

A Study on Characteristics of Creative Workspace based on a Biological Paradigm

Minwoo Kim*, Kyungran Lim**

*Soongsil University, Korea, **Soongsil University, Korea

E-mail : minwoo.kim@ssu.ac.kr*, joa@ssu.ac.kr**

1. Introduction

With the advent of ICT (information and communication technology), today, urban environments have evolved into a space where new interaction happens based on a biological paradigm. As the manufacturing service is evolving into a creative society that creates knowledge and information service, the diversification of the function and role of workspace is also required. Along with the importance on the collaboration between co-workers, exchanging information and communication and improving creativity, the role is growing as a place of changing thoughts. There for in this study, through theoretical study of the biological paradigm, the characteristics for the implementation of creative workspace are provide.

2. Biological Paradigm

In the ‘The Singularity Is Near’ by Ray Kurzweil, it mentions that the biological methodology has reached the era of singularity where it is converged on the technology and the interaction of human and technology exceeds such a boundary [1]. Singularity mentions about the era that the distinction between human and technology is disappeared. It is expected to cause a tremendous impact on the interaction between human and human, human and components. Facing a paradigm shift into a biological paradigm, seeking a new development direction on the interaction in the workspace and the spatial utilization method is required.

Biomimicry derives from two Greek words, ‘bios’ which means life and ‘mimesis’ which means imitation or mimicking that the characteristics of organisms such as basic structure, principles and mechanism is applied to the whole industry. Biomimicry has a purpose of solving the challenges of the human race through a study or mimicking of design elements in the characteristics of organism. This can be distinguished as mimicking the organism that infers the form from nature, mimicking the behavior taking place in the ecosystem and mimicking the ecosystem based on the interaction of ecosystem [2].



Figure 1. Redwood Treehouse Restaurant [3]
Organism Level



Figure 2. Eastgate Center [4]
Behavior Level




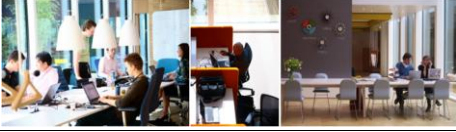


Figure 3. 30St. Mary Axe [5]
Ecosystem Level

The perspective of biomimicry is that nature is composed of sum of the parts, and the boundary between entire and portion is progressing a sustainable circulation through organic relationships. Therefore, in the workspace, behavior imitative workspace where a spatial variation for supporting individual actions and effective communications can be controlled through organic system should be considered.

3. Evolution Trends of Workspace

Today, as creative ideas and information becomes importance, the role of a place that can improve the creativity and a flexible communication in the workspace is required. The communication methods in the previous workspace were only a meeting room and a phone call. But due to the development of ICT, today, communication methods are being diversified. From the method of communicating by occupying the physical space in the past, such tendency has made the physical space meaningless as it communicates through virtual spaces such as SNS and social networks. This, as in the ecosystem can freely support the behavior and movements of the people. Because of this, a ‘Coffice’ (coffee+office) group has appeared that uses the cafe like their office, and methods like ‘Hot Desking’ where the spatial efficiency of workspace is increased by demanding and sharing a variety of space according to their work characteristics, and ‘Hotelling’ that uses the desired workspace with reservation have appeared.

[Table 1] The Classification by Office Type

Office Type		Image	Characteristics
Hot Desking	Cheil's Uiwang R&D Center [6]		Personalization Flexibility Expandability
	Microsoft's Amsterdam Headquarters [7]		
Hotelling	Posco's ICT Office [8]		Personalization Controllability Heterogeneous
	Macquarie Bank's Office [9]		

Such methods can allow to choose the workspace and office hour that is suitable to their schedules, task and helps to improve the creativity and change of thoughts within a free environment. Derived biological characteristics can be considered with four workspace characteristics; amenity, personality, collaborative and dynamic.

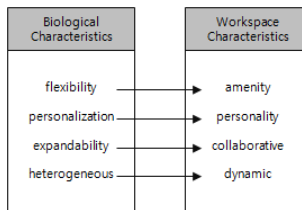


Figure 4. Characteristics of Workspace

4. Conclusion

This study has derived the properties by analyzing the workspace applied with biological methodology through a theoretical study of biological paradigm. Today's workspace requires new interactions and spatial utilization methods facing changes of biological paradigm. Analyzing the workspace from behavior imitation perspective of biomimicry, biological characteristics such as flexibility, personalization, expandability and heterogeneous were able to be derived. This can be considered as characteristics of workspace of amenity, personality, collaborative and dynamics. Derived characteristics contribute to providing the new direction of workspace. In addition, it is expected to be utilized as a guideline for the future workspace design.

5. References

- [1] Kurzweil, R. The Singularity Is Near, Duckworth, 2008.
- [2] Salma Ashraf Saad El Ahmar, BIOMIMICRY AS A TOOL FOR SUSTAINABLE ARCHITECTURE DESIGN-TOWARD MORPHOGENETIC ARCHITECTURE, A Thesis of Master of Science, Alexandria University, 2011, pp. 14-20.
- [3] Inhabitat, <http://inhabitat.com/new-zealand-treehouse-restaurant-wins-multiple-awards/>
- [4] Ask Nature, <http://www.asknature.org/product/373ec79cd6dba791bc00ed32203706a1/>
- [5] 30 ST MARY AXE, <http://www.30stmaryaxe.com/>
- [6] Cheil Industries, <http://www.cheilstory.com/56>
- [7] Office Snapshots, <http://officesnapshots.com/2012/01/27/hotdesking-office-design-microsofts-amsterdam-headquarters/>
- [8] The Dong-A Ilbo, <http://news.donga.com/3/all/20110623/38270734/1>
- [9] Inhabitat, <http://inhabitat.com/green-macquarie-bank-office-is-part-space-station-part-cathedral/>