

STAIR SPACE AS HORIZONTAL PLANE MULTIPLICATION

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Abstract

Different areas in the object serve people, so they relate and communicate with each other. This communication can be vertical and horizontal. Vertical communication connects the object areas in a vertical direction, respectively it connects the levels of objects, and this group also includes the stairs.

The areas meant for people's movement are limited to two dimensions due to the gravity of the earth. Our bodies, while they are in a movement cannot explore the space behind us. According to this, our perception of the world develops in the horizontal orientation. Stair space, vertical communication is one of the major researches in architecture history because it offers us a good chance to link the vertical levels of space where one can move, communicate.

Each type or kind of stairs enables us vertical communication, allows two types of different movements, the opposite movements. This is not just the physical aspect of ascension and descending, but also important terms of mythological and psychological significance.

Keywords: communication, stairs, descending, ascending, mythology and psychology

1. Introduction

The spaces in the object serve the human, so they communicate with each other, this communication can be **vertical and horizontal**. Vertical communication is very important in objects as the elements of vertical communication enable us to connect the spaces of objects with each other. Also, through the elements of vertical communication, we connect the object with the external environment. Communication depends a lot on people's movements, as we have facilities which are highly frequent by people (shopping malls, museums, football stadiums, etc.), but we also have facilities which are less frequent by people, such as individual residential buildings.

Vertical communication connects the spaces of the object in the vertical direction, respectively connects the levels of the objects. The vertical communication group includes stairs, escalators, ramps, and elevators.

2. Stair space as horizontal plane multiplication

The space for human movement is limited into two dimensions as result of the gravity of the earth. Our bodies cannot explore the space behind us during the movement. Accordingly, our perception of the world is developed in the horizontal orientation. According to this, the space of stairs, vertical communication, represents an important research field in the history of architecture because it offers us appropriate chances to connect the vertical levels of the space where a man can move, communicate.

Each type of stairs allows us to communicate vertically, allowing two different types of movement, opposite movements. This is not just the physical aspect: ascending (going up) and descending (going down), terms of mythological and psychological importance.

In sacral Christian mythology, for example, the relationship between good and bad places takes on additional meaning through the use of words as up and down or light and dark pairs.

For Muslims, the stairs represent an important concept for the imam and the muezzin, climbing in the minarets to call for the prayer or climbing in the "minber" during Friday or Eid lectures. Psychological and mythological concepts, as when there is no minaret, there is no adhan, today the imam does not climb the minaret because he has a microphone, etc. Or raising the mentality that the imam is close to the congregation to lead them on the path of salvation, kindness, and prosperity.

Architecturally and functionally, the stairs should provide favorable and comfortable vertical communication.

From the constructive point of view, the stairs must be safe, they must be stable, especially at the time of use in buildings with high frequency, various cases of panic, the appearance of fire in the building, earthquakes, etc.

These facts show that the design and constructive choice of stairs are two serious tasks as well as responsible for the designer/designer.

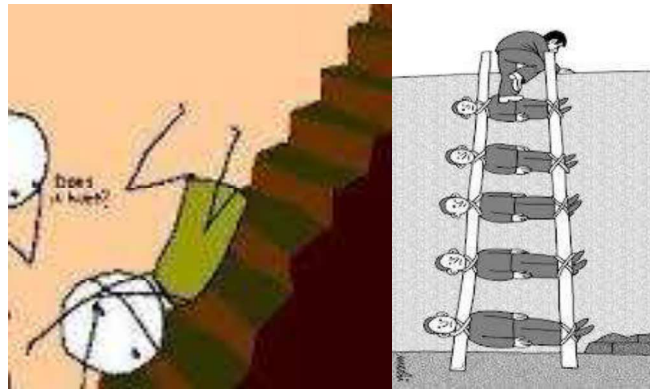


Figure 1. Schematic representation - the meaning and responsibility of stairs in objects
Book "Konstruksionet Arkitektonike 2" (2020), Enis Jakupi, page 79

2.1 Calculation of stairs: The concept of calculating stairs is closely related to the human step, the stairs are calculated based on the steps that man makes, they are meant when they are built for people. Stairs must be acceptable (comfortable and safe), during the use, respectively during the movement of people. It depends on the angle of inclination, respectively in the relationship between the height and length of the scale breaker.

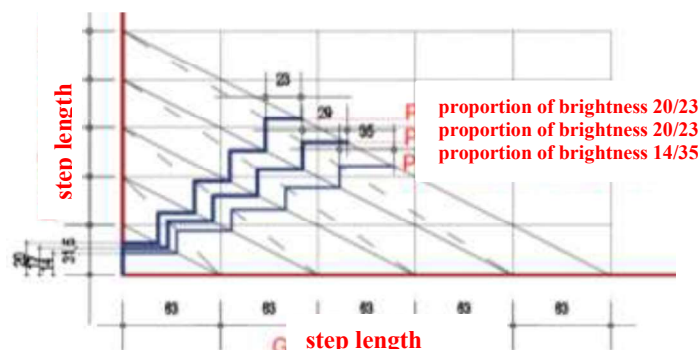


Figure 2. The height and length of the step on the stairs
Book "Konstruksionet Arkitektonike 2" (2020), Enis Jakupi, page 114

2.2 Climbing stairs: Ascending and descending movements, in relation to the movement in the horizontal plane, represent a change in the rhythm that has the psychophysical consequences of the subconscious. As the pace slows down, our spirit tends to move faster, to reach our destination, or more precisely, to reach the desired destination as soon as possible.

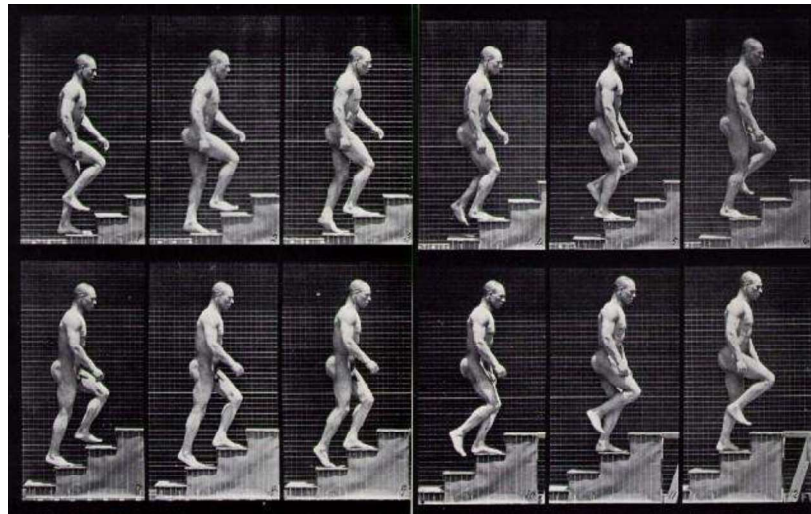


Figure 3. Edvar Maribrixh, vertical movement, (1887)

Vertical communication can be compared also to the three-dimensional concept of the object, the stairs which form a continuous element or expression for the concept, the concentrated horizontal, and vertical communication to the objects. Accordingly, this represents one of the primary topics in the shaping process and, as result can be related to the design task. The design and selection of materials for the vertical approach are carried out directly together with the construction of the building or form stable, primary, stable elements for a certain function.

3. The concept of stairs as a horizontal multiplier of the circle in objects of importance

An example of the structure or platform of stairs that form the key rationale for the concept of vertical communication can be found in the Guggenheim Museum in New York, USA. The three-dimensional concept of this museum is based on the spiral ramp whose shaping is directly reflected in the exterior of the building. All exhibition spaces are connected via spiral ramps.



Figure 4. “Guggenheim Museum” New York, SHBA, Frank Lloyd Wright, 1959

<https://www.dezeen.com/2017/06/09/solomon-r-guggenheim-museum-frank-lloyd-wright-new-york-city/>

On the other hand, spiral staircases in the apartment with separate entrances, block no. 24 of Le Corbusier in 1924 were designed as artifacts in the staircase project. Stairs are hidden at the base of the apartment that leads down to the lower floor or vice versa. The transition, i.e. communication, is expressed in construction materials.

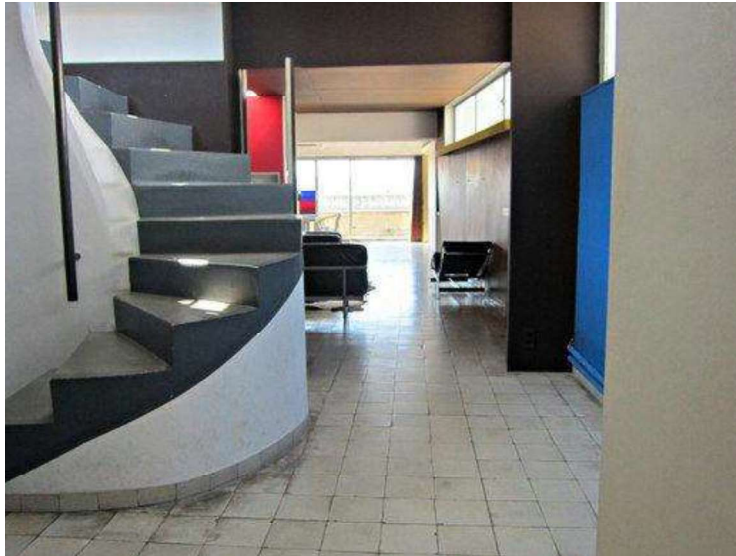


Figure 5. Spiral stairs, block no. 24, (Le Corbusier), Paris, France (1924)

<https://divisare.com/projects/197520-le-corbusier-cemal-enden-le-corbusier-atelier-immeuble-molitor>

There are stairs that lie before we use them, communicate in them. But, there are also stairs that we overcome without noticing even though we are forced to use them.

Three-dimensional alignment can be developed with the aim of ascending, elevating, and converting to the feeling of the event and social demand for the operation of the object vertically, as a vertical spatial concentric.

There are many ways and concepts of clarifying the concept of horizontal plane multiplication with the space of stairs for vertical communication, I chose some of those mentioned above to clarify the importance of their function in constructed objects.

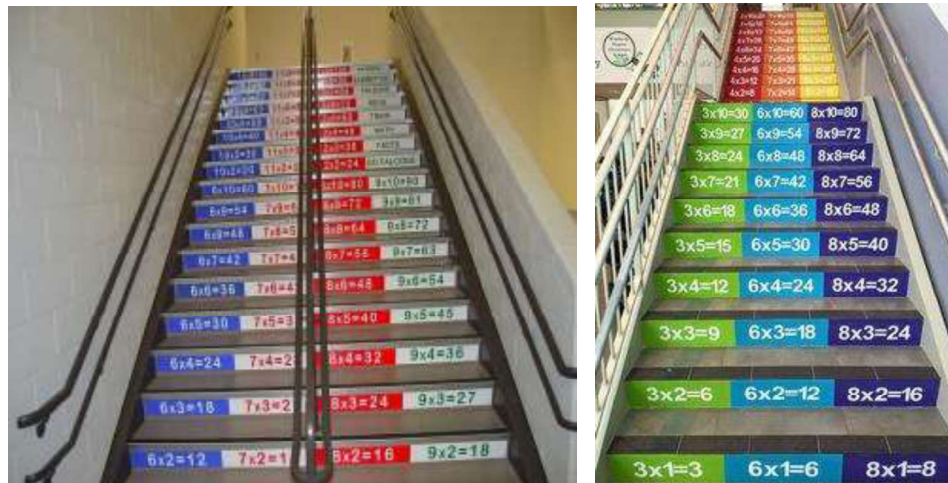


Figure 6. Stairs as a vertical concept of multiplication to learn mathematics.

Book "Konstruksionet Arkitektonike 2" (2020), Enis Jakupi, page 82

Stairs defined as a series of violators, which lead up or down, are the main essence for vertical communication in objects. Because the stairs in multi-story buildings are repeated, they are also treated as rhythm, a strong subject of artistic expression.



Figure 7. Stairs as a vertical concept
Book "Konstruksionet Arkitektonike 2" (2020), Enis Jakupi



Figure 8. Rhythmic and artistic stairs from glass and stairs of Apple Store, New York, USA
<https://www.6sqft.com/where-to-see-the-most-incredible-staircases-in-new-york-city/>

For the stairs, there is also the Qur'anic verse in the holy book of Islam the Noble Qur'an, in Surah Al Mearinj verse no. 70 (stairs) which surah has 44 verses. Vertical communication is presented through the high stairs to the sky, the owner of which is the Almighty God (God Almighty). These scales serve for the communication of angels and it is interesting that in the future scientific-analytical research should be done as in verse 4 the height of the stairs is also presented as the height for climbing fifty thousand years. Once the communication between mother Earth and the sky is done with the unit of measurement years. Which means you have to go through fifty thousand years to get uphill vertically.

Surah Ma'arij indexed by number 70, number of verses 44.

1. petitioner sought unavoidable punishment.
2. For unbelievers. There is no one who can stop it.
3. That punishment comes from Allah, the Exalted in Might, the Wise.
4. There the angels and the spirit (Jibril) ascend to a day that lasts fifty thousand years (or the height of those stairs is fifty thousand years).

This great height can overcome using by means of stairs for vertical communication. Earth is the feminine gender and heaven is the masculine gender, so God is in heaven. To calculate these stairs with a height of fifty thousand years, you must know the step of the movement of the angels. Based on the human step (61-63 rarely 64 cm) the step of the angels and the soul is very large that fifty thousand years pass quickly, based on the average human life about 70 years. The difference between the year on Earth and the year in the sky is about 714.3 years, so it moves faster in the sky than on Earth.

There are other holy books that should be the principle of analysis of how the stairs are described in them in the concept of vertical communication.



Figure 9. Communication in sky

<https://www.thesun.co.uk/tech/10399465/nasa-blood-clot-backwards-jugular-vein-astronauts-iss/>

I will end with Osho's words:
Informal is included in the form,
And what is in shape - is in the formless,
So why avoid them?

4. Research analysis

Around this concept, on Earth (in the regions where we live), where we operate, we surveyed a large number of people who climbed different types of stairs and objects with different dedications. From the surveys, we understood that people have different feelings and different expressions.

The first category of the survey was presented as questions and answers, "How many times you have used the stairs today?". There were answers like: *I climbed, climbed today in the object example twice even though there were those who had gone down to the basement but none said that I went down to the basement, but today I went into the basement three times and so on.*

During the survey, I also asked questions if you counted the stairs, why you climbed the stairs, etc.

Table 1. Object category and number of surveyed people

Nr.	Facilities / Dedication	Number of respondents	Expression	
			Ascending	Descending
1.	Residential	20	20	0
2.	Residential and commercial	25	20	0
3.	Commercial and social	40	40	5

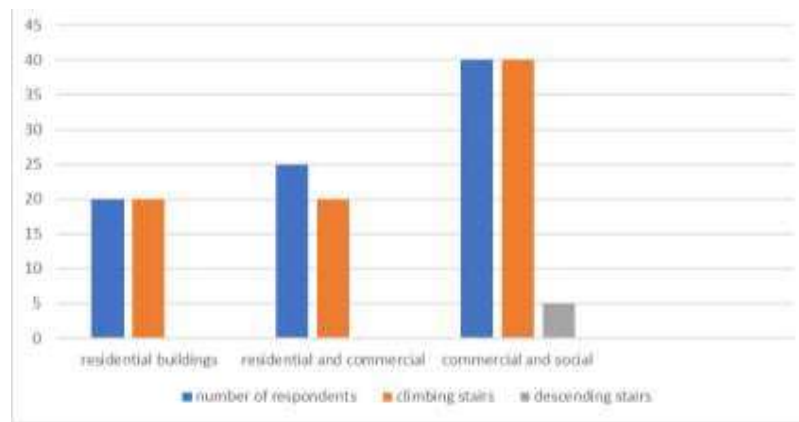


Figure 10. The category of objects and the number surveyed with the expression ups and downs

It was interesting that no one expressed the real numbers, because as he/she had counted but only showed a number and no one showed a real number, each person showed a larger number of scales from 2 to 10 scales. Although the building had 54 stair heights, they stated that they had climbed 70 steps, or even though it had risen vertically, it was stated that it had climbed 30 or 20 steps, even though the floor had 19 stair heights.

There were also those who sang, counted, learned, repeated, etc, on the stairs, were psychological concepts. Therefore, this analysis in the future requires more in-depth research not only by the architect but also by a psychologist, sociologist, and one of the sacral professions.

4. Conclusion

As a primary conclusion, I would like to emphasize that the man never said that I went down, but only by climbing up the stairs. So man climbs the stairs, and after climbing they must be comfortable and easy.

The second conclusion, should the stairs be counted, if yes, we should learn mathematics, a height and a base (infringer) one degree, two heights of a base, two bases of height, etc.

Where the meaning from this analysis is only the starting point that the stairs are multipliers of the horizontal plane for vertical climbing through objects but also in space. We need to think about deeper scientific analysis in mathematical, psychological, and social concepts.

Recently, vertical communication takes place in most cases with elevators, escalators, ramps, and the like, but in individual family houses, stairs are still the basic concept for vertical communication.

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