THE INFLUENCE OF NATURAL IDEAS IN PROMOTING GENIUS LOCI (CASE STUDY OF SHEIKH LOTFOLLAH MOSQUE IN ISFAHAN)

Mahgol Seirafian Baboldashti
Department of Architecture, Islamic Azad University of Isfahan (Khorasgan Branch), Isfahan, Iran.
mahgol.seirafian@gmail.com

Seyyedeh Marzieh Tabaeian
Department of Architecture, Islamic Azad University (Harand Branch), Isfahan, Iran.
marzieh.tabaeian1@gmail.com

Ahmadreza Shirvani Dastgerdi
Department of Architecture, University of Florence, Italy.
shirvani.ahmadreza@gmail.com

ABSTRACT
Sheikh Lotfollah Mosque is one of the most beautiful and salient examples of Iranian architecture of the Safavid era, in Isfahan. Despite the scientific studies on the architecture of this mosque, its sacred and semantic concepts have been overlooked behind its hidden values. Therefore, the Sheikh Lotfollah Mosque has been studied as a human-made place using the phenomenological approach to architecture, in order to understand the importance of inducing the concept of genius loci; and by examining each of the elements and comparing them to the ideas and components of place. The authors try to answer the question that what environmental qualities of the Sheikh Lotfollah Mosque build its genius loci? The research method used in this paper was phenomenology and information were gathered by library studies. The result of the research indicates that this Mosque has significant values, including semantic load, and there is a relationship between its elements and their material and semantic qualities created by concepts such as enclosure, span, and space. Thus, this integrated logical system confers Sheikh Lotfollah Mosque a genius loci which has been a meaningful quality of this space throughout the centuries and continues to remind the future generations of Iranian cultural identity.

KEYWORDS:
Genius loci; Phenomenology; Sheikh Lotfollah Mosque; Natural Ideas.

INTRODUCTION
The architecture of mosques in Islamic art has a special place. As a place for worship of the God, the mosque has the most appropriate type of architecture to objectify the concept of plurality in unity. Sheikh Lotfollah Mosque is one of the most valuable and beautiful monuments of the Iranian-Islamic architecture of the Safavid era, built by the famous architect of the time, Mohammad Reza Isfahani, and under the command of Shah Abbas I, in the Naqsh-e Jahan Square of Isfahan. This mosque was built by an architect who could exhibit the Iranian-Islamic architectural pattern with his religious and inspirational faith[1].

Islamic architecture has an intrinsic relationship with cosmology because Islamic art is a reflection of the world of the spirit and the manifestation of the Quranic revelation. Islamic architecture, especially the architecture of mosque, is an image of the cosmos or human being in its cosmic dimension [2]; therefore, according to Schulz [3], architecture is not merely building, but it is the arena of thinking to the inhabitants or people who live in the world.

This approach to the existence is indebted to Heidegger’s particular method, the postmodern philosopher. The theoretical foundations of the present research are built on Schulze, an architecture theorist, whose thinking is influenced by Heidegger. In the book of Genius Loci, he believes that after decades of promoting the abstract theory of scientific existence, it is necessary to return to the qualitative and phenomenological understanding of architecture.

Behind its hidden values, Sheikh Lotfollah Mosque has undergone scientific studies, and its geometric dimensions and spatial relationships have been analyzed[1]; however, it has been overlooked regarding sacred concepts related to being and universe. In the present paper, we try to examine the Sheikh Lotfollah Mosque as a man-made place with the phenomenological approach to architecture, so that we can understand the genius loci of this place.

According to Schulz, the meanings brought together by the place create the spirit of that place. Therefore, by examining each of the elements of the mosque and adjusting them with the concepts and components of the place, we identify the meaningful qualities of the genius loci of this mosque to answer the following question: which environmental qualities of the mosque Sheikh Lotfollah create its genius loci?

METHODS
A phenomenological method of research has been adopted in this study and data are collected from
library sources. The research process is aimed to explain the concept of genius loci of the Sheikh Lotfollah mosque. Firstly, the definition of the concept of the place and its conformity with Islamic thought, the genius loci or the spirit of place, and the man-made place are explained; and then the genius loci in the Sheikh Lotfollah Mosque as a man-made environment—which manifests, complements and symbolizes human understanding of the place—is investigated and its elements and characteristics are recognized separately.

**DISCUSSION**

**PLACE**

Christian Norberg Schulz[3] believes that the phenomenon of the place is a complete and whole part of being. From this perspective, the area is more than an abstract place. It is a whole thing made up of concrete objects and things that contain materials, matter, shape, texture, and color. Places are the objectives or centers in which we experience our meaningful events and accidents, and at the same time are the points of departure through which we can navigate the environment. A place is an inner sphere that is in opposition to the outer sphere [4]. Architecture means the embodiment of the spirit of the place, and the task of the architect is building meaningful places by which it helps a man in the presence (being) [3]. Different views to the concept of place have been presented so far, some of which are summarized in Table 1.

As you can see, in the above views the place is recognized qualitatively and about space and is in contrast with the quantitative views of modern times. Among the theorists, Christine Norberg Schultz has a more productive exploration by understanding the profound ideas of Heidegger's philosophical perspective on the concept of place.

<table>
<thead>
<tr>
<th>Grutter [5]</th>
<th>A place is a site or a part of space, which is identified by some of the factors that are present there. Norberg Schulz says: the building’s essence is that it transforms a &quot;location&quot; into a &quot;place&quot;, which means to use the potential content of the environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seamon</td>
<td>The place not only refers to a geographic location but also confirms the main character of the place that</td>
</tr>
<tr>
<td>Ardalan &amp; Bakhtiar [7]</td>
<td>The place consists of both the body and the spirit, it has no tangible existence, but the inner perception of the viewer sees the body by the eyes while realizing the spirit in the boundaries of the mind.</td>
</tr>
<tr>
<td>Madanipour [8]</td>
<td>As we see space as an open and abstract area, a place is a part of space occupied by someone or something and has meaning and value.</td>
</tr>
<tr>
<td>Afshar Naderi [9]</td>
<td>A place is a part of a natural or artificial space that is conceptually or materially defined with a specific dimension; and usually, it is the result of a mutual relationship and a reaction between the three factors of human behavior, concepts and physical characteristics associated with it.</td>
</tr>
</tbody>
</table>

According to Figure 1, architecture means the embodiment of spirit in the place and the task of the architect is the creation of meaningful places which help mankind in his presence (being). In order to obtain an existential space, the individual must be able to orient and identify himself, that is, how he is located in a specific place [3](Figure 1).

Therefore, among other architecture theorists, Schulz studies the place in the human existence, and this is an important feature which distinguishes Schulz’s study among others. He believes that space is created in real terms when a person experiences "being" and "presence" at a high level. To understand the concept of place more comprehensively, this concept is examined from the perspective of Islam.

**THE CONCEPT OF PLACE FROM THE POINT OF VIEW OF ISLAM**

After expressing the concept of place in western architecture, we redefine the concept of place in Islam. What constitutes a religious identity is its sacred context. The sacred here means the presence of eternal existence and the center of the environment. Thus, the sacred place represents the presence of an eternal being in a human environment. In Islam, the place is based on the principles of goodness, perfection, abso-
luteness and eternity, which has made the place to have the characteristics of centrality, continuity and divine representation[11]. Therefore, the place is a space in which divine qualities are manifested. The place represents the divine manifestation, and it is a small universe linked to the macro and paranormal world. In this regard, the heavens, the earth, and man, the three divine manifestations, have distinct capacities, and where these beams of being lead to existence, place are formed. The ideal location is where that unites its constructive elements, and represents the deep meanings of truth [12]. According to this view, the sacred place includes features such as unity, truth manifestation, the presence of heaven, earth and man, centrality and evolution. According to the teachings of the Islamic thinkers, if the environment is a divine manifestation, his words can be accepted in the first step. God has manifested on a human in each region first through the environment and then through the religion and teachings[13].

In the book of the Spirit of the Place, Schulz has attempted to introduce the root of many ethical and even cultural manifestations from the environmental characteristics and temperament of the region, i.e., in his terms, the genius loci or the spirit of that region. He considers Islam and all its manifestations as the spirit of the desert and the land [3], and he tries to introduce the root of the monotheistic belief and the divine manifestation as the spirit of the desert, which goes hand in hand with the theory of algebra of the environment. Some theological theorists have dealt with the theory of the spirit of the place, similar to the virtues a human gain; the place also obtains values because the universe is the arena of divine manifestations, and the semantic scope of each place depends on the heavenly enclosure that it accepts.

In this way, in a critic of Schulz, one can say that he had not had a complete view of Islam, and the holy place that Islam believes in goes beyond an environmental inspiration, although it may have been affected the character of the desert.

**GENIUS LOCI**

In order to fully understand the subject under discussion, after examining the concept of the place and the viewpoint of Islam, we look at the term "Genius loci" that Schulz proposed. Each creature has its special spirit, based on which it acquires its special character; therefore, each object and place has its spirit and character. As a living entity, a human as an existential being needs to understand the "genius loci". However, such an understanding requires understanding the environment, finding out its properties and the presentation of them in an architecture that has an objective and specific character; therefore, by raising buildings and architecture, humankind reveals the spirit of the place and allow the place to reveal his spirit. So the Genius Loci is rooted in concrete architectural structures and has a special character[3].

Schulz has suggested indices of the structure of places, which in total gives us a good point of departure toward the phenomenology of the place. In Fig. 2, these steps have shown that from the point of view of the phenomenology of space, one can fully comprehend the genius loci only by this method (Fig. 2).

**THE NATURAL GENIUS LOCI**

Schulz, after dividing the states of human understanding from the natural environment, divides the natural places into three categories based on the basic elements, such as the sky, earth and sunlight, and states that the aforementioned landscape is the primary patterns of natural places that can help us in "understanding" the genius loci at any objective situation, and often appear in diverse combination. However, they rarely appear in a pure form and often appear in a variety of compositions [3]. He introduces the fourth category as a compound landscape, which is a combination of previous categories and defines the corresponding plurality of "existential meanings" [10].

**HUMAN-MADE PLACES**

Architectural art embodies the spirit of the place. By constructing, human-constructed places are created that have their own special spirit. Schulz explains the process of determining the soul of the Genius Loci: the spirit is determined by what is visualized symbolized or complemented.

General meanings and themes can be transmitted through various places through symbolism. These relationships represent that humans add the experienced concepts to create an imagomundia a microcosmos that objectifies his universe [3].

Therefore, the Sheikh Lotfollah Mosque can be considered as a human-made environment that visualizes, complements and symbolizes human understanding of the environment, and brings together meanings to reconcile with the genius loci.
SHEIKH LOTFOLLAH MOSQUE: A HUMAN-MADE PLACE

Safavid architecture is not only crucial in Iranian architectural history, but it is also one of the most distinct types of Islamic architecture [14]. Sheikh Lotfollah Mosque is one of the most valuable and beautiful monuments of the Iranian Islamic architecture of the Safavid period in Isfahan, which was built by the famous architect of that era, Mohammad Reza Isfahani, and under the command of Shah Abbas I (eleventh century H.) at the eastern side of historical Naqsh-e Jahan Square and opposite to the Ali-Qapu Palace. Contrary to the traditional pattern of Iranian mosques, this building has no courtyard and minaret. One of the features of this mosque is the 45-degree rotation of its square-shaped prayer hall from the entrance symmetry, to set the entrance to the prayer hall facing Qibla.

The Genius Loci of Human-made place depends on the space and character of these places, which means how are they regarding organization and cohesion. The cohesion determines how a building stands and rises and how it absorbs light. How is it related to its environment and how is its skyline?

The word “stand” refers to the relationship between the building and the earth, and “rise” indicates its relationship with the sky. Standing is determined by the function of the basement and the wall. The massive and perhaps deep legs and exacerbated horizontal elements tie the building to the earth, while the emphasis on the vertical direction tends to “free” it. Vertical lines and shapes indicate the active interface with the sky and desire to receive light. In other words, verticality and religious aspirations have always been companions [3].

In the Sheikh Lotfollah mosque, the base and bottom design of the mosque have a quadrangle shape that implies the strength and stability of the structure and the plot of the earth, while maintaining the other-worldly sanctity by constructing the dome that symbolizes the heavens. This quadrilateral and circular structure, which presents the peak and landing points with the ultimate composition in the shape of building reflects the excellence of the designer’s thoughts and shows the change in the order of the order, that is, from the material world to the realm of the universe, the transition from the earth to the sky, and from imperfection to perfection. The vertical axis of the mosque connected the earth to the sky and received the sunlight.

THE VERTICAL AXIS OF THE MOSQUE AND THE CONNECTION TO THE SKY

God says in the second verse of Sura al-Ra’d "اللهُ رُفِّقَ الْإِنْسَانَ وَالْجَنَّةَ ثَمَانِيَاتٍ عَنْدَهُ " which means that this pillar separates the levels of heaven and earth from each other and holds the heavens, in a way that do not interfere with each other, because a vertical axis creates the connection between the heavenly and terrestrial realms. According to this verse, attention to the vertical axis that integrates the spaces around a center is among the structures of a spatial system of the universe. The center, with a vertically oriented image, represents the ascension to higher levels. For this reason, the vertical direction is always regarded as the

---

**Table 2. The division of the natural Genius Loci, adapted from Schulz (2009) by authors**

<table>
<thead>
<tr>
<th>Natural Genius Loci</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romantic landscape</td>
<td>Human has a direct contribution to nature, dwelling by human interaction with the environment and forming places.</td>
</tr>
<tr>
<td>Cosmic landscape</td>
<td>It has continuity and uniform structure and a neutral and continuous background.</td>
</tr>
<tr>
<td>Classical landscape</td>
<td>A balanced and perceivable mixture of elements, a meaningful system of distinct and unique places for human beings.</td>
</tr>
<tr>
<td>Complex landscape</td>
<td>A mixture of the three pure landscapes</td>
</tr>
</tbody>
</table>

**Figure 3. The relationship of human-made places with nature [3].**
dimension of sacred space[15]; therefore, in the central space of the dome, one can search for a hypothetical vertical axis that depicts the ascending rhythm to higher levels.

**SHEIKH LOTFOLLAH MOSQUE IN THE CATEGORY OF HUMAN-MADE GENIUS LOCI: COSMIC ARCHITECTURE**

In dividing the human-made Genius Loci, Schulz refers to three romantic, cosmic and classical archetypes; and the Sheikh Lotfollah Mosque has the cosmic characteristics. According to Schulz, what makes the cosmic order visible is the spatial organization, and the characteristics are symbolized through formal coherence.

![Figure 4: The vertical axis of Sheikh Lotfollah Mosque](image1)

In cosmic order, characteristics require the special attention from the constructivist due to natural things and intangible spatial relationships, and their objectification is dependent on a language composed of fundamental elements that may be varied and combined in different ways [3].

![Figure 5: The regular intersecting network of orthogonal axes](image2)

We can see a distinguished manifestation of the cosmic approach in Islamic architecture. Powerful cosmic spaces require representation of a clear system. The Sheikh Lotfollah Mosque’s space is also geometric and is usually defined through regular or intersecting networks of orthogonal axes. The presence of the horizontal and vertical elements has objectified a general system, and this is the first indication of the cosmic character. This character in the interior becomes the manifest of an ideal universe.

Sheikh Lotfollah Mosque is a symbol of the universe and the world of creation, each element of which is a reminder of one of the divine names, and its space reminds human of a divine presence at any moment. The building of the mosque reflects the harmony and unity of the universe in an earthly order. Building a center with four dimensions has a cosmic symbolism. It symbolizes a micro globe-shaped universe. The mosque has unity in its quarters and generates a totality from its components.

**THE ELEMENTS AND STRUCTURE OF SHEIKH LOTFOLLAH MOSQUE**

We need concepts of meaning and structure to understand the Genius Loci. The meaning of each ob-

<table>
<thead>
<tr>
<th>Table 3: Sheikh Lotfollah Mosque in the category of human-made Genius Loci: Cosmic Architecture [3]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>human-made Genius Loci</strong></td>
</tr>
<tr>
<td>Example of architecture</td>
</tr>
<tr>
<td>Clear objective</td>
</tr>
<tr>
<td>Space structure</td>
</tr>
<tr>
<td>Space arrangement</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Form character</td>
</tr>
<tr>
<td>Structures</td>
</tr>
<tr>
<td>The inside-outside relationship</td>
</tr>
<tr>
<td>Light and color and materials</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Perception</td>
</tr>
</tbody>
</table>
ject or thing is rooted in its relations with other objects, and structure refers to the formal properties of a set of relationships that are an entirety and that way we can understand its existential qualities. Based on this, we will examine the structure of the mosque and meanings by expressing the characteristics in the elements’ relationships.

**Enclosure**

The enclosure indicates the quality of the index of any human-made place and characterizes spatial characteristics. A boundary identifies each enclosure. The borders of space are made up of floor, walls, and ceiling enclosure begins its presence from boundaries. In general, the roof defines a special type of enclosure that is known as an interior space [3]. This enclosure not only illustrates the concept of separation and distinction but also attempts to point out the concept of advantage and superiority of a place to another one.

The spatial structure of the Sheikh Lotfollah Mosque is based on part-centeredness that emphasizes the upper boundary of the space, the dome, thus making the interior quite visible and tangible. The dome covers a limited space, and the ceiling symbolizes the arch of the sky that surrounds all creation; the dome ceiling unites the sky and the earth.

What is received from the concept of inside and outside, the enclosure and the boundary in the Sheikh Lotfollah Mosque, indicate the quality of the separation of areas, the confidentiality and determination of different spaces? In other words, the existence of a kind of functional and behavioral hierarchy in this place, which results in the characteristics of peacefulness and comfort for the users.

Schulz points out that the modes of construction are based on objectifying the forces of nature, order, character, light and time. These five categories give different states of human understanding of the environment; which are shown in the table below (Table 4).

**Table 4: Five Modes of Human Understanding from the Environment, adapted from [3].**

<table>
<thead>
<tr>
<th>How the place is achieved</th>
<th>The perception from the world and creation</th>
<th>Basic elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmology (forces)</td>
<td>Objectify the natural forces</td>
<td>Mountain - Sky - Tree - Water - A</td>
</tr>
<tr>
<td></td>
<td>Creation is perceived as a mixture of the sky and the earth.</td>
<td>landscape of rocks, water and trees</td>
</tr>
<tr>
<td>Cosmic order (order)</td>
<td>Objectify the order</td>
<td>direction of the sun - the four main directions</td>
</tr>
<tr>
<td>The characteristics of a natural place</td>
<td>Objectify the characteristics</td>
<td>Sacred and belonging to the human gods</td>
</tr>
<tr>
<td></td>
<td>Symbolizing the systematic world</td>
<td>bounded landscapes</td>
</tr>
<tr>
<td></td>
<td>• The world is perceived as micro-divine.</td>
<td>It is a symbol of consciousness-sanctity, in Christianity known as a</td>
</tr>
<tr>
<td></td>
<td>• Creating a sacred place through the presence of light</td>
<td>factor of solidarity and unity, linked to the concept of love.</td>
</tr>
<tr>
<td>Time</td>
<td>The order of sequence and phenomenal change</td>
<td>Path that determines the time dimension</td>
</tr>
<tr>
<td></td>
<td>cosmic events (creation, death, and resurrection) are re-enforced.</td>
<td></td>
</tr>
</tbody>
</table>

**THE LIGHT**

The presence of the light is the main Islamic arts in two dimensions, one is abstract arabesque designs and architecture, and the other is verbal painting. On the other hand, this is light that determines self-intrinsic of art effect, means that not only located impact as a symbol of light in self-hidden meaning but also gives glory to it, and immediately illustrated to the God’s light through sky and earth [16]. Schulz believes that an enclosed space that receives light from above offers a strange experience from inside and outside at the same time [3]. In general, openings are useful in objectifying the various relationships of inside and out, the holes in a large wall emphasize the enclosure and internalization of the space. The openings receive and transfer the light, so they are the main determining factor of the architectural character. Islamic architecture, especially in Iran, has a special emphasis on light. Light can be regarded as the symbol of divine intellect and being. Light is a spiritual presence that penetrates in material hardness and makes it a noble form.

In Sheikh Lotfollah Mosque light is used differently from other buildings and, using this particular method makes space a sacred, supernatural and mystical one. The light here, despite the same sequence and continuity, has milestones. It creates a stretch that draws the audience to this point, whereas if the ultimate light is present, and creates a continuous shadow-motion in the space, and functionally uses time as the fourth dimension of space. The light here creates a kind of fluidity and dynamics in space, giving rise to motion and, consequently, space perception. In fact, the light here plays the role of detachment, transmission, and connection; that is, the detachment occurs by the forecourt and the entrance, thus, the role of
connection to the inside (reaching the spiritual world and the sacred space) and separation from the material world outside is played. The entrance of light from the bottom of the dome through the windows around makes the dome seem floating and to ride on the light. Here, light is reflected in its mystical and holy aspect, and reminds the verse: \(\text{النور السماوات و الأرض} : \text{Allah is the light of the skies and the earth}\).[

**SPACE**

Space or architectural space is another element of the Sheikh Lotfollah Mosque that has formed the outside and inside of the mosque and brought the elements of the mosque into order. In Islamic architecture, space is never separated from the form. Space is defined by the forms in which it exists. A holy center directs its surrounding area; smaller holy places reflecting the holiest sanctuary in their environment turn into poles that define space.

The spatial organization of the Sheikh Lotfollah Mosque is far from any visual complexity. This feature does not detract from its beauty but entitles it a hierarchy, unity, and solidarity in the collection that significantly affects the human in orientation and dwelling.

The existence of spatial diversity, unity as well as the general structure and order in Sheikh Lotfollah Mosque has objectified the existential space and strengthened the sense of place in human.

### CENTRALITY AND UNITY

Each boundary itself turns into a center that may act as a focal point for its surroundings. It is from the center that space extends in different directions with a varying degree of continuity, the main directions of the centrality include the horizontal and vertical axes, which are in fact the same directions of the earth and the sky, the dome of the Sheikh Lotfollah Mosque impacts the formation of the center of the mosque architecture. The symbolic factors that are effective in shaping the centrality of the mosque are provided in the following table (Table 5).

### CONCLUSION

The present study identified the qualities and characteristics of elements of the Sheikh Lotfollah Mosque and examined it regarding the concepts and components of the place, identifying the meaningful qualities of the genius loci of that place. With the phenomenological approach to the concept of the place and the Sheikh Lotfollah Mosque, the relationship between elements of the mosque was examined with the aim of defining the characteristics and spatial characteristics of its essence. These relationships between the elements of the mosque led to the creation of qual-

---

<table>
<thead>
<tr>
<th>Table 5. Investigating the symbolic factors forming the centrality through the dome of the Sheikh Lotfollah Mosque, adapted from [17].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circle</strong></td>
</tr>
<tr>
<td><strong>Point symmetry</strong></td>
</tr>
<tr>
<td><strong>Vertical axis</strong></td>
</tr>
<tr>
<td><strong>Sphere</strong></td>
</tr>
</tbody>
</table>
ities such as enclosure and introversion, centrality and unity, regular and geometric spatial organization, and inside-outside space. According to the purpose of the article, two concepts of structure and meaning were needed to introduce the concept of place. In this research, the elements and structures of the Sheikh Lotfollah Mosque were introduced by expressing the existing features of their relationship.

The structure of the Sheikh Lotfollah Mosque is based on an integrated rational system with a hidden order and static form, which is focused on paying attention to material and spiritual realms. Its dome emphasizes the vertical axis that connects the earth to the sky, as well as the light that passes through its openings, reveals the enclosure and the inside-outside relationship of the mosque, and the sense of a holy space that reveals unity and tranquility. The mosque’s structure has a rational system whose geometric space forms a regular and directional network, that is, sacred geometry. This arrangement of space creates a sense of unity of components and gives a sense of security and comfort as well. The path of the mosque and its movement, which shows the temporality of the time dimension, induces the meaning of unity, solidarity, and enclosure by organizing space in the mosque.

The result of the research indicates that the Sheikh Lotfollah Mosque has significant values, including semantic load. From the relationship between its elements that possess material and semantic qualities, the concepts such as enclosure, expansion, geometry, and space are formed, and The Sheikh Lotfollah Mosque is accepted as an integrated logical system that carries the genius loci. It will continue to be a qualified meaningful space throughout the centuries to continue to remind the cultural identity of future generations.

REFERENCES


