

Psychological Effects of Iranian Mirror-Tile Artwork – A Phenomenological Approach

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Abstract

Mirror-tile artwork is one of the most recent and striking phenomena in Iranian Spiritual Art. Aside from being an aesthetic item for adorning architectural building space, mirrors also exemplify profound cultural ideas. It has been applied in interior design and the decoration of holy and royal buildings with symbolic expressions and enigmatic nature. Initially, it was created using the broken and unused pieces of mirrors as a recycling project. Muslim artisans did not approve of wasting material. They used basic techniques to construct spiritual and effective Iranian-Islamic architectural spaces and ornamentations filled with mystery and marvels. This study is inspired by Giovanni Caputo's research on the different psychological effects of mirrors, by the mirror phenomenon as an Iranian-Islamic architectural element, and as a psychological effect brought about by architectural components. It attempts to elicit responses from people who have been touched and encountered the phenomenon by asking them to describe their presence and experiences in a mirror-tile decorated environment. The interviews usually focused on two main topics; the first topic is concerned with the participant's experience quality during their presence in the architectural space; the second is concerned with the way a person interacts with the various elements of the environment. As a result, there are two direct views at the moment of encountering the mirror-tile decorated architectural spaces: the "Close-look" (looking closely at one's image) and the "Afar-look" (looking from afar, taking in the whole space). Moreover, the *light* a place and the *emotional* effects of the architectural built-up space on perception were the most critical factors for participants' responses to achieve the research's goal and thus laying the groundwork for future research in these areas.

Keywords: architecture, decoration, Iranian-Islamic, mirror-tile artwork; perception, phenomenology, psychology

As an introduction, it is first of all necessary to have a working understanding of the various aspects of Giovanni B. Caputo's¹ cognitive psychology (2010-2020). This will allow for gaining a better understanding of the impact of *mirror* phenomena on the human psyche in the latter part of this paper.

In his work, Caputo describes a “Visual Illusion” in which a person perceives their image reflected in a poorly illuminated mirror and came to the conclusion: “Phenomenological descriptions varied significantly among mirror-gazing participants”. In addition, he specified one such experiment:

Apparitional sensations while mirror-gazing were investigated ... Individuals looked at their own reflected faces in a mirror for 10 minutes under dim lighting. A nonvisible light source provided reasonably consistent face lighting. Individuals reported seeing unusual faces in the Mirror instead of their features after approximately a minute of staring at it – archetypal and frequently unfamiliar human or animal faces, living or dead parents with altered characteristics, and fantasy monster creatures. Strange-face Illusions may arise due to the psychodynamic projection of the subject's unconscious archetypal contents onto the mirror 's image”. (Caputo, 2010 b)

In other words, strange faces appeared in the mirror, and instead of one's own face, frequently others appeared. Caputo relates these phenomena to the historic *Nonnus of Panopolis, Dionysiaca VI 172-173*, and states:

Wearing a Dionysian theatrical mask and direct gazing in the mirror to conjure under-terrain living specters was most probably part of the initiation. The two young satyrs of the mural have identical aspects. Thus, they probably represent a single initiate individual together with his *dissociative* double.

The goal of the research had been to find out whether people would ascribe apparent vitality to an inanimate yet human-like mask, something that had been done in history before. (Caputo, 2011). In ordinary viewers, the perception of unusual faces in mirrors is triggered by looking at one's face in a mirror for a few minutes under dim lighting. This new perceptual illusion has been named as *Strange-face in the mirror* syndrome and has been studied also in Schizophrenia sufferers: “Apparitions of strange faces in the Mirror were significantly more intense in schizophrenic patients than in control groups. (Caputo et al., 2012)

In another experiment, Caputo had two individuals look at each other in a mirror . Such inter-subjective gazing generated an even more significant number of unusual faces perceived. “Inter-subjective Strange-face illusions were ever dissociative of the subject's self.” They supported moderate feelings of their reality, indicating a temporary loss of Self-awareness (Caputo, 2013). A follow-up experiment revealed that patients with depression were less able to see such apparitions.

The appearance of strange faces in the Mirror was reduced remarkably in depressed subjects compared to healthy controls; those subjects suffering from depression compared to normal controls showed less duration of apparitions; fewer number of strange faces; ... lower Self-evaluation rating of provoked emotion.” (Caputo, 2014).

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Impairments may cause these depression reductions in facial expression and emotion detection, which are implicated in the connection between the patient (or the patient's ego) and the image of his face (or the patient's physical self) as reflected in the mirror.

In yet another experiment, the influence of the spiritual personality trait on strength and strange-face illusions was investigated.

Participants were first assessed for superstition (Paranormal Belief Scale, PBS) and spirituality (Spiritual Transcendence Scale, STS). The initial discovery was that SFQ was unaffected by PBS. Hence, Strange-face illusions, while staring are perceptual genuine hallucination-like phenomena, are not the result of superstition. The second result was that SFQ was negatively associated with STS's spiritual-universality scale (a belief in the unitive aspect of existence; e.g., 'there is a higher level of awareness or spirituality that connects all individuals'). (Caputo, 2017)

As a result, intersubjective gazing at low illumination can be a tool for conscious integration of unconscious *Shadows of the Self* to reach completeness of the Self. Finally, "empirical studies on mirror-gazing (including the *psychomanteum*) and eye-to-eye gazing, both in healthy individuals and clinical patients, including studies of Hypnotic mirrored Self-misidentification, mirror-gazing in body dysmorphic disorder, and schizophrenia, were critically reviewed for protocols, results, and potential implications." The richness, variety, and uniqueness of contents across these anomalous experiences indicate "mechanisms *beyond perceptual*" distortions or illusions. Mirror-gazing generated anomalous experiences nearly exclusively in the visual, physical, and self-identity modalities (Caputo, 2020).

Caputo's experiments and results are immensely formative for this study; its other methodological foundation is the phenomenological approach to architectural mirror-tile decorated built-space as propounded in the work of Gholamhossein Memariyan, Parvin Partovi's *Phenomenology of Place* and Arezou Sadoughi's *A Qualitative Research Method in Understanding Emotional Dimensions of Place*. All are important in the setting up of the work at hand to survey human emotions vis-a-vis uncountable mirror-shards and any psychological fallout such mirror-gazing might entail.

Mirror-Tile Artwork

Figure 1

The Mirror Hall of Golestan Palace, the Royal Qajar Complex (18-19th Century CE) Iran, Tehran (Author, 2019)



Glass mirrors were first manufactured and used in Europe around the beginning of the 13th century CE, and by the middle of the 17th century CE, they were spread across Europe, and their usage had grown. Such mirrors were uncommon and costly (Riazi, 1996, p. 10). Due to the high cost of glass mirrors, the usage of glass mirrors and mirror-tile artwork has economic origins and roots. Glass mirrors, imported to Iran in the 16th century CE, were products that broke during shipping from Europe, mainly from Venice. Iranian artists devised a novel method to make use of these shattered fragments and made mirror tiles out of them (Riazi, 1999, p. 12). “Muslim artisans recycle shattered mirrors into innovative art” (Mulla Salehi, 1998) because “being wasteful is an act that is abhorred in Islam” (Quran, 17:27). This issue is reflected in the following Persian poetry by *Kashmiri* [a 17th-century Indian Persian poet] (Azaimabadi, 2012, p. 244):

Every bit of my broken heart is like the grass from His look

The Mirror after it broke is a *collection of mirrors* [Mirror-tiles].

Binesh Kashmiri (Transl. by author)

Figure 2

Creating Garih Mirror-Tile Artwork by a Craftsman with Elementary Tools (Shabestan, 2018)

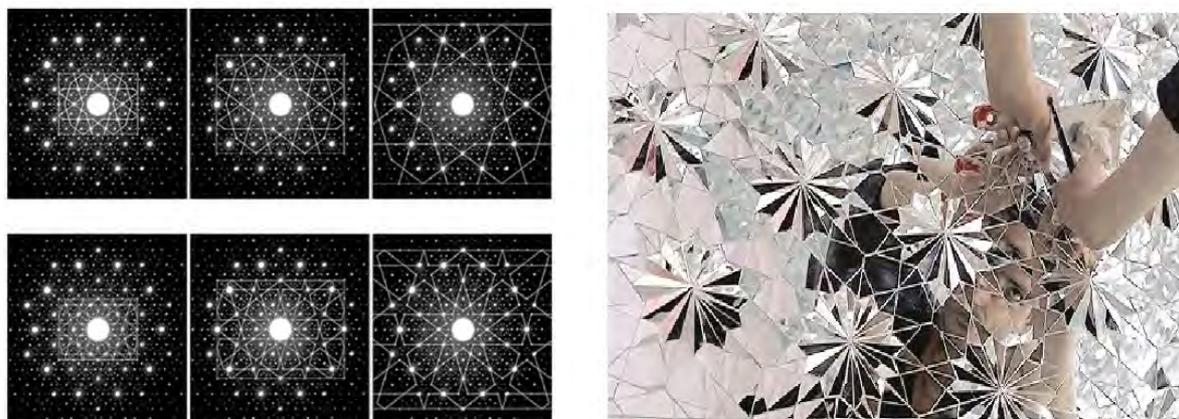


Many thin mirrors were manufactured in Germany and brought to Iran in the 19th century CE when mirror-tile decoration grew more popular, more delicate, and more precise. Iranian mirror-tile artisans can easily cut these mirrors into any geometric shape. Towards the end of the nineteenth century, they utilized tiny mirrors to create triangles, rhombuses, and hexagons (Figure 2).

The *Garih-tile* design is the most frequent one in mirror-tile artworks, and it is unrivaled in terms of the diversity of forms and its application in many fields of Iranian-Islamic Arts. (Riazi, 1996, p. 12). *Garih-tile* (Figure 3) is a geometric design that incorporates different geometric patterns and that are coordinated in a particular framework (Ardalan, & Bakhtiar, 2015, p. 70). Countless designs, with *no beginning* and *no end*, represent *multiplicity* in unity and continuous creation (Madkour, 2008). Iranian artisans' final effort in the fine arts category related to interior architecture and interior design, and should therefore also be regarded as mirror-tile artwork. Since its origin, performers of this area of art, which demands a great deal of accuracy, elegance, and patience, have always been Iranian artisans. By constructing traditional and more *geometric* forms and ornamental designs from minute and enormous pieces of mirror on the interior surfaces of buildings, light is continuously reflected in numerous sections of the mirrors, resulting in a bright, pleasant, and dreamlike environment (Kiani, 1997, p. 239).

Figure 3

(a) *The Geometric Similarity of Girih with the Silicon Crystal Structure* (Sajwood, 2017);
 (b) *Girih in the Mirror-Tile Artwork* (Rostami, n.d.)



The architect has produced a fantastic order by fitting together these small components, including mirrors of all sizes and geometric forms. The repeated reflections of the light in the mirror pieces create a bright and sparkling environment in this work of art (Gardner, 2015, p. 600). Geometric designs (both regular and aberrant) and interlaced geometric patterns are fundamentally superior to Perception-based realistic pictures because they include hypothetical mental structures (HasanPour, 2017).

Phenomenology of Place

To move on to its larger setting, a phenomenology of space needs to be laid down. The definition of one such theory is provided by Blake:

The manipulation of space, material, light, and shadow to produce a memorable experience via an effect on the human senses is known as Phenomenology in Architecture. In architectural design, phenomenological idea methods provide a different experience of space, light, and form phenomena. This idea advocates for sensory perception to be a function of the constructed environment.

(Blake, 2016)

It should be clear that humans are not just self-contained *Subjects* that evaluate *Objects* in geometric space for their usefulness. “Researchers could uncover how our meaningful relationships interact within our lifeworld through Phenomenology, discovering their relative effects, strengths, and significances” (Ray, 1992). However, experience is not an opening through which a world, existing before all experience, shines into a place of consciousness; it is not a mere taking of something alien to consciousness into consciousness. “Experience is the performance in which *I*, the *experiencer*, *experiencing* being, am present and present as what it is, with the full content and mode of being that *experience* itself, through the performance going on in its intentionality gives to it” (Moran, 2000, p. 6).

The greatest goal of Phenomenology is “to *return* to the *Nature of Objects*,” (return to the things = to the things themselves), which means a “knowing away from abstract concepts and facing the reality of phenomena most honestly and purely as possible” (Partovi, 2015, p. 13). Although Germany was the origin of phenomenology in the 20th century, the reference to

opinions of philosophers such as *Suhrawardi* (12th century CE) and *Mulla Sadra* (17th century CE) indicates that the roots of such ways of thinking also lie in Iran. Categories such as Intuition, Reliance on Contemplation, Meditation (Reflective Thinking), and Direct Knowledge of Phenomena are the substructure of an *Illuminationalism Philosophy* and the *Originality of Existence* (Partovi, p. 14). Husserl first extended the application of Descriptive Psychology to clarify concepts of the exact sciences in his *Philosophy of Arithmetic* (1891) and its *epistemological explanation* of logic's fundamental ideas. At this point, phenomenology is a sort of conceptual clarification that is part of a more significant criticism of reason. However, the key feature of this conceptual analysis was not that it engaged in examining the role of concepts in a language, but, rather, that it relied on the self-evident givenness of insights in intuition. The call of Phenomenology is to *return* "to the objects" *themselves* (Moran, 2000, p. 9). To realize the principle of the "back to the things Themselves," Heidegger would say, Let everything that exposes itself be seen through itself and in the way it reveals itself. In line with this, forming a *Sense of Place* about an environment and its meaning is an instinctive and *phenomenological human experience* (cf. Stefanovic, 1998). Don Ihde summarizes Edmund Husserl's "Phenomenological Approach" (Ihde, 1986) when giving the following rules:

- A closer look at the objects as they appear to us.
- An *Epoché* or phenomenological analysis deviating from the usual methods of observing and discarding current assumptions.
- The description of a phenomenon under consideration, not its explanation. (Because the explanation is subject to judgment and should be postponed until all the evidence is collected.)
- Horizontalization phenomena, mean that at the beginning of the study, all phenomena must be considered naturally equally. This attitude prevents the researcher from assuming one phenomenon to be more 'actual' than another. It means letting a phenomenon under study show a full range of its own appearances.

According to Ihde, these rules cover the first level of phenomenological research. In the second level of study, and according to the background prepared in the first level, it is possible to pay attention to the *nature* and the *essence* of a phenomenon; searching in order to find "Structural Features or Invariants." Hence, he states the last rule as follows:

- Search for structural features or invariants of the Phenomenon under study.

At this stage, repetitive patterns are significant and should be actively explored. Husserl called "the appropriate way to perform these steps *Fantasy Variations*." Free variations, which are applied systematically, are the core of the phenomenological method, are a property that Husserl calls a "*Correlation-a Priori relation*", and which he considers a context through which all other levels will realize themselves (Husserl, 1891).

Methodology

In studying the reaction to mirror tiles, this research applied a qualitative research method utilizing interviews. "The phenomenological researcher with a qualitative approach seeks to describe the main quiddity of phenomena" (Moustakas, 1994). It tries to ask those who have touched and experienced the phenomenon to express it in the sense of "describing their presence" (*Ibid*). Generally, the interview asked two main questions. One was on qualitative quiddity of place and the other on the participant's mood and sensing of the environment. In the present study, participants were asked for this explanation in the form of semi-structured

on-site interviews. More explanations were requested after receiving the initial information from each participant in line with their general answers. If necessary, the researcher asked semi-structural questions for more data in proportion to each person's response. Questioning continued until a clearer understanding of the participant's thoughts could be achieved.

Ten participants were randomly selected (N = 10; 4 women; 6 men; age range 22–40 years; mean age 31 years). They consisted of students, employees, artists, and unrelated individuals. All participants were naive observers and had no history of psychiatric episodes, nor a deeper understanding of mirror psychology. They were volunteers and did not receive monetary rewards. Research was conducted by inviting them separately to the site; the nature of the research was not explained to them in order not to pre-influence them. After each discussion, its main points were immediately documented with the aim of conducting a thematic analysis later. The researcher did not control, change, or modify the study environment. The stages of data collection and analysis can be defined as follows:

- Choosing the right place
- Time and possibility of attendance of participants
- Conducting the interview
- Recording the text of the interviews
- Analysing the texts several times
- Content analysis, categorization, and formulation of meanings
- Extraction of themes
- Categorizing synonymous themes
- Data validity control
- Discussion and conclusion

Results

The themes were analyzed and classified based on the classification of meanings and repetition of joint concepts of the interviewees. In “Part Perception Approaches” (Van Manen, 2006), the sentences and phrases or words conveying the purpose of who experienced the space and the obtained themes have been specified and highlighted until those common concepts were categorisable. Then, “the corresponding sections were imbued with possible meanings and definitions and a comprehensive description for preparing a single theme” was undertaken (Sadoughi & Memariyan, 2010). Index statements were taken from the recorded transcripts of the interviews, which were verbatim or conversational. After reviewing each interview text and comparing them with the others, more than 100 expressions were obtained and listed (see Table 1].

Table 1

Examples of Index Expressions of Individuals in Mirror-Tile Decorated Architectural Space and their Possible codified Meanings

Index Expressions	Codified Meaning
I see my broken image; It is not me from up close (1); I see myself shattered (2); I do not look in the mirror s (6); the small parts of the mirror (9 and 10); when you pay attention to detail, it looks like the Cubism (10).	Looking Closely Broken image and Mirror (Figure 5)
The whole space from afar is nice(1); bright and shining place; depth of space (2); chaotic space (3); mirror s are systematic (4); like diamonds space (5); integrated space (6); spiritual space (9); abstract space (10).	Looking from afar; Integrated and brilliant place. (Figure 6)
I like to see myself integrated; it does not feel good when I am not integrated (1); super-luxury; makes good sense (2); space is chaotic; disordered; I got heartbroken (3); a sense of beauty touches a person in the area (4); sheer luminosity (4, 5 and 6); shiny and radiant (5 and 6); the space is chaotic (7); geometric area (7 and 10); I like the assortment of light (8); I sense spirituality in the area (8 and 10); I feel suffocated; let us get out (9); I like the spirituality of space (10).”	General Looking; individual psychological effects; pleasant or annoying atmosphere. (Figure 7)

As a result, in encountering the mirror-tile decorated architectural space, there are two direct viewpoints: The Close-look (the own image); and the Afar-look (the whole place). (Figure 4). As for general looking, it combines both types of viewpoints.

Figure 4

(a) *The “Close-Look”: Broken Image in the Mirror;* (b) *The “Afar-Look”: Integrated and Glitter Place. Shah Cheragh [King of the Light], Iran, Shiraz (Joy, 2017)*



According to “Whole Perception Approaches” (Van Manen, 2006), an attempt was then made to express the commonalities between participants’ experiences in writing and explaining the themes. In such a way, the feeling engendered by a different environment represents the presence effects encountered in a place (Table 2). Reaching the themes and deeper meanings of the participant’s expressions, emphasizes the need for the group analysis of the content of the interviews, which was done in consultation with expert coders and consulting professors in this field.

Table 2

Main-Themes and Sub-Themes Obtained from the Research

Main-themes	Sub-themes
Light	Volume & Intensity (Figure 10) Sparkle & Glitter (Figure 11) Duplication & Shine (Figure 12)
Integration	Unity Multiplicity Geometry Rhythm Order Cosmic
Emotion	Luxury Charm Spirituality Move Search Discover Generalizable
Perception	Time Belong Difference Contradiction Conflict Surprise Admiration

Note: In the Sub-themes, some Emotion and Perception categories were merged or combined.

Conclusion

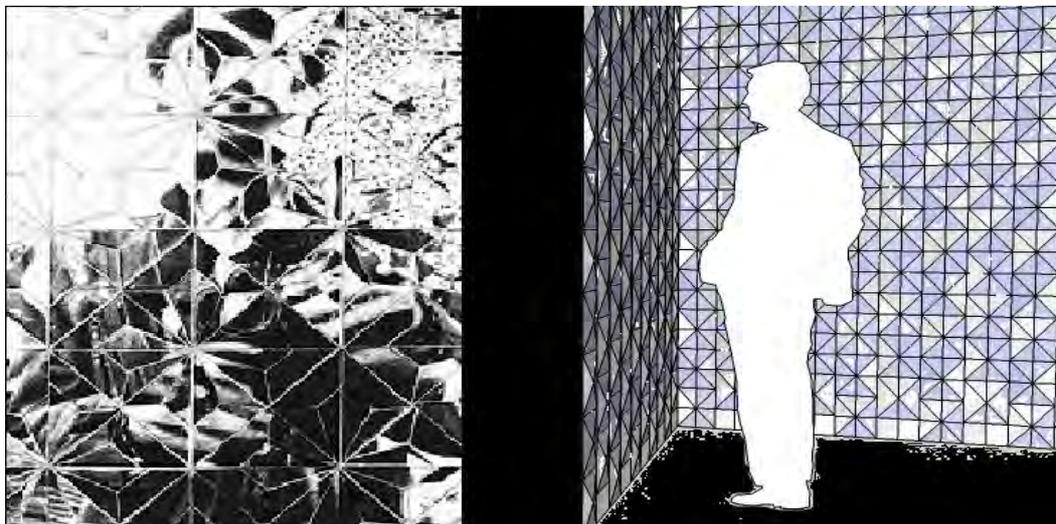
Participants were subconsciously directed into two different perspectives by being in a mirror-tiled space: a partial look at the nearest mirror-tiled part, wall mirrors close to their position in the *Close-look* (in the close-up view). Participants were often subconsciously moving their heads slightly in search of a mirror image of themselves; And a general and distant view to the mirror. The distance, the space, ceiling, and far walls in the *Afar-look* (simultaneously with the first encounter). The most significant factor for participant's reaction was the *Light* of the Place.

The Close-Look

A brief look at the nearest Mirror-tiled part, the walls mirror closely a person's place in relation to them. The participants stated:

Figure 5

One's Own Image, (a) The Close-Look: At the Broken Image on the Mirror-Tiled Wall (Javani, 2015); (b) the Close-Looking Sketch (drawing by author)



“The interesting point is that when you look closely, you move and try to find a picture of your face, but you only see one of your eyes in one of the mirrors, and the rest is one of your other pieces.”; “I would like to see myself complete, and I do not like to see my broken image” (1). “I see myself broken from different angles.”; “I see the places that are a part of my image, in each of these small mirrors.”; “each one is in the form of something else.”; “You have to look closely and shake your head slowly to find different parts of your face” (2). “I do not look into the mirrors.”; “I only see the whole space.”; “I do not like to see my broken image.”; “I think if a person seeing himself in the mirror, he can see it completely, even for a short time” (6). “It looks like Cubism up close” (10).

The Afar-Look

An overview and distance looking at the Mirror-tiles in the whole place. The ceiling and the distant walls recede to the depth of the built-up space participants noted.

Figure 6

The Afar-Look; As the General-Look, There are Both Types of Viewpoints. (a) Mirror Hall of Green Palace, Iran, Tehran (Author, 2019); (b) The Sketch of the Same place (Drawing by author)



“Approximately good from afar and bad from up close” (1). “Fractures of mirror s from bottom to top (walls and ceilings) extend the space, the corners seem to be infinite” (2). “I do not look in the mirrors; I just see the whole space as a single, integrated set.”; “I like the recesses and the protrusions of the space more” [Muqarnas, Arches, and Ears] (6). “In the first encounter, those [Muqarnas] jumped out of the ceiling to draw my attention.”; “Ceilings and walls look like carpet designs, like carpets.”; “A good ceiling, walls are boring” (9). “From a distance, space is integrated” (10).

Move, Search and Discover

When we stay in a place at a fixed point and look at an object, we receive some information about it while contained therein is still some unknown data. However, the remote part of the area is revealed when we move about inside the environment. Therefore, part of the evidence is invisible. That is, we are not the only ones moving. At the same time, the ambient light information changes as well due to such movement.

Moreover, the information changes as we move within the environment. When moving, we discover new things, and other things are hidden from us or remain hidden. Movement is an integral part of the information gathering system, and we obtain information from the environment by each movement. It is on the move that the energy or data of a place is better understood. When we move in one place, the hidden parts are revealed, and the evident part remains hidden. When we move in one environment, we do not think that the situation is the same as in another environment. However, in case of mirror tiles, we can say that this environment is also another environment (Figure 8). Although the movement system changes with the change of information, a place itself does not change. It remains constant due to the stability of the perceptual system. The environment is fixed for us because we perceive it continually. However, every moment may mean something else for the environment, but in our perceptual system, we see a new environment every moment because we perceive it moment by moment. However, this system also protects our perception of a place, promising permanence to a state of being. Participants expressed this in the following ways:

“When looking closely but using only one of your eyes, you are in one of the mirrors, and the rest is one of your pieces.” So “you move to find the image of your face” (1). “In these smaller mirror pieces, the larger mirror pieces you see catches your eye” [The

mind subconsciously searches for larger pieces of the mirror]. “From one angle, there is one eye, you move a little, your lip comes out in another, for example, with a part of your nose, but that other eye goes.”; “When you are looking closely, you have to look around and shake your head slowly to find different parts of your face” (2). “The place seems to kill a person in its own heart.”; “You are moving in space, and there is no desire to go around, but the environment is all blinking.”; “When you move, space flashes like a photographic flash” (6). “When you pay attention to details, the depth of space becomes much greater.”; “It is very different depending on where you stay and where you stand in space” (10).

The General-Look; Psychological Effects

The two primary criteria for obtaining a hypothesis and a question are the pleasantness of the space (like) or the unpleasantness of the place (dislike), which is present in emotion and is significant (Motalebi, 2019). It is not only about the framework of the environment. Also, the events, material possibilities, and emotional effects of space affect perception. In some cases, the mirror space was not pleasant and even felt bad, and in some cases, it was quite the opposite. In this experiment, the participants’ perception of the mirror-tiled place seems to be significantly related to the personality and identity and the individual’s mood and inner self:

Figure 7

Looking to Broken Mirror (a), (Behnoodi, 2019) & (b), (Javani, 2015); (c) Mirror-Tiled Decorated Place. Ali Ibn Hamzeh Holly Shrine, Iran, Shiraz (Joy, 2017)



“I like and do not like the whole space” [Paradoxical Feelings]; “Overall, it gives a different feeling, sometimes good and sometimes bad” (1). “That means the space is whole except the floor of the mirror!”; “It’s very cool...” (2). “The atmosphere is chaotic.”; “I feel heartbroken, I want to get out of here” (3). “It feels good overall; I like being in this space.”; “It does not bother me at all; it is pleasant” (4). “It is a beautiful space; I like its beauty” (5). “It is too attractive, especially the center of place” (6). “I do not like these mirrored geometric shapes.”; “If space is more regular and simple, it is better” (7). “I do not like places in an environment that do not have rhythm.”; “Being irregular can sometimes be good, it means have the same rhythm” (8). “The whole space feels like old times”; “The feeling of suffocation in the place is depressing” (9). “The tiny pieces of mirrors that covered the walls and ceiling created a completely different and specific atmosphere.”; “That is amazing” (10).

The Role of Light and its Effects

All data is in the light. The need for light is one of the most basic bodily needs (Motalebi, 2019). “Humans are similar to mosquitos.” An inflow occurs everywhere there is light, for no apparent reason. “We are on our way to enlightenment, whether we like it or not. We are attracted to Light” (Evans, 1981; *Morris Lapidus*). The environment contains the data structure. Light exists, and its information reaches our minds without the need for intermediaries. All rays of light and all environmental data travel with us as people move about. When a person moves, the rays of light that strike us change with our passage, and the hidden planes of the surroundings shift with us. More features emerge as the quantity of lights rises.

Moreover, when the number of light sources drops, they are deleted from the details, reducing the amount of information available in the environment. The quantity of information we receive from the environment rises or decreases as the number of light sources increases or decreases. We may sense the environment when we move in a place and the light rays that arrive at us, depending on those light rays. *Ambient Light* and *Radial Light* are two types of light. The light source in radial light is unique. Because the quality of the Radiant Light Source is essential, it has radiation, and we can see its radiation source (such as a lamp or candle).

Ambient light is emitted light that reflects on the surrounding surfaces (Figure 9). A reflecting surface is critical for ambient light to be present. As a result, any details about its surroundings needs to be factored in. While not conversant in light theory, the participants displayed a very astute understanding of these theoretical terms:

Figure 8

Radial Light and Ambient Light. Mirror-Tile Decorated Hall, Iraq, Najaf (The Official Website of Imam Ali Holy Shrine, 2016)

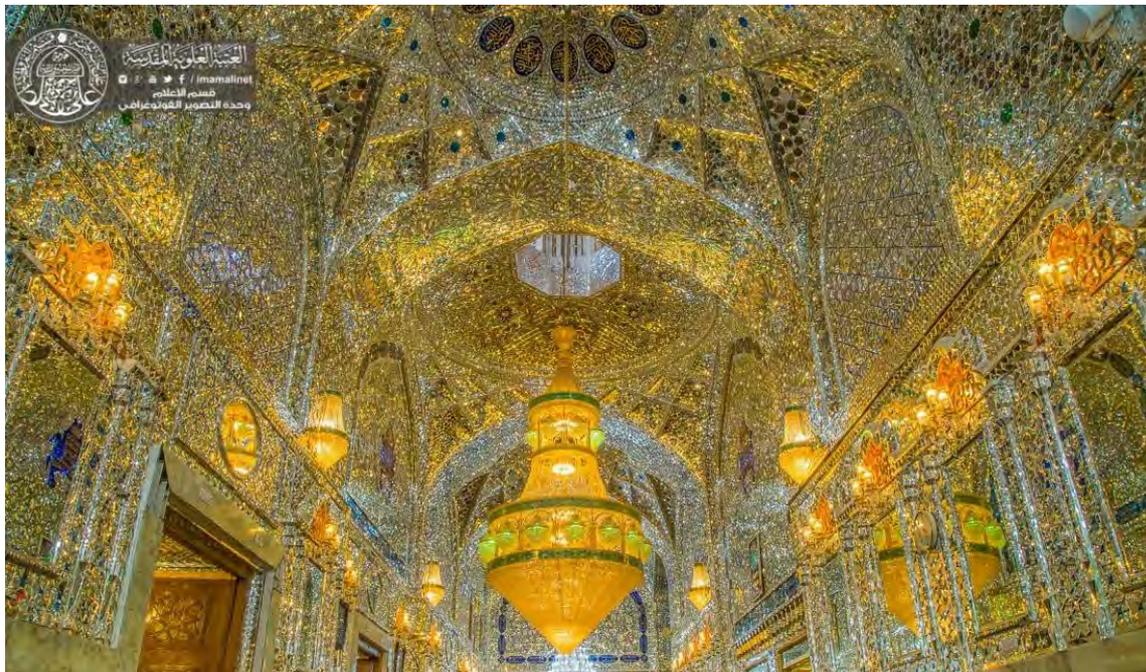


Figure 9

(a) *Ambient Light* (Armin, 2020); (b) *Natural Radiant Light Enters Through the Apertures of the Dome*. Shah Cheragh, Iran, Shiraz (Joy, 2017)

***Volume & Intensity***

“Light is multiplied in the general space.”; “I like the volume of light in the space.”; “I preferred the light in the space to be low” [Refers to the number of light sources - lamps]; “It would have been better, for example, to have a few lighted candles that were reflected and rotated in all the mirror s, rather than large chandeliers and bright lamps” (1). “If the general light of the environment were less, from afar, it would be as if you were in the depths of a galaxy” (2). “The light of space is very scattered” (3). “As to create this place for the night.” “In the dark reflect a small light in the whole space” (4). “I think this space would be better if lit by candlelight, and it had a more mysterious feeling” (8). “The fact that light is reproduced in the general space, and I liked the volume of light in the space.” “I preferred the space light was low” [Refers to the number of light sources - lamps]. “It would have been better in this space, for example, to have a few lighted candles that were reflected and rotated in all mirror s, rather than large chandeliers and bright lamps” (1). “If the general light of the environment were closer than far, it would be as if you were in the depths of a galaxy” (2). “The light of space is very scattered” (3). “The dark reflects small light in the whole space” (4). “I think this space would be better by candlelight; it offered a more mysterious feeling” (8).

Figure 10

Mirror-Tile Decorated Place (a) *at Night*; (b) *at Day*. Ali Ibn Hamza, Shah Cheragh. Iran, Shiraz (Arman, 2020)



Sparkle & Glitter

The further elements of sparkle and glitter were also discussed by the participants. Again, they had much to say about them: “The brightness in the space is very high, and the volume of light is high and dazzling.”; “Spaces like this are very luxurious” (1). “When you first enter the space, it is a beautiful super luxury, a radiant and shiny space.”; “Shining dots are like monkey stars.”; “Space is like a diamond” (2). “It fascinates you to be in front of the entrance to space.”; “When you move, space flashes like a photographic flash” [paparazzi]. (3). “I like the radiance of the space.” “The space is bright - the ceiling shines like the stars in the sky.”; “It shines with the slightest movement in space” (5). “It is a glamorous atmosphere.”; “You are moving in space, and there is no desire to go around, but the environment is all blinking.”; “Some of these points attract attention and remain in your mind because the vision leads a person to himself” (6). “It has improved the space; it has spiritualized the space” (8). “Mirrors make the space brighter than ordinary space” (9). “Very exquisite and magnificent atmosphere.” “It is extraordinary.” “Cosmic spirituality.”; “It is like a kind of abstraction” (10).

Figure 11

(a) *Sparkle place* (Royalhandmaidens, 2020); (b) *Glitter Place. The Shah Cheragh Holy Shrine and Mosque [King of the Light], Iran, Shiraz* (CuriousPlaces, 2016)



Lastly the effects of Shine and Duplication were deliberated by the participants: “I like that it has a light that Duplication in the space.”; “It would have been better in this space, for example, to have a few lighted candles that were reflected and rotated in all the mirrors, rather than large chandeliers and bright lamps.”; “I do not like to have this space in my house, for example, in my bedroom, unless the light sources are low, such as candles, and the light in the space is also low” (1). “There is an order in space.” “Seems to create this space for the night to reflect a small light in the whole space in the dark” (4). “Some of these points attract attention and remain in your mind because the vision leads a person to himself” (6). “In mirrors, when there is light with color, it is kind of irregular” (7). “I like that light multiplies in space, the multiplicity of light.”; “The type of light bulbs that illuminate the space is also very influential.”; “It is very significant to count how many light sources there are or where the place is located” (8). “The reflection of light in mirrors [direct light] is annoying, especially in walls” (9).

Figure 12

Light Shine and Duplication in the Mirror-Tiles. (a) Fatima Masoumeh Shrine. Iran, Qom; (b) Golestan Palace, Iran, Tehran (Mohammadi, 2016)



As can be gleaned from the afore-said, participants in the experiment had very strong reactions to the light effects stemming from mirror-tiles. These eye-catching light effects of the mirrored interior spaces evoked two distinct groups of responses, namely those who strongly liked them and those who strongly disliked them. Furthermore, various perceptual and emotional contradictions were created in individuals, directing the audience's attention away from standard mirrors they were used to toward viewing the mirror shards and their effects as elements that are a part of the entire space. None of them reported seeing any strange faces in the tiles. It seems therefore safe to say that in comparison to Caputo's integrated mirrors, broken mirrors elicit other psychological effects on their viewers that alter the nature of the mirror-viewing experience. One of the strongest ones observed in this study is the search for meaning in the reflections, the attempt to create identities from the partial mirror images and the (imagined/unconscious) discovery of at least some of these when engaged in prolonged viewing. Of course, these results are based on a very small cohort of participants, and it remains the work of future research to broaden the participants' number and build on the findings from this smaller study. What did become very clear from this study, though, is the fact that even broken mirrors induce individuals to search for identities and make attempts to re-capture any kind of wholeness in one's self-image.

References

- Ardalan, N., & Bakhtiar, L. (2015). *The sense of unity: The Sufi tradition in Persian architecture*. Translator: Jalili, V. (5th ed.). Tehran: Architecture Science Institute. NBN: 2502424.
- Azaimabadi, H. G. (2012). *Tadhkira-yi nishtar-i 'ishq: Volume 1*. Editor: Javadi, H. S. (1st ed.). Tehran: Written Heritage.
- Blake, E. (2016). *Theory of phenomenology: Analyzing substance, application, and influence*. Retrieved from: <https://docplayer.net/18948139-Theory-of-phenomenology>.
- Caputo, G. B. (2010, a). Strange-face-in-the-mirror illusion. *Perception*, 39, 7, 1007–1008. <https://doi.org/10.1068/p6466>
- Caputo, G. B. (2010, b). Apparitional experiences of new faces and dissociation of self-identity during Mirror gazing. *Perceptual and Motor Skills*, 110(3), 1125–1138. <https://doi.org/10.2466/02.09.24.PMS.110.C.1125-1138>.
- Caputo, G. B. (2011). Mask in the Mirror : The Living Mask Illusion. *Perception*, 40(10), 12611264. <https://doi.org/10.1068/p7089>
- Caputo, G. B., Ferrucci, R., Bortolomasi, M., Giacopuzzi, M., Priori, A., & Zago, S. (2012). Visual perception during Mirror gazing at one's own face in schizophrenia. *Schizophrenia Research*, 140(1-3), 46–50. <https://doi.org/10.1016/j.schres.2012.06.029>
- Caputo, G. B. (2013). Strange-face illusions during inter-subjective gazing. *Consciousness and Cognition*, 22(1), 324–329. <https://doi.org/10.1016/j.concog.2012.08.007>
- Caputo, G. B., Bortolomasi, M., Ferrucci, R., Giacopuzzi, M., Priori, A., & Zago, S. (2014). Visual Perception during Mirror -gazing at One's Own Face in Patients with Depression. *The Scientific World Journal*, 2014(Article ID 946851), <https://doi.org/10.1155/2014/946851>
- Caputo, G. B. (2017). Strange-face Illusion During Interpersonal-Gazing and Personality Differences of Spirituality. *EXPLORE*, 13(6), 379–385. <https://doi.org/10.1016/j.explore.2017.04.019>
- Caputo, G. B., Lynn, S. J., & Houran, J. (2020). Mirror - and Eye-Gazing: An Integrative Review of Induced Altered and Anomalous Experiences. *Imagination, Cognition and Personality*, 40(4). <https://doi.org/10.1177/0276236620969632>
- Evans, B. H. (1981). *Daylight in architecture*. (1st ed.). New York: *Architectural Record Books*. Translation: Pourdahimi S. & Adl. T. H. (2000). (1st ed.). Tehran: Nakhostin.
- Gardner, H. (2015). *Gardner's art through the ages: A concise global*. Translators: Islamiah, M. & Darabi, H. et al. (1st ed.). Tehran: AGAH.
- HasanPour L., S. (2017). A Study on Decorations (Chinese Knotting) Used in Monuments of Masouleh Historical City, Case Study: Kasha-Sar Olia. *Armanshahr Architecture & Urban Development*, 9(17), 25–36. Retrieved from: http://www.armanshahrjournal.com/article_44601_en.html
- Ihde, D. (1986). *Experimental phenomenology, An Introduction*. Albany: State University of New York Press.
- Kiani, M. Y. (1997), *Decorations related with the Iranian architecture of the Islamic period*. (1st ed.). Tehran: National Cultural Heritage Organization, Research Institute.

- Madkour, E. (2008), *Symbolism in Ibn-Arabi's thoughts*. Translator: Vafae, D. (1st ed.). Tehran: Center Publication.
- Mohamadi, V. M. & Behboodi, S. P. (2019). Comparison of the reflection and multi Surfacing of the Iranian mirror 's art and Cubism. *Alzahra Research Journal of Graphic Art & Painting*, 2(2), 29–42. <https://doi.org/10.22051/pgr.2019.23587.1020>
- MohamadianMansoor, S. & Faramarzi, S. (2012). A Comparison Between Quasiperiodic Order of Shah Gereh and the Quasicrystal Structure of Silicon. *University of Tehran, Honar-ha-ye-Ziba Honar-ha-ye Tajassomi*, 4(50), 69–80. <https://doi.org/10.22059/jfava.2012.28940>.
- Moran, D. (2000). *Introduction to phenomenology*. (1st ed.). London and New York: Taylor & Francis Group, Routledge.
- Motalebi, G. (2019). *Lessons from environmental psychology*. Tehran: Faculty of Architecture and Urban Planning, Soore University.
- Moustakas, C. (1994). *Phenomenological research methods*. (1st ed.). Thousand Oaks, CA: SAGE.
- MullaSalehi, H. (1998). Iranian cinema: Glory images in Islamic architecture of Iran. *Farabi Magazine*, 29, 4–31. Retrieved from: <https://www.noormags.ir/view/en/articlepage/311472>
- Pourzarrin, R. & Javani, A. (2015). A Comparative study of the visual signs of persian mirror work and the photo collage art. *University of Tehran, Honar-ha-ye-Ziba Honar-ha-ye Tajassomi*, 19(4), 81–95. <https://doi.org/10.22059/JFAVA.2014.55423>
- Ray, R. (1992). An appraisal of our meaningful relationships in place. *Trumpeter*, [on Line]. Retrieved from: <http://trumpeter.athabascau.ca/index.php/trumpet/article/view/418/679>
- Riazi, M., (1996). *Illustrated dictionary of Iranian art terms*, (1st ed.). Tehran: Al-Zahra University Research Association. .
- Partovi, P. (2015). *Phenomenology of place*. (3rd ed.). Translating and publishing works of art Tehran: Institute for Compiling. Accessed from: <http://matn.honar.ac.ir/>
- Sadoughi, A. & Memariyan, G. (2010). A qualitative research illustrated in understanding emotional dimensions of place: An underground space named Shavadan. *Architecture and Urban Planning Journal*, 3(5), 119–134. Retrieved from: <http://www.archoma.ir/articles/post/3847>
- Stefanovic, I. L. (1998). Phenomenological encounters with place: Cavtat to square one. *Journal of Environmental Psychology*, 18(1), 31–44. <https://doi.org/10.1006/jevp.1998.0062>
- Van Manen, M. (2006). *Researching lived-experience: Human science for an action sensitive pedagogy*. (2nd ed.). New York: Routledge.

Figures

Figure 1: Author, (2019)

Figure 2: Shabestan, (2018), viewed 20 July 2021
<http://shabestan.ir/mobile/detail/news/734059>

Figure 3: (a), Sajwood, (2017), viewed 20 July 2021
<http://fhnews.ir/ImgGallery/ayneh/05.jpg>

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<https://www.khabaronline.ir/news/607421>

Figure 4: Joythewanderer, (2017), viewed 20 July 2021
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Figure 5: (a), Asghar Javani, (2015), viewed 20 July 2021
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Figure 7: (a), Mohammadi Vakil, (2019), viewed 20 July 2021
<https://dx.doi.org/10.22051/pgr.2019.23587.1020>

Figure 7: (b), Sina faramarzi, (2012), viewed 20 July 2021
<https://dx.doi.org/10.22059/jfava.2012.28940>

Figure 7: (c), Joythewanderer, (2017), viewed 20 July 2021
<https://joythewanderer.com/ali-ibn-hamzeh-shrine>

Figure 8: The Official Website of Imam Ali Holy Shrine, (2016), viewed 20 July 2021
<https://www.imamali.net/?id=3286>

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<https://murai.my/2020/72062/amerika-iran-5-tapak-sejarah-masjid-indah-ini-bakal-musnah-jika-as-bom-iran>

Figure 9: (b), Joythewanderer, (2017), viewed 20 July 2021
<https://joythewanderer.com/ali-ibn-hamzeh-shrine>

Figure 10: (a) & (b), Trip Advisor, (2020), viewed 20 July 2021
https://www.tripadvisor.com/LocationPhotoDirectLink-g316021-d3240476-i147582808-Shah_e_Cheragh_Shrine-Shiraz_Fars_Province.html>.

Figure 11: (a), Royalhandmaidens, (2020), viewed 20 July 2021
<https://royalhandmaidens.tumblr.com/post/632174077944168448/click-through-this-link-im-losing-my-mind-its>

Figure 11: (b), Curious Places (2016), viewed 20 July 2021 <http://curious-places.blogspot.com/2014/10/shah-cheragh-mirror-mosque-shiraz-iran.html>

Figure 12: (a) & (b), Goli Mohammadi, (2016), viewed 20 July 2021
<https://makezine.com/2016/12/23/heirloom-tech-aineh-kari-next-level-mirror-mosaics>

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