Relationship between ethics and technology in recreation of space in islamic architecture

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Background: Architecture reflects the area of personal and social life, and moral norms. The impact of these factors on creation of architectural space is shown in the body or meaning. Considering the ethical norms of human existence is among fundamental needs to form working environment and human life in architecture. Human seeks an architecture affected by moral and culture for being in the architectural space in which feels sense of comfort and belonging. Arrival of new technologies along with crises of identity and authenticity created new challenges in the relationship between architectural ethics and technology. How is the logical relationship between ethics and technology in space recreation? How the concepts of moral and social norms in the process of technology transfer are place in the context of today's architecture? Methodology: The present study is a fundamental and theoretical study in which the qualitative analysis is used to draw conclusions. Findings: Some arrangements for the transfer of technology and its method of dealing with architectural ethics must be considered in order to obtain a suitable model of contemporary architecture. For example, putting filters can be considered as an approach for this purpose in the area of technology entrance in the field of architecture. Result: Principles and rules derived from the deeds and thoughts of Islamic architecture used by the architect leads to creation of works in accordance with the ethics, culture and social norms as well as creation of architectural space with color and tone of Islamic architecture.

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Key words: Ethics, Architectural Technology, Space Recreation, Islamic Architecture

Ethics and its quiddity

Ethics is considered relative by some people but absolute to some group of persons.¹ “Ethics means carnal characteristics of human including the virtues and vices.” (Motahari, 2008, p. 7) A moral based person has ethical character “. . . It means what causes doing a moral act in certain situations, such as generosity and lying, unconsciously and conditionally”. (Motahari, Introduction to the Islamic Sciences, 2007, p. 46) In general, the fundamental issues of morality are described as follows: "Right and wrong doings, to distinguish between good and evil or recognize virtues”. (Vafamehr, 2010, p. 2) Ethics in religious affairs refers to mood, states and qualities obtained in oneself which give certain features, good or bad, to society and the individual. "Islamic ethics is considered as strong sensual mood in oneself while Islamic Moral Ethics are considered as necessities of life in a prosperous society regardless of the religious aspect". (Sadaat, 1989, p. 32) In the same regard, it is said that whoever is better in ethics, his faith is more complete. (Imam Reza (AS)) Ethics and values are closely related and ethics seen as a means to make values performable. Ethics is divided into three subgroups: . Ethics philosophy, theoretical ethics, and practical ethics. (Abed, 2006) Architecture has a direct impact on the spirit and culture of the people and the community due to its special nature and multifaceted relationship and impact of environment and space designed by the architect. Therefore, architecture is considered as the most basic and engaged occupations related to ethics concepts. (Vafamehr, 2010, p. 4) Ethics is rooted in all human actions and thoughts and therefore its impact on the architectural principles can be observed at any point.

¹ Relative: Some Like Hegel, Sartre, Roger Benedict and others.
Absolute: philosophers like Plato, Kant and others. (Motahari, Principles of Education, 1993)
Manifestation of ethics in the past architecture

In the past, architecture combined with the knowledge and insights was transmitted directly from teacher to students. This kind of teaching from one generation to another one was along with religious doctrines and ethics. Moral and spiritual features governing the architectural teachings of the past can be considered as a model for Islamic moral and ethical principles in the profession of architecture. It can be said that ethics in the architecture of the past determines the ethical responsibilities of people in this profession and art in the three following aspects: "1-individual aspect as a Muslim 2- occupational aspect as owner of art 3- A member of large community of people serving for country and industries with national and religious lofty ideals". (Nasr, 2001, p. 12) Human behavior, conscious or unconscious, manifests ideas and ideals. In other words, their thoughts and beliefs are represented in creating architectural works with features of Islamic art, i.e. consistency of the profession and the art with the spirit of Islam (Unity). (Nadimi, 1995) Architecture was an attempt to portray the meaning in a way that express human traits in the building lively and eternally.

Previously teachers chose their students if they were adhered to basic principles. Basic principles had thousands meanings that ethics was one of the important aspects. "In earlier times the master chose his disciple, if he deserves, deserves a thousand means that ethics is a very important aspect". (Nadimi H., 2013) Ethics in the architecture of the past can be found when a man by knocking the door in special manner indicates that an Iranian man is a person with human morality, then he enters the vestibule, Miansara2 and other places. All of these steps are ethics progression steps.

![Diagram](image.png)

Figure 1. Some of the main principles of the formation of architecture in the area of ethics. (Authors)

<table>
<thead>
<tr>
<th>General principles of architecture</th>
<th>Value of Ethics</th>
<th>Architectural aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 People Hir</td>
<td>Due to social and human values</td>
<td>Human height and proportions-Invite them-Decorations</td>
</tr>
<tr>
<td>2 Avoiding futility</td>
<td>Purpose of all things</td>
<td>Proper use of every thing</td>
</tr>
<tr>
<td>3 Self-reliant</td>
<td>Respect for the environment</td>
<td>Commensurate with the nature of architectural achievement.</td>
</tr>
<tr>
<td>4 Introspection</td>
<td>People Privacy</td>
<td>The Simplicity out-Maintain beauty and personal tastes inside</td>
</tr>
<tr>
<td>5 Niaresh3</td>
<td>Preservation of human life</td>
<td>Due to the strength and sustainability</td>
</tr>
<tr>
<td>6 Naturalism</td>
<td>Biological and environmental values</td>
<td>Respect for nature is not meant to destroy nature</td>
</tr>
<tr>
<td>7 Geometry and proportions</td>
<td>Avoiding extremes</td>
<td>Use standard size and proportions of the native</td>
</tr>
</tbody>
</table>

Table1. Relationship between moral principles and elements of Iranian architecture. (Authors)

Realm of ethics in the architect

Architect, like other human beings, has both physical and spiritual aspects that can achieve higher level of ethical belief by observing sensual ethics principles. These realms of spiritual existence include: 1- realm of human cognitive (epistemic and cognitive aspects of human and his evolution wings in the field of growing reason and thought). 2- Realm of human will (reminds him of free will in his decisions). 3-human emotional realm (this realm includes two dimensions of

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2 Species of the yard, but with different functional relationships to it.
3 Structural principles.
emotional intellect and love of thought both of which play a role in his movement and evolution). (Khajeh Pour, 2006, p. 12) A kind of architecture in which ethical principles are observed in different parts of its profession is always in challenge with challengeable issues such as: (evil) pride that causes egoism in the work and devaluates ideas of others, (good) god is always present to govern the actions. (Agha Sharifian, 2013) Human behavior rooted in observing ethical principles and standards becomes an element called motivation in his life. Therefore, this issue is considered as motivation of architect in the ethical professional standards.

**The role of egoism ((rationalism)) in comprehensive ethics in architecture**

Egoism is to avoid the observance of the human, moral and spiritual principles based on the logic of appealing to the science and rational relations. Emphasis on egoism and rationality caused the representation of styles and techniques like modernity. According to the definition, it can be said that modernity has reached to a level of dominance and learning that tradition and ethics cannot be understood and explained except in relation to modern facilities. This is because tradition and ethics can be represented only in the language, communication and some ethical considerations. (Madad Pour, 2002) Human gradually takes away from his previous world when separates himself from one realm (ethics-based and community-based) and goes to another realm (human-based and ego-based). Finally, nothing valuable remains for him from the first realm, except some small parts. (Al Bouye, 2010) “Ethical consciousness is essentially sacred and divine while sacred and moral based architecture reconsiders the attention to human and consciousness”. (Mirshakak, 2006) Requirement of ethical-based architecture, with especial attention to society and people as its main principles, is to remove the human negligence.

**The concept of sacrifice in ethics and its manifestation in the architecture**

Sacrifice has two basic requirements: "to forgive what is considered as a fundamental need and requirement of egoism in individuals’ act and motivation". (Goudarzi, 2004, p. 52) Observing ethical principles and belief, in a society where individual is always considered as a part of the community and responsible for society, cause creation of spirit of sacrifice and dedication in the heart of believers. Observing ethical issues in the community so that an individual lowers his value to rise other's value is considered as a sacrifice. “When an architect works with love of God with no incentive except nearness to God and to his satisfaction, then no good or evil influences the architectural space created by him”. (Nadim H., 1995) The concept of ethics is inextricably bound with issues of sacrifice so that a skilled architect makes his attention on the creating an architectural work in line with the ethical principles of sacrifice.

**Ethics as a norm for soft behavior**

Norms of each society are of two types: behavioral norms (social ethics versus personal ethics) and social life traditions and arts. “Norms are behavioral issues that are considered acceptable by ethical, intellectual and religious principles and standards. Society expects people to observe these principles in social behavior and respect them”. (Sadaat, 1989, p. 25) Meanwhile, there are some issues that are necessary in society to strengthen social ties and influence on society. Among examples of the impact of social norms on architecture is the space of traditional markets. In these spaces, cuts and rooms are organized so that people cannot boast each other due to the size of rooms or violate the rights of pedestrians regarding tracks and easy access. (Soltanzadeh, 2004) Delicate and soft ethical and business behavior are representation of such norms. Ethical customs and features and their observance are in fact a manifestation of social soft norms that are always represented in the work of artists and architects in a community.

**Ethics between rational and normative architecture**

In the rational architecture, social ethics is not complete. In this arena, one individual is the group decision maker. However, each community or group has its special manner, behavior and moral character. (Tabatabaei, 2002) These characters are different considering their cultural backgrounds without which there will be no manifestation of ethical and
Appropriate architecture. When egoism and rationalism emerges in the different social fields, especially architecture, concept-orientation changes into materialism. This will be beginning of all social deviance, depravity and aberrations. In the architecture where space creation for people is based on their characteristics, the obtained architecture will respond to the whims of one person to make decisions for the people. Therefore, a kind of building will be created in which sense of insecurity and estrangement can be felt and no relations can be created. These architects are like postcards with full attention to the pleasures of the material world. (Pirnia, 2008, p. 343) This cannot be avoided except by removing limitless human self-egoism. This ego must be equipped with the element of ethics.

![Diagram of Moral Architecture](image)

**Figure 3. Factor in creating an ethical architecture. (Authors)**

**Architecture and technology**

"Technology is a means to achieve a goal." (Heidegger, 1994) In fact, technology has been introduced as a tool helping man in various matters. Along with the technology, there is human activities to help achieving the goal. Indeed, the two are complementary and represent a complete definition of technology. Technology is a tool and human activity defined to achieve a particular goal. Technology elements include: (1) Information Technology (2) Human Software (3) Software Information (4) Organization Software. They all together complete the technology lifecycle. Addressing other matters that ignore both time and new technology has no place in today's world. (Bernstein, 1994) That is why today's technology with all its aspects is involved in human life that is considered as the most problematic issues of architecture and technology adaptation.

Architecture is rooted in the culture, traditions and other features. First, interactions between them should be found and then technology must be represented more generally in the field of architecture. Regarding the interaction between technology and culture in human societies there is a classification: (1) Tools Culture (2) Technocracy Culture (3) Technology Culture. (Karbasian, 2014)

There are different views on the relationship between technology and architecture based on which three levels of the relationship between technology and the architecture is represented. "1) Technology and architecture of a kind of human activity. 2) As a means to achieve a goal. 3) A quality to discover and to represent the truth". (Asefi & Eimani, 2012, p. 63) With the growth of technology in all fields, including architecture, a kind of phenomenon will be created that is a unique technology will be observed in each region, community or country. This technology is unique to one country and other countries cannot benefit it. This leads to the prevalent technopoly⁴ culture in the world. These issues are quite apart from the ethical and mystical principles, and should seek to resolve the problem of this kind of culture. (Aslani, 2002, p. 25) Technology impacts culture and any change in technology has a direct effect on architectural space.

Architecture and technology are among the important issues that need close cooperation. In the realm of architecture, technology can be used in a way that to be close to its nature. Technology can keep pace with architecture in creation and organization of spaces and provide the necessities required for this purpose.

**Architectural ethics and technology**

Architectural ethics is a feature by which the goal of architecture will be accountability to the needs and demands of people that must adapt to the times or cooperate with modern technology. Creation of spaces in the mind of architect and desired by him to put in practice is now possible thanks to technology. Ethical standards that in architecture are called value can be integrated with technology. Technical systems or phasing out the ethical values can quickly replace ethical standards. Technological civilization is the only instance in which the goal justifies the means. (Mirshakak, 2006) "The

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⁴ Technology whose sole purpose is to make money.
concept of ethics is derived from the limitation of the power while power is more spectacular than the limits of power". (Sadaghi, 2012, p. 65) Traditional values cause limitations for power but technical powers are a form of power and they are important for a dramatic society.

Initially, emergence of technology creates a kind of threat and fear of ethical aspects loss especially architectural ethical standards in the creation of architectural works. "Architecture and technology are of different categories including art. (Asefi & Eimani, 2012, p. 63) "They create art and give existence to it”. Human can reflect on common points between architecture, technology and ethics to find the fact that he should adopt himself and his professional attributes to technology and its instances and make architectural ethics in line with guidelines obtained by technology.

The relationship between technology and ethics principles
Technology and development, especially human and sustainable development is a nonlinear and complex process. Type of technology process depends on the cooperation, goodwill and confidence of all members of society based on ethical standards and other norms of the society. If people want to use and develop ethics and its concepts just as technology used in today's society, they should insert human values such as trust, liking other people and love in all principles of their life and work. (Rogerz, 2006) These values can be developed and increased when are used continuously in professions such as architecture. Using this ethical principle, i.e. “If you feel that it hurts you, it probably hurts the other person, too “ (Deilami & Azarbaijani, 2007, p. 17) and developing an architectural ethics in a society to rise human dignity in ethics-based architecture results in emergence of contemporary ethical architecture.

Appropriate use of technology
"Technology and its consequences cannot be avoided." (Heidegger, 1994, p. 7) Today, it is the technique that organizes the human as a teacher. Not only living human relations are all dependent on techniques but also his ethical behavior becomes more technical every day and all his emotional aspects will change to be consistent with the technical civilization. One of the key areas that could pave the way to find how to use the technology is using a concept called technology transfer. (Rasouli, 2014) This transfer is performed by rules and conditions that one of the most important principles is to bind up this transfer with ethics and ethical principles. " Appropriate transfer of technology must be along with understanding the work purposes, technology resources, innovation method, appropriate transfer methods, influential ethics, knowing how to attract and observe ethical principles". (Arabi, 2009) At this point as beginning of technology entrance into the work and career, some filters can be put in the transfer of technology in order to make it ethics-based and applicable for society based on related norms.


![Filter transmission](Figure4: Sync filter technology with ethical principles and norms. (Authors))

Ethics and architecture to recreate the space through technology
Technology cannot be separated from its values. It means that technology cannot be achieved without finding its roots. To recreate spaces and make technologies consistent with professional and ethical standards of the architectural profession, special arrangements should be provided. With emergence of technologies, special culture also brings into existence. “Therefore, a cultural context should be created because it occasionally encounters a big development or cultural evolution”. (Rahbarnia, 2006, p. 6) In recreation of architectural space, appropriate technology and development transfer according to traditional and religious roots of community should be considered. An ethics-based architect by providing common needs and desires regarding synchronization with new technology can change contractual technology and use it in his favor. As mentioned before, the architectural occupation has emphasized rules and ethical treatises. Synchronized and updated features of these treatises consistent with modern technology can make an appropriate space recreation.

Conclusions
The past architecture is defined as an ethics-based architecture. This is because architects among people with similar cultures built a place to live in and honesty of the architect gave eternal life to the buildings. Therefore, houses, markets, mosques and other monuments of this kind were all places to gather all ethical principles. Transmission of technology to
architecture should be done in a way that does not devaluate ethical and cultural values. Dimensions of entered technology should be scrutinized and compared in order to define frameworks for modern architecture. An architect should use technology purposefully by observing ethical issues and social norms in his profession. Ethical dimensions that an artist of ethical architect must consider in dealing with technology can be explained as follows.

Ongoing efforts to enhance the spiritual and ethical aspects in the architectural profession and in himself.

Self-knowledge and others knowledge in accountability to the needs of people.

Constant attempts to improve oneself and reform the professional issues.

Recognition of protection and improvement of society customs, norms and values in the light of Islamic System Criteria.

Recognition of Islamic culture and civilization and its manifestation in the creation of architectural space with respect to the current and future needs of society.

Efforts to promote the common human, Islamic and Iranian aspects from which identity can be found.

Observing these principles by the architect along with leveling technology with these principles provides results that are fit to the ethics, culture and social norms. Therefore, it can be said that the resulting architectural space emanates from Islamic ethical principles updated with modern technology. Therefore, an individual from a boring modern space where he is a stranger goes to the modern space that is consistent with his moods. He no more spend time in that space rather lives there.

Figure 5. How to achieve the moral architecture. (Authors)

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