



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## CONCLUSION

## CONCLUSION

Relation between spatial experience and the human behavior is a subject, which is not properly defined. With the early views it was a conception that the space cannot change the human behavior as concerned.

When considering the new research on creative work. Again it has become; that we seem to approach to deterministic ideas, where many research studies done in outer space has proved that, how the spatial impact, has on behavior and thoughts.

For a creative act there should be a human being. If we replace this being to a computer, the matter is clearer. Before explaining the difference between human creativity and mechanized ceactivity, it is necessary to have a conception of architectural creativity.

Creativity is explained in many ways, **bring into being, produce, invention, innovative, novelty** and many other terms. When considering such ideas it was assumed that the creativity, as a novelty, and the creative process, as bringing into being a novelty. To go further novelty can be in many forms and it is an every day confrontation irrespective of arts. Such novelty is needed, even when deciding, which path to be taken when walking, or faced with non-routine situations. There fore creative acts are needed in every activity, in the human existence. It was hypothesized that, the Creative process is a method of achieving the best solution for an anomaly or a non-routine confrontation. Creative process in architecture is much more different than scientific creativity, industrial creativity and artistic creativity.

In art the creative process is not much affected from the environment. The artist's 'self' is expressed through his art expression. In scientific creativity most logical formulas principles, are based on, and the solution is fixed. In architectural creativity it cannot be architect's architecture. The designer is faced with a problematic situation or an anomaly to be solved. He should use some knowledge structure to achieve a

solution. Solution is not an ideal one and can have unlimited options if it is creative.

When considering such arguments it was shown in the first chapter that many famous theories of writers', psychologists' and thinkers' of creativity are based on specialized subjects and are not adequate to handle all the creative activities in different fields, for instance to use in artistic designs, science, economics etc.

To understand the impact of spatial quality, it is necessary to understand a situation where a mechanical program and the human being at work. When a problematic situation is given to a computer, it checks the possible problems, and makes answers to the situation with stored memory. The memory is working only with the direct answers. Computer is unable to analyze some other relationships to such a situation. For instance when the computer is asked, to provide a position for a bed in a given area of a room, it would provide all the options within a minute. But to judge, if the room should be changed or to have another option for a bed is a deeper matter involving a large memory and some other knowledge structure. But human being is capable of relating many wanted and unwanted situations to resolve a situation. Such ability can also be defined as inspiration.

If we consider deeper this matter when a computer is provided with a large memory, as same as human memory, storing all the past human experiences, it still unable to come to a creative solution. Because it always tries to find similar situations of a relevant situation and give the most appropriate stored answer, for such a situation. This is a very important aspect in human creativity, and the impact of spatial experiences plays an important part. As many writers relate to 'incubation' period, is a period, where the supreme solution suddenly jumps out, is not necessarily a creative solution. It is only a period of "**scanning the memory,**" searching a similar situation in the past experience, and the resolved solution. Such creative acts are not creative in the sense of new technological achievements where such mechanical functions can be developed better than human interpretations. This is where 99% perspiration and the 1-percentage inspiration take part. Another

view of scanning the memory-related activity is touching the **unconscious, sub conscious, collective unconscious or universal unconscious**. Such creative works as seems to be divine are only getting some information from deep levels and not a creative act. A method of exhibiting some information which is beyond conscious memory. It is also a kind of scanning the memory. For such matters too, spatial quality affects, to have a range of memories, but the creative thought generation is still not touched.

With latest findings, to generate creative decisions, using computers are failed due to many reasons. First it becomes a routine understander, what ever fed is produced back, without 'new formations'. Next is when answering it always uses a top down structure. Such experiments were done at Yale artificial intelligence project at northwestern institute for the learning sciences (ILS) (Riejback and Schank 1989). To explain it further is when a person is faced with a design situation, to become creative he would reject his first option. Some times thinking to be more creative he will reject his second, third and forth etc. at last he comes up with a solution as he think much suitable. When used a computer program, it gives his first solution and will not work backward.

Actual creativity is when faced with an anomaly it is necessary first, to have a knowledge structure relevant to that anomaly. In science it is necessary to have knowledge structure of equations, principles and theories, in architecture it is necessary to have knowledge on spatial elements architectural physical and social elements, situations, forms. "Nothing is created out of nothing."

To come to a creative solution first it is necessary to identify the problematic situation and relevant knowledge structure and the basic elements. Then such basic elements should be 'modified and applied' without **adding** or **replacing** as it is. Albert Einstein used simple equation,  $S=u/t$ , and basic trigonometric principles, and the condition of limited speed of light to generate the shape of the universe and the spatial dimensions and at last theories of nuclei energy. But the basic principles he used were there, for many years. But nobody used it in a creative

way. Therefore using the basic elements with modification it is possible to come a creative solution.

In architectural creativity, this is the situation that the spatial schemata (experiences) come into play. If the spatial experiences are higher the knowledge structure is larger. Larger the similar experiences, creative power is lower. The creative power depends on what spatial experiences are and the variety. When a person is confronted with thousand types of square doors with carvings etc, it is a spatial experience where the door shape is fixed as a norm in his schemata. Then he is unable to step out of that frame due to the established norm. If he come across a different shape of a door, a circular, or an invincible one, then such spatial experience can change his fixed norms of the door and become more flexible in using his previous knowledge structure in different ways.

When considering such spatial anomalies where out of ordinary and non routine existence can have impact on the thought patterns to generate new thought patterns, it is not the intention of the writer to decide such places, or experiences, are necessary in architecture or not. Because, many such situations are, viewed as architectural pollutants, destruction of the urban fabric, and chaos. Therefore the argument is only such places indirectly help the creative process to reform the rooted spatial norms with spatial schemata.

As shown in chapter two many architectural norms existed periodically in the history. Therefore to have creative thought generations it is necessary to have out of ordinary, contradictory, non routine spatial qualities, in the form of shapes, functions, situations, materials, forces, densities, masses, and visual illusions etc.

Such confrontations can change the spatial schemata and norms of architecture to have different viewpoints and resolving methods, when generating creative thought patterns.

In the final chapter, it was attempted to show that how different new forms, situation with a disorganized circulation in a street, a children's village where the child's initial thought patterns are

developing, and the impact of visual structural forces, masses in a building, where the different spatial anomalies are introduced, are discussed. Users creative thought generation, also discussed, response to such anomalies. When there are no stimuli there is no thought generation to use later in creative acts.

It was also shown, that how the creativity is improved with the spatial experience. And such out of ordinary spatial qualities, are important or not, in architecture is another matter beyond this dissertation. It is also not intended to study and argue that the creativity is a beneficial aspect or not. Because according to the Darwinians evolution the animal that wanders away from the group is the first victim of the predator.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## BIBLIOGRAPHY

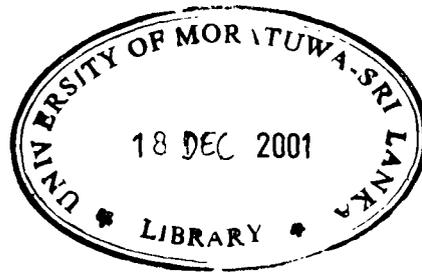
1. Alan Jarvis. 1947. **The things we see**. Penguin books Middlesex.
2. Alexander Tzonis and Liane Lefaivre, 1992. **Architecture in Europe**, Thames and Hudson.
3. Anderson, S. 1978. **On streets**, Cambridge : MIT press
4. Andrea Gleiniger, Gerhard Matzis, Sebastian Redecke, 1997, **Contemporary Architecture**, Prestel Munich New York ,1997
5. Barron, F. and Harrington, D.M. (1981). **Creativity, intelligence, and personality**.
6. Annual review of psychology, 32
7. Barron. 1963. **Creativity and psychological health**. Princeton, AN Nostrand co., inc.
8. Brewster Ghiselin. 1954. **The creative process**. Berkeley and Los Angeles; university of California press.
9. Bronowski, K. 1958. **The creative process**. Scientific American 199; 58-65, (Sept).
10. Bryan Lawson, 1980, **How designers think**, The Architectural press Ltd., London.
11. Christian Norberg-Schulz. 1966. **Intentions in Architecture**. Universitetsforlaget
12. George Allen & Unwin Ltd., London.
13. Elizebeth Adams Hurwitz 1964. **Design a search for Essentials**. International Txt book company, Scrantca , Pennsylvania.
14. Francis, D.K.Ching. 1979. **Architecture; form, space & order**, Van Nostrand Reinhold, 115 fifth avenue, New York, NY 10003.
15. Geoffrey Broadbent. 1973. **Design in Architecture** , John Wiley & Sons, London.
16. Gilles Walkley. 1994. **Artists' Houses in London 1764-1914**. Scolar Press Gower house, Hauts GU11-HR, England.
17. Hans Raj Shan. 1993. **Identification and Development of Creativity**. Commonwealth Publishers New Delhi-110002.

18. Hans Sachs. 1951. **The creative unconscious.** Cambridge, mass, SCI-Art Publishers.
19. Krome Barratt. 1980. **Logic and Design in Art Science & Mathematics.** George
20. Godwin Limited, 1-3 Pemberton Row, Red Lion court, Fleet Street London EC4.
21. Leonov, A. and Lebedev, V. (1968). **Perception of Space and Time in Outer Space.** Moscow, Navka Press, P.13. (Translated AS NASA 4-5-1968)
22. Louise, Dunn Yochim. 1967. **Perceptual Growth in Creativity.** International Texy book company, Scranton, Pennsylvania.
23. Norman Crowe. 1995. **Nature and the idea of a man made world.** The MIT press Cambridge, Massachusetts, London, England.
24. Piera scuri. 1995. **Design of enclosed spaces.** Chapman & Hall, One Penn Plaza, New York – NY 10119.
25. Pierre Von Meiss. 1990. **Elements of architecture.** Chapman & hall, London SE18HN, UK.
26. Raina, M.K. 1980. **Creative Research International Perspective.** New Delhi; National council of educational, Research and training.
27. Risesbeck, R.C, and Schank R.C. (1989). **Inside case based reasoning.** Hillsdale, Njerlbaum.\*
28. Ronald a finky. 1989. **Principles of imagery.** Cambridge, MA MIT Press.
29. Ronald Shone. 1984. **Creative Visualization.** Thorsons publishers Ltd. Northamptonshire, NN8 England.
30. Rudolf Arnheim. 1977. **The Dynamics of Architectural Form.** University of California press Ltd., London England.
31. Sir Gerald Barry, De.J. Bronowski, James F Sir Julian Huxley, editorial board. **The Arts: mans creative imagination.** Doubleday & Company Inc Garden City, New York.
32. Steven M. Smith, Thomas B Ward, and Ronald A, Finke. 1995, **The Creative Cognition Approach.** MIT press, Cambridge.
33. Susanne k Langer. 1979. **Feeling and Form.** Routledge & Kegan Paul Limited, London and Henley.

34. Torrance E.P. 1962. **Guiding creative talent.** Englewood cliffs, New Jersey, prentice hall Inc New Jersey.

INTER NET

Labellsy@ERE.Umontreal.CA-<http://www.ozemail.com.au/~caveman/creative,2000>



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)