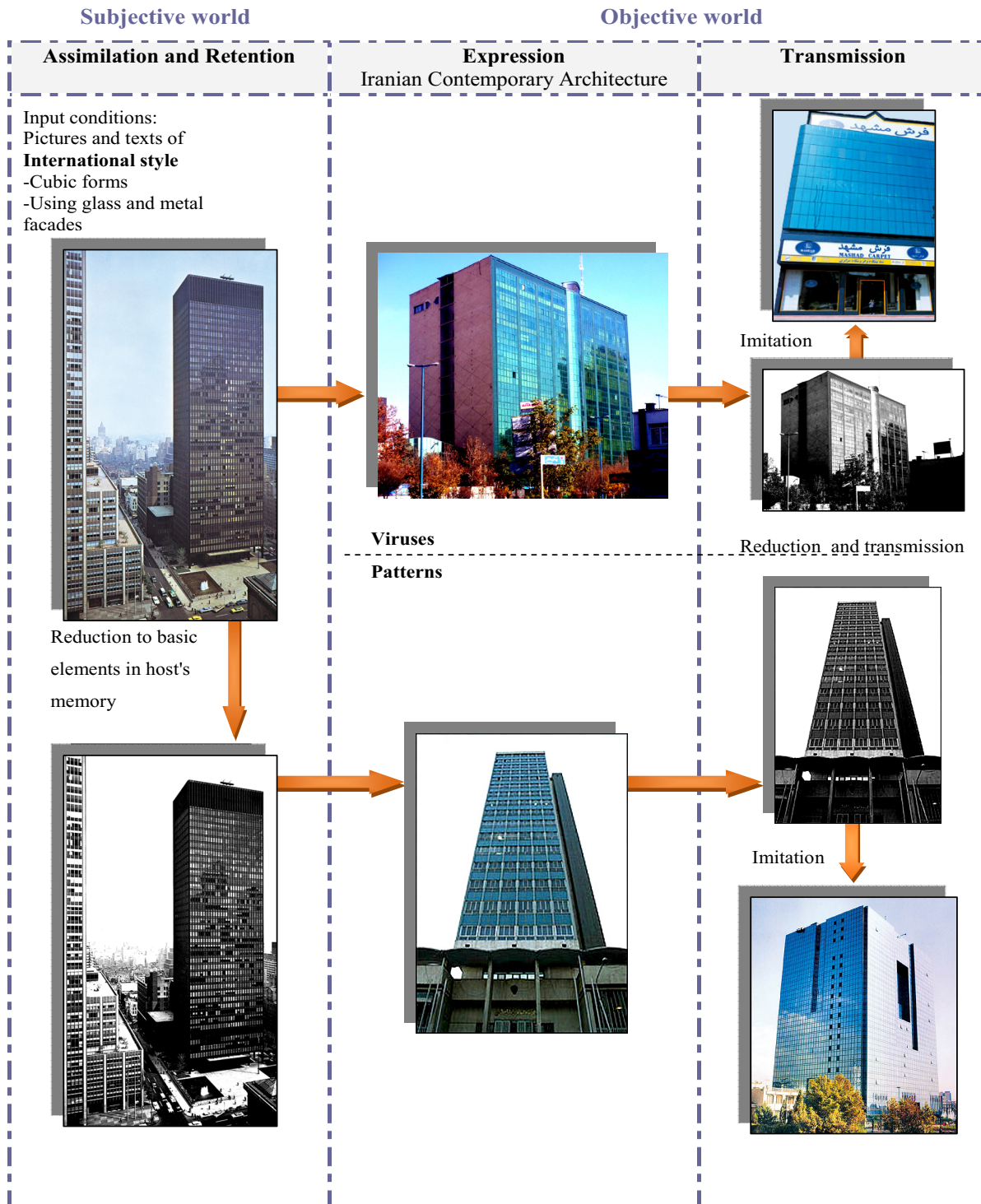

Table 3. Imitation of International style in Iranian contemporary architecture

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electronic world. Such architecture creates arbitrary forms whose main goal is to surprise the observer through their oddity, often resulting in a psychological and physiological anxiety in the observer.

5.4. Immunity against Information Viruses

According to Salingaros "Any virus -and a meme is no exception- uses packaging or surface configurations permitting the virus to attach to a host and inject its DNA. In the case of an architectural meme, this includes the appearance of aesthetic and social progress and the promise of prestige and career success for the transmitter. A virus has the ability to change its packaging so as to circumvent defenses. Because of a continuous mutation to avoid being eliminated by the natural immune system, viruses are not automatically recognized as damaging intruders. We have evolved our immune system to protect us. A virus cannot make headway unless it also develops sophisticated strategies to fool our immune system" [11].
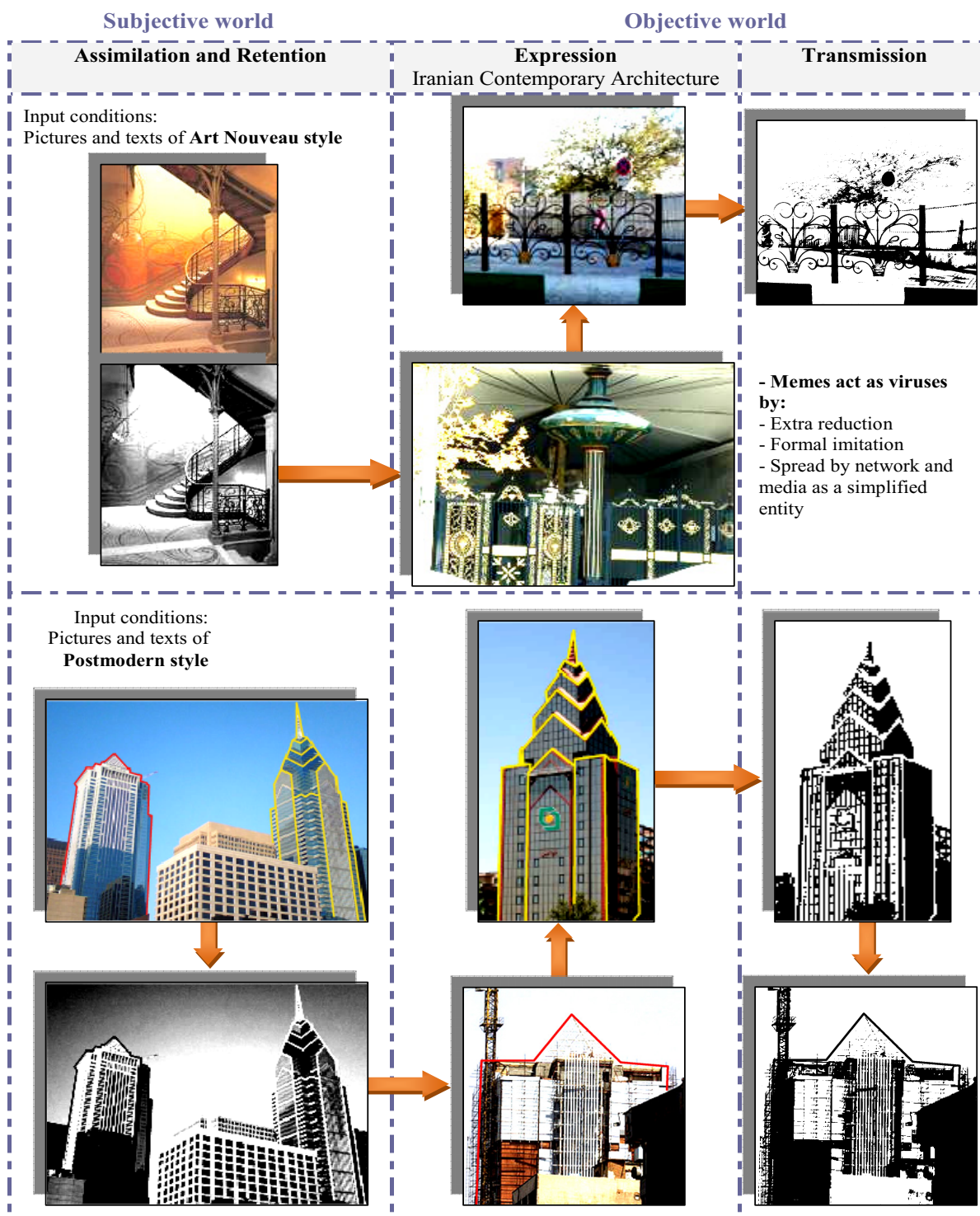

Table 4. Imitation of Art Nouveau and Postmodern style in Iranian contemporary architecture

As viruses employ a package or cover to transfer into the host and change their appearance to mislead the body's immune system, information viruses also surpass our immune system through ideologies enwrapped in beautiful clothing. For example, the initial attraction of the modern movement can be attributed to slogans such as 'boring dominance of conventional architecture' and 'decoration: a kind of crime' that enticed the whole world. Consequently however, modern architecture led people to cheap, simple, and senseless apartments with low ceiling, distorted windows, and small kitchens, thus eliminating many valuable traditional spaces [14]. In countries like Iran, improper imitation of modern architecture has led to the construction of buildings with no harmony with local and domestic traditions and the end-users' needs. Today, confrontation with the electronic world and the great power of information-visual viruses is changing cities dramatically, therefore, the Iranian society must develop its own defense system to accept or deny information in any possible fields. In the meanwhile, architects are using trial and error to prepare new paradigms and definitions for the future of Iranian architecture.

In order to decrease the effects of viruses on Iranian cities, architects must research more about the future with more emphasis on collective intelligence. Many individuals in our society possess a high degree of intelligence, yet it is sometimes necessary to use a combination of minds to solve
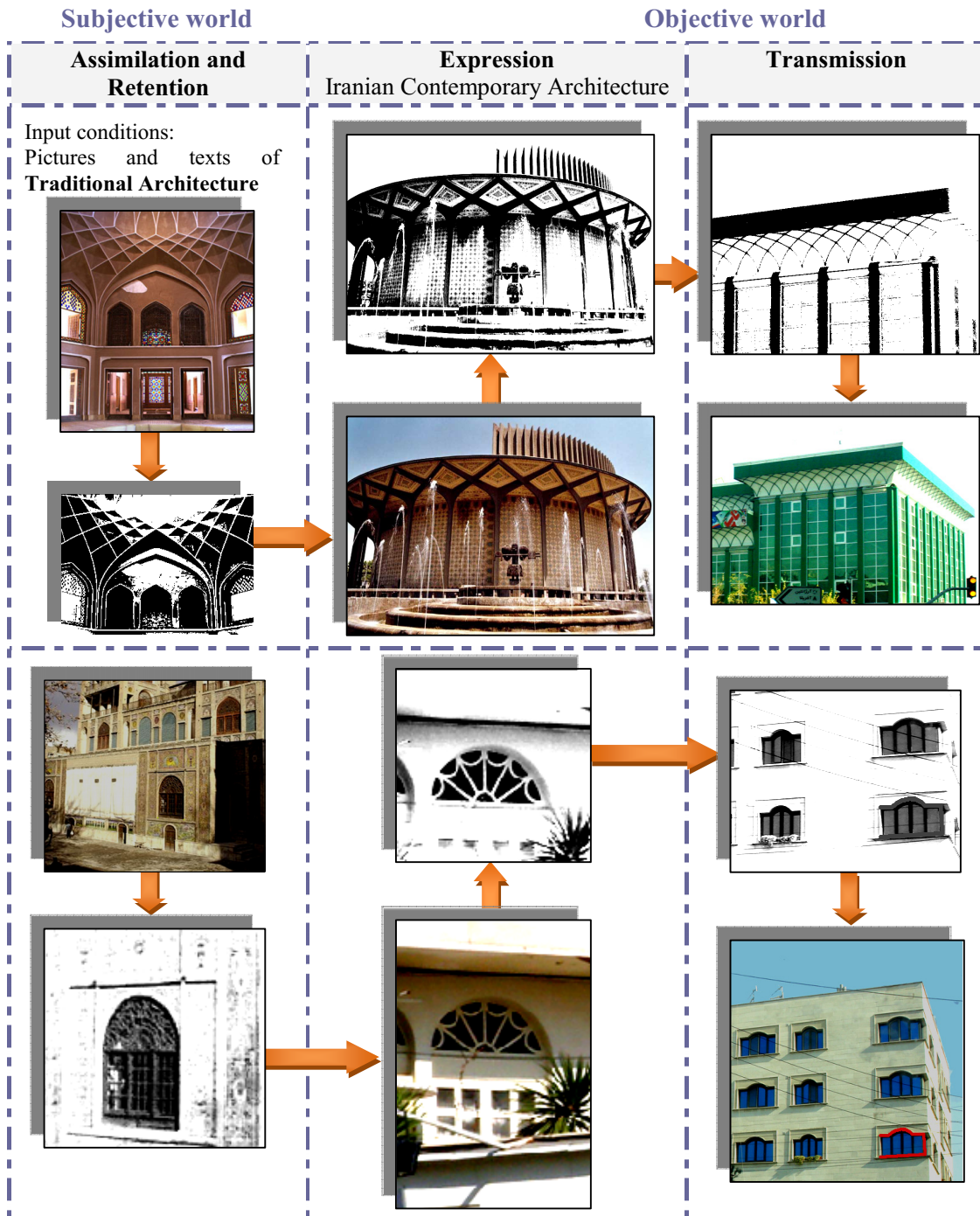

Table 5. Imitation of traditional architecture

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Assimilation and Retention	Expression Architecture	Transmission

Input conditions:
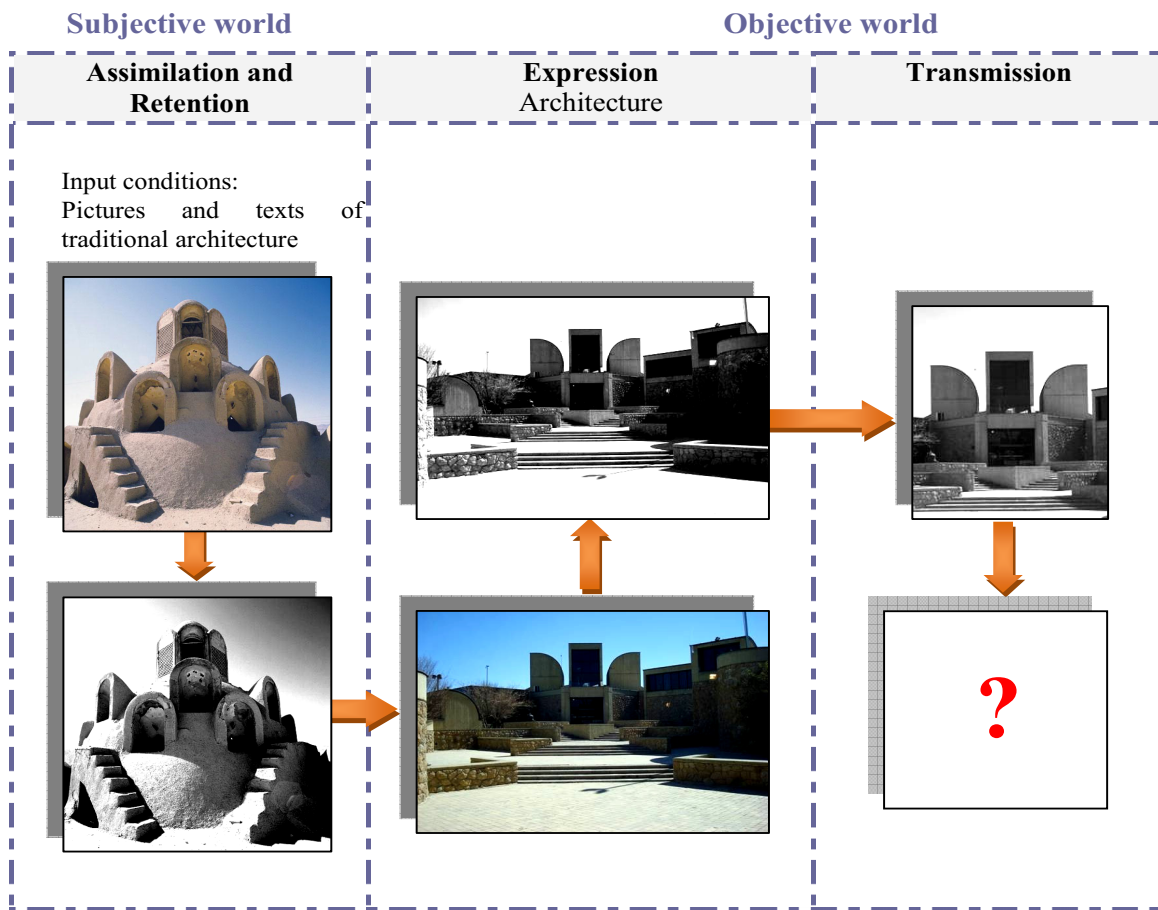Pictures and texts of traditional architecture

Table 6. Imitation of traditional architecture

complex problems [15]. Therefore, architects must try to establish a model of thought that is not oblivious to the traditional past but at the same acknowledges new developments. They must try to act as effective members of their society and the world at large, and not be satisfied with being affected by the intellectual movements abroad. Many of the problems in the current Iranian community are caused by the absence of future planning, creative thinking and inappropriate imitation in all fields including architecture and urban design. Therefore, it is essential that the society's elites present basic patterns to others and direct them to the right way and in so doing strengthen the collective intelligence by using networks, mass media and even governmental support (diagram3).

6. Conclusion

This paper was an attempt to discuss the confrontation of Iranian society with the electronic world. Though this new world has had its positive effects on human life, it has nonetheless brought about many challenges that are more evident in developing countries like Iran. As a country that has not experienced an endogenous development, Iran is facing a non-harmonic and superficial transitional period that has no connection with the deeper layers of the society.

Iranian society is experiencing a transition from tradition to modernity and subsequently to the electronic era and a network society. The transition has offered Iranian architecture a visual format, which is missing fundamental concepts and traditional
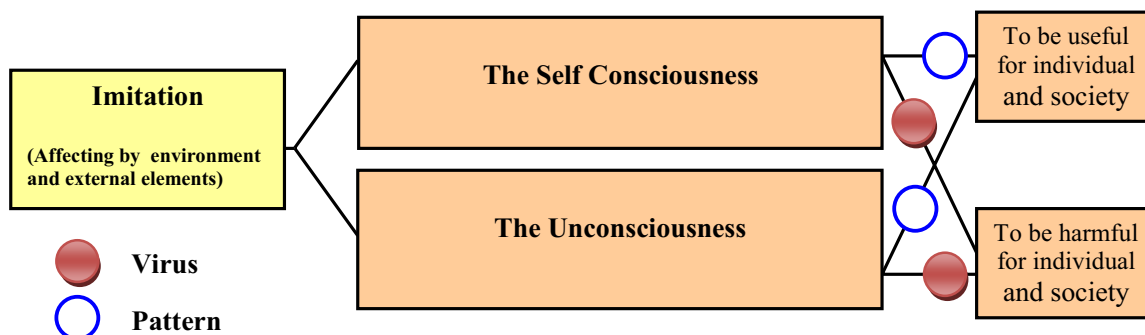

Diagram 3. Right way of imitation.

values. This superficial advancement is only concerned with developing, spreading, multiplying and answering the needs of the present time, without any concern for the future. This rapid growth and over simplicity has resulted in a loss of deep rooted architectural concepts and visual styles, thus resulting in a kind of architecture that acts as a fashionable style in the short run and a detrimental virus in long run. These events have led to a rapid change in Iranian city structures and the appearance and even the destruction of many traditional layers without any effective role models for the future. Therefore, some scholars hold the opinion that Iran's contemporary architecture lacks identity with characteristics such as chaotic plurality, superficial stylistic imitation, and short term functionality resulting in an imitative architecture influenced by information and physical world viruses.

Unfortunately, the lack of an effective protective system in our society has helped towards the rapid distribution of information viruses. Effective management and appropriate conventions can help control the virus invasion to a great extent and lead Iran's contemporary architecture to a more suitable path. Meanwhile, encouraging Iranian architects to think creatively instead of only imitating foreign or traditional patterns can prevent the spread of kitsch architecture and visual superficiality. Moreover, constructing a harmonious relationship between architects, the society, executive and legislative organs, the urban council, architectural and engineering organizations and other involved institutions will be a simple way of reducing the chaotic condition that is evident in the Iranian contemporary architecture (diagram 4). It is hoped that such measures will strengthen the collective intelligence and help Iranian contemporary architecture to have an effective voice in the global community.

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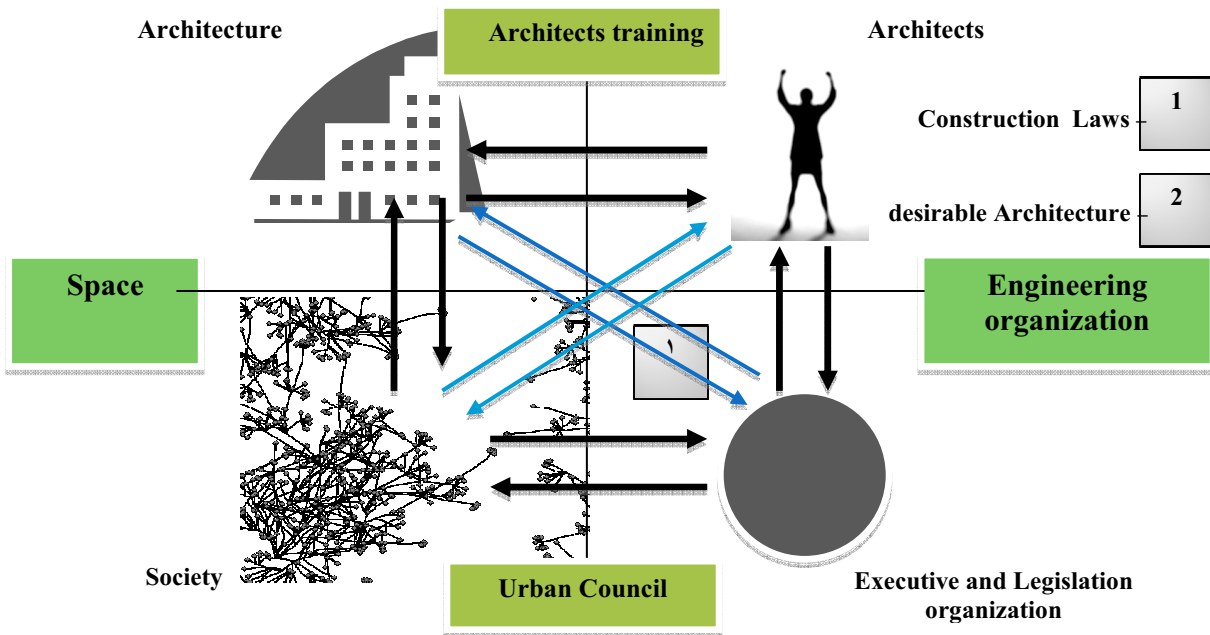
Diagram 4. An ideal relationship between architects, society, architecture and Executive and Legislation organization

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