

Impact of Architecture on Forming Our Personal Memories

Jeanan Shafiq

Department of Interior Design, Applied Science Private University, 166 Amman 11391 Jordan.

Abstract

Time underlies many interesting human behaviors. Thus, the question of how to represent time in connectionist models is critical. One approach is to represent time implicitly by its effects on processing rather than explicitly (as in a spatial representation). Memory is the primary processing of man through time. Many studies have focused on the memory of architecture. The "Art of Memory" written by Frances Yates (1966). This classic study of how people learned to retain vast stores of knowledge before the invention of the printed page, Frances traced the art of memory from its treatment by Greek orators, through its Gothic transformations in the Middle Ages, to the occult forms it took in the Renaissance, and finally to its use in the seventeenth century. This study was the first to relate the art of memory to the history of Architecture and culture as a whole was revolutionary when it first appeared and continued to mesmerize readers with those clear insights. In another word, he described how people used architecture to help their memories. (Architecture can bring back a lot of memories). The aim of this study is to focus on the relationship between our individual memories and architecture and if there is a continuous familiarity of the place within our minds, presents as an inextricably bound.

Keywords: Architecture, Spatial representation, Memory, Encoding Images, Retrieval Images.

1. Introduction

Memory refers to the subsequent re-accessing of events or information from the past, which has been previously encoded and stored in the brain. It's known as remembering. During the recall, the brain "replays" a pattern of neural activity that was initially generated in response to a particular event, echoing the brain's perception of the real event. The recall involves remembering a fact, event or object that is not currently physically present (in the sense of retrieving a representation, mental image or concept). Memory is a collection of systems for the storage and recall of information (personal experiences, emotions, facts, procedures, skills, and habits). The goal of memory is to leave you with a coherent story of what happened.

That means, representation of the mental image of any memory has a strong relationship between Actions (events) and time.

Through that their Questions arise:

- Is there any relationship between Events, Time and Place?
- Do we remember events within a spatial representation (Architecture)?
- Do we have the same memory of a certain place (Architecture)?

2. Research Methodology

The study started from the previous questions by analyzing the memory images and its relation to the Emotions, Experience background, Interests and Scale (kid and adult), found that the relationship between memories and place (Architecture and/ or Interior) always exists as an intimacy but in a relative appearance.

Vision and philosophy of this study will be substantive analytical in the approach within the limits of the research problem on one hand, and based on assumptions derived from objectives, on the other hand. This led to conduct the study in four levels as follow:

- Memory as a term and process.
- Analyzing previous studies.
- Analyse our Special Memories.
- Conclusions.

3. Memory as a Term

Memory is the ability to remember information, experiences, and people. It's a collection of systems for the storage and recall of information (personal experiences, emotions, facts, procedures, skills and habits). The goal of memory is to leave you with a coherent story of what happened (events). It's an image of a temporal representation of an object or an event that have had occurred in the past.

Memory actually takes many different forms. We know that when we store a memory, we are storing information. But, what that information is and how long we retain it determines what type of memory it is. The biggest categories of memory are short-term memory (or working memory) and long-term memory, based on the amount of time the memory is stored. Both can weaken due to age, or a variety of other reasons and clinical conditions that affect memory.

3.1 Memory Process

The general picture of human information processing started when newly presented information appears to be transformed by the sensory system into its physiological representation (which may already involve a substantial amount of processing on the initial image), and this representation is stored briefly in a visual information storage system. Following this sensory storage, the presented material is identified and encoded into a new format and retained temporarily in a different storage system, usually called short-term memory. Then, if extra attention paid to the material, or if it rehearsed frequently enough, or if it gets properly organized, the information is transferred to a more permanent storage. In general, the capacity of this more permanent storage is so large that information that is stored there must be organized in an efficient manner if it is ever to be retrieved. Then, finally, when it is necessary to retrieve information from memory, decision rules must be used, both to decide exactly how to get access to the desired information and then to decide exactly what response should be made of the information that has been retrieved (Norman, 1970). Memory refers to the processes that are used to acquire, store, retain, and later retrieve information (Fig.1).

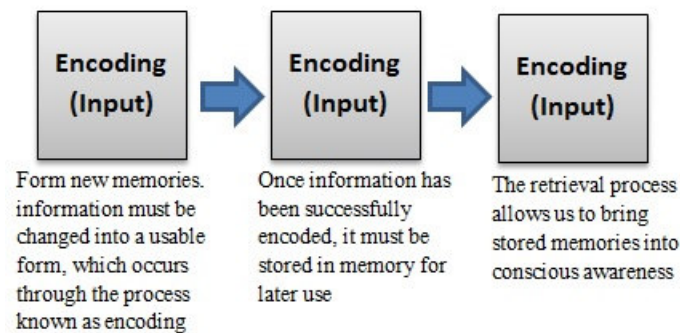


Figure1: Memory processes that are used to acquire, store, retain

4. Analyzing Previous Studies

4.1 Frances Yates

At *The Art of Memory* (1964) which is one of the studies that focused on the memory of architecture. The Author was the first to relate the Art of Memory to the history of Architecture and culture as a whole.

The study starts from Greek, through Gothic, to the Renaissance, and finally to the seventeenth-century Architecture. The Main Principle of “Yates” is to locate memories in studying history of architecture because Non- location- based memories tend to fade.

4.2 Patrick H. Hutton

At *the History as an Art of Memory* (1993) said “Common sense suggests that we need the past and must main our living connections with it. It draws the past into the present but color it with its particular hues and reflections.”

The two previous studies have the same viewpoints:

- Architecture brings memories by analyzing design, materials, and technology by analyzing theories behind to understand the culture and events (Fig. 2).

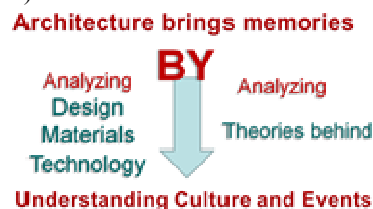


Figure 2: Architecture brings memories by understanding the culture and events

- Creating the same Memory Image for a certain historical Architecture elements in the imagery representational systems that are linked to elements in the verbal representational system. Thus, there is a connection between most people's image of a book and their verbal representation (Fig. 3) of a book, with such referential connections permitting construction of mental images given words as stimuli and generation of names when objects were seen in pictures (Schneider, 1997). A student wishing to acquire memory for words begins the same way. The specimen images for memory for words are the same type as the memory for things image, that is to say, they represent humans figures of a striking and unusual character and in striking dramatic situations (Hutton, 1993).

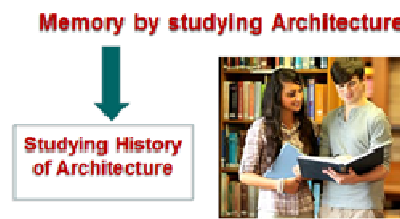


Figure 3: Creating the same Image for a certain historical Architecture

- Creating a special Memory image that happens when visiting a certain historical Architecture. The technique of false memory consisted of arrangements of places and images. The places provided an architectonic design in which the knowledge can be remembered as situated. These were places deeply embedded in the mind of the monuments that could not be forgotten (Fig. 4). The architecture of the site often conceived as a palace or a theater might be like to a sacred space which possessed intuitive familiarity (Hutton, 1993). This deep structure of memory, in turn, was given its particular character by the image with which it adorned. A good memory was a function of a resilient imagination, and images were chosen for their aesthetic appeal (Fig. 5).

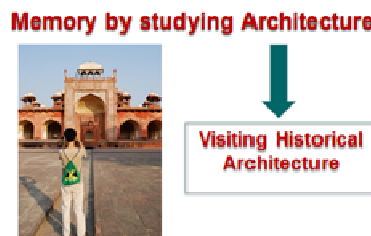


Figure 4: Creating a special Image for a certain historical Architecture

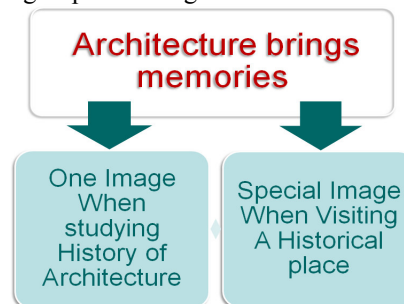


Figure 5: Options of encoding same or different Image as a Memory of Architecture

5. Our Special Memories

Human beings acquire knowledge of the world through the process of sensation and perception. Man acquires knowledge through the course of the formation of images. The formation of a picture is not possible without keen sensitivity to objects, places, persons or events. Forming a picture of those objects in our mind is recollecting a mental image (Rajamanicham, 1925). The mental image is a process of visualization of our past experience in the form of an object. In a way, it is thinking that lead to each person having their own memories, which are mainly based on:

5.1 Remember a Character

It's always happens when:

- We May remember a person and only the person (Fig. 6).
- We May remember a person within a certain place and can't recognize him in another place.

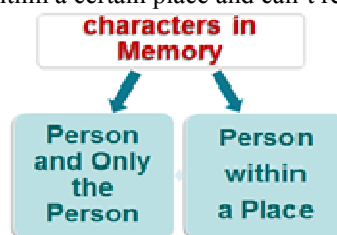


Figure 6: Characters in Memory

5.2 Remember an Event

This type of memory needs a place for the Action and the question here:

Do we have the same memory of a certain place (Architecture)?

The study will focus on the main factors in each person that mainly effects on encoding memories.

6. Factors that Effect on Encoding Memories

There are many factors that effects on forming our memories through the encoding process. The study will give a brief on them as main factors.

6.1 Culture and Environment

Individuals who live in the same culture usually have many things in common, such as their reactions toward their hometown, temple and even to scents and sounds, a thing that they have mostly the same images about it. If we ask thirty people to draw twelve pictures of whatever came to mind and then compare all 360 pictures together, we might very well find about as many matching ideas and images among them as one might find among line drawings. This does not prove that their telepathy set was matched only by chance, it does illustrate that many of us derive our pictures from a similar memory base. When we learned to read, the pictures with the words became word – picture – symbols (Millay, 1999).

6.2 Scale of Person while Encoding Process

Although some of the children's knowledge probably is in categorical hierarchies like those of adults, many concepts that children hold differ from those of adult (Schneider, 1997). Moreover, children are less likely to rely on hierarchical categorical knowledge than are adults when they are performing tasks that could be mediated by hierarchical absolute knowledge, and its use occurs in not completely understood (Markman, 1997).

The scale of a person forming a new memory is one of the main factors (Fig. 7). Kids see things different from Adults depending on their level which effects on their view angle towards things.



Figure 7: kids see things larger than adults according to their scale

This gives a clear reason why we remember places and spaces we saw when we were kids as large and vast while it's not (Fig. 8).

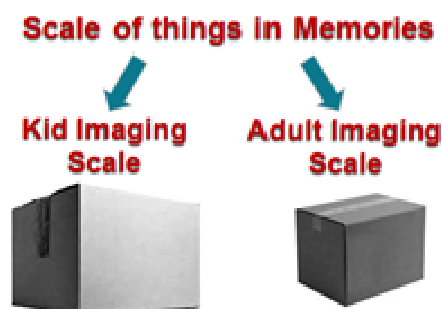


Figure 8: Different view angles cause different memory images

6.3 Emotions while Encoding Process

Each person's memory of a dramatic event may very well become different when everyone compares notes at a later time. Each person projects into the event his/her expectations, hopes and fear. What each one remembers is a combination of reflections from one's projections overlaid on the event itself. (Fig. 9) As time goes by, each of those projections gets amplified. The actual event was entirely different for each person. That is why attempts at telepathy can be so useful. They stretch out that misty edge between the external event and the internal projections that make up our different reality concepts (Millay, 1999).

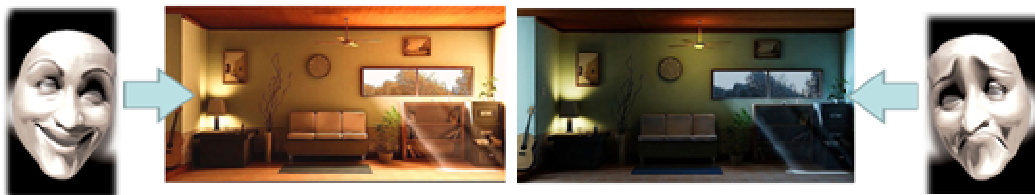


Figure 9: Memories could be in different Images depending on emotions

From this point of view, we can say that people remember places differently according to their emotions during an encoding process. For example, if a person spent good times, pleasant event, etc. that will effect on remembering the precise place with a brighter way and vice versa for people who spent bad time at a particular place (Fig. 10).

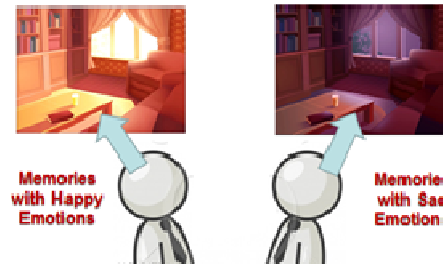


Figure 10: Two men remembering the same place in different emotions

6.4 Experience of the Person

When we see some objects or individuals or events outside, we do not completely discard them from our memory. We know that memory is the function that stores what we have learned or experienced on an earlier occasion. It is the storage of the effects of our experience. Therefore, we have the ability to trace the object or event and restate our past experience in the form of an image after some time. This is a mental picture of the object perceived earlier. This picture may be clear and sometimes not clear. They may be vague impressions. Some persons may have a vivid, sharp and definite picture of object or event like photographs. Because of this people's images may differ significantly (Rajamanicham, 1925). Memories depend on the experience of the person who encodes the image. For example, while attending an event, regular people focus on the event itself (Fig. 11), while the Architect considers on the Architectural details at the place of an event.

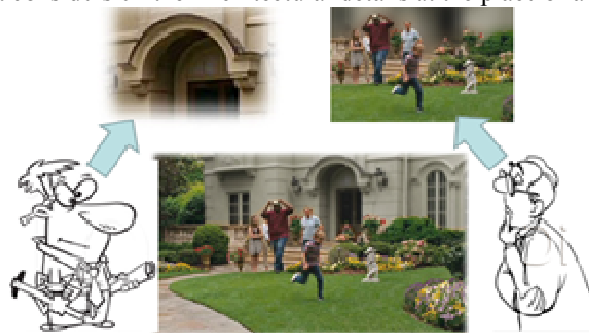


Figure 11: Encoding different memory Images for Architect and non-Architect

In the same way, two persons may give different memory images of the same object or event they have witnessed some time back (Fig. 12). It depends on what kind of image each one had of the object or event.



Figure 12: Memories could be in different images depending on experience

6.5 Interests of the Person

The memory of a certain place saved in different images due to the differences in interests between people. That will lead to different focusing points on a certain element instead of the whole space and will be saved as a focal point while encoding the memory image (Fig. 13).

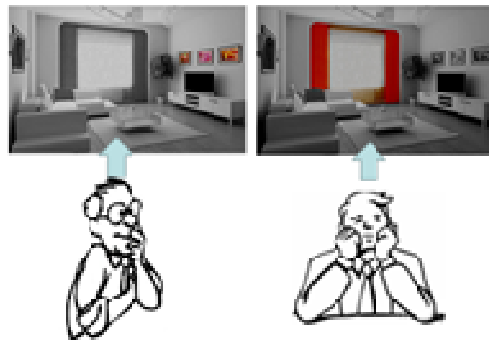


Figure 13: Different Memory Images of Place by encoding different elements

That is an explanation why two persons give different memory images for the same space (Fig. 14). It's depends on their special interest toward certain objects.

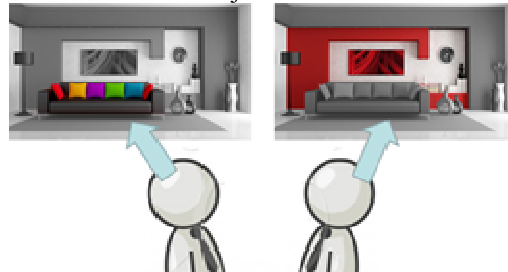


Figure 14: Two men remembering the same place with different focal points

7. Conclusions

- If we consider that our memories are images as a form of temporal representation for an object or an event. The study found that spatial representation represented by the Architectural space is presence within these images, without realizing that.
- People give different visions for their memory images of the same object or event. This depends on the person itself while encoding the image.
- The relationship between our memories and Architecture always exists as an intimacy but in a relative appearance. Depending on:
 - Culture and the environment where the person has been raised and grew up.
 - Scale of viewer while encoding the memory image.
 - Emotions during the encoding.
 - Interests of the viewer.
 - Experience of the viewer.
- There is a continuous familiarity of Architecture within our memories, presents as a strong bound but in different percentages.
- Memories are images that been stated as symbolic process and ideational processes. On the other hand, it's a good indication about sensory experiences toward a certain place at that certain time.
- All previous studies have been said that, Architecture brings memories of societies, cultures and people who have lived long ago. On the other hand, the study confirms the presence of Architecture within our personal memory images.

Acknowledgment

The author is grateful to the Applied Sciences Private University Amman- Jordan for the full financial support granted to this research project.

References

- Cowan Nelson (2002), "The Development of Memory in Childhood", Psychology Press Ltd., NY. USA
Elman Jeffrey L. (1990), "Finding structure in time, Cognitive Science", Volume 14, Issue 2, April-June, PP.179-211
Fergusson James, F.R.S (1862), "History of Architecture: In All Countries: From the Earliest Times to the

- Present day”, John Murray Albemarle St., London, Vol.3
- Hutton Patrick H. (1993), “History as an Art of Memory”, University Press of New England, Hanover.
- Jones Paul (2011), “The Sociology of Architecture: Constructing Identities”, Liverpool University Press.
- Markman B., Gentner Dedre, The Effects of Alignability on Memory, Psychological Science, Sage Publications, Inc., Vol. 8, No. 5, Sep., 1997.
- Millay Jean (1999), “Multidimensional Mind: Remote Viewing and the Evolution of Intelligence”, North Atlantic Books, Berkeley, California, USA.
- Miyake Akira, Shah Priti (1999), “Models of Working Memory: Mechanisms of Active Maintenance and Executive Control”, Cambridge University Press.
- Norman Donald A. (1970), “Models of Human Memory”, Academic Press, Inc., NY.
- Qureshi M., Franceschini M. (2010), “Morphable memory system: A robust architecture for exploiting multilevel phase change memories”, Oxford University Press.
- Rajamanicham M. (1925), “Experimental Psychology with Advanced Experiments”, Vol. 1, Ashok Kumar Mittal, New Delhi, India.
- Schneider W., Pressley M. (1997), “Introduction to Memory Development during Childhood and Adolescence”, Lawrence Erlbaum Associates, Inc., New Jersey
- Yates Frances Amelia (1966), “The Art of Memory”, Routledge & Kegan Paul, UK.

*Jeanan Shafiq is an (MSc) Architect working as a faculty member at the Department of Interior Design - Applied Science Private University, Amman, Jordan. Her area of interest includes the relationship between art and design in different fields such as Architecture, Interior Design and landscape, focusing in her studies on the contemporary architecture by analyzing the development through history to the present day.