

THE WAYFINDING IN HEALTHCARE BUILDING ENVIRONMENT

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1. Context

Spatial orientation is an inherent aptitude for the human being, which gives him the possibility of situating himself and orienting himself towards objects, people and himself in a given space. The capacity for spatial orientation has been developed through time and improved from the interactions with spaces and the various modifications undergone by them.

Being oriented is to have a sense of where you are (sense of place) and know how to reach the destination by thinking directions, routes and inferring distances, that is, the individual must be able to form a mental map of space to from it power move without errors and waste of time.

Of the diverse contemporary environments, the healthcare environment is the one with the highest level of complexity. This is a reflection of the need to embrace the growing number of people, technologies and functional diversity (therapeutic, teaching, administrative, hotel, industrial, laboratory, etc. activities). They are environments that have risks of several orders, imposing on the user constant observation regarding their safety. The complexity of this environment is also related to the confrontation of these users with the disease situation, which infers a greater emotional load to the environment, being these users more susceptible to inattention and stress (CARPMAN & GRANT, 2002).

Faced with such a situation, the built hospital environment should have spatial orientation facilitators, and provide visual information that favors the individual in locating and accessing their destination with the least number of errors and in the shortest time possible. Facilitators are the various stimuli of the environment impregnated with information, and strategically located in the path of displacement of the individual.

The visual information of the built hospital environment develops from design decisions that must follow the postulates of Ergonomics and wayfinding, since it is intended a greater reach of the orientation needs of the users of these spaces.

This work presents the wayfinding from basic theoretical concepts and complementary studies. It points out the growing interest, albeit in an incipient way, by the research as well as the development of a project that contemplates this theme in Brazil. It also brings, in general data, the research developed for doctoral thesis whose theme is the color-information in the wayfinding of hospitals. The objective is to point out the importance of the theme that deals with several variables, especially in complex environments such as hospitals, in the projects of the built environment.

2. Method

The routing of this article occurred in two moments. First, it presents a panorama of wayfinding and then general doctoral research data that investigated the color-information in the wayfinding of the hospital built environment.

In the first moment were developed bibliographical researches and researches in the web using the keywords: wayfinding, design and architecture.

In the second moment we present data from an investigation that used data collection techniques such as observations, questionnaires and interviews. The data were presented through qualitative analysis.

3. Results

Two authors - Lynch (1960/2006) and Arthur & Passini (1992) - established the basis of the wayfinding and around which all studies and

extensions of the concepts are based. In Brazil, the interest in this subject is more recent and, still in its infancy, has increased progressively. In the research, it is verified in congresses like ENTAC, ERGODESIGN and ENEAC an increase in the number of articles with this theme from the year 2014. Universities like PUC - UFSC, UFPR, UFJF and UNICAMP develop master's and doctoral researches around the theme.

Being a concept for project development, it is found in Brazil that some, however few, Graphic and Information Design offices like GADMijksenaar - Wayfinding Consultancy, 2buy and Studio / mda use wayfinding as another business model. Although it is linked to the built environment, in its fundamental concepts, it was not found in the search by web search, architecture offices that propagate to use the concepts of wayfinding. This data was ratified by a research by Rangel (2016) whose interview data with seventeen (17) professional architects and designers pointed out that none uses wayfinding and only two (2) have already heard about the topic.

The thesis that investigated the wayfinding in the healthcare environment by the information bias investigated the information systems of the built environment - architecture, objects and additional messages (BINS ELY, 2004; RIBEIRO, 2009, RANGEL, 2016) and its interface with the built environment and the user in two case studies. He also made inquiries with the designers (architects and designers). The data analysis had as guiding the model for "Chromatic Design of Information Systems" (PCSI) developed throughout the thesis. The results indicate that the efficiency of the color-information in the displacements of the user in EAS implies a condition that involves the attendance of the following aspects: (1) interdisciplinary action among the designers throughout the processes of the projects that involve the use of color in the environment; (2) theoretical contribution on the fundamentals of color, color-information, wayfinding and Ergonomics; (3) integration of color information into information systems and those to the needs of the real user, the one that will interact with the environment.

4. Conclusion

It is verified that in Brazil, wayfinding is a theme that has attracted interest from researchers and professionals, especially in the field of graphic design and information. It is important to extend the discussion to the different areas of Design and

Architecture, since, according to Arthur & Passini (1992), the architect in designing a built environment and its circulation system, is defining the facilities and difficulties of spatial orientation.

The architectural design impacts the orientation of the user, in such a way that often the difficulties can not be solved by a complementary system of visual communication.

Since the design of the built environment and its visual communication structure involves several projects from different fields, the hospital research presented in this article ratifies Murphy's (2011) considerations about the need for interdisciplinary teamwork in the initial phase of the project of the built environment, because they point to the need for architects and designers to know and adopt the postulates of the wayfinding, working all the visual communication of the building in an integrated way throughout the design process of the built environment.

Color is an important element in the construction of wayfinding systems, since it is capable of providing messages that communicate to the user certain information, intentional or not.

Color is assumed to be information-color when projected into the environment with the intention of providing, in the case of wayfinding, information for the user's spatial orientation, assisting him in reading and understanding the constructed environment.

The user is the focus of wayfinding, because all strategies aim at achieving their satisfaction and well-being. Thus, the postulates of Ergonomics and Ergonomics of the Built Environment should be observed in the research and development of wayfinding project.

5. References

ARTHUR P.; PASSINI, R. Wayfinding: people, signs, and architecture. New York: McGraw-Hill, Ryerson, 1992.

BINS ELY, V. H. M. Acessibilidade espacial: condição necessária para o projeto de ambientes inclusivos. In: MORAES, A. (Org.). Ergodesign do ambiente construído e habitado: ambiente urbano, ambiente público, ambiente laboral. Rio de Janeiro: iUsER, 2004b. p.17-40.

CARPMAN, J. R. Wayfinding in health facilities.
In: SEMINARS HEALING BY DESIGN:
BUILDING FOR HEALTH CARE IN THE 21ST
CENTURY, 2000, Montreal. Proceedings...
Montreal: McGill University Health Centre
(MUHC), 2000. 1 CD-ROOM.

CARPMAN, J. R.; GRANT, M. A. Wayfinding:
abroad view. In: BECHTEL, R. B.; CHURCHMAN,
A. (Eds.). *Handbook of environmental psychology*.
New York: John Wiley, 2002. p. 427-442.n

LYNCH, K. *A imagem da cidade*. São Paulo:
Martins Fontes, 2006.Louro, 2005;

RANGEL, M. M. *Projeto cromático para sistemas
informacionais: proposta para o uso da cor em
wayfinding para estabelecimentos assistenciais de
saúde*. 2016. 298f. Tese (Doutorado em Design) –
Pontifícia Universidade Católica do Rio de Janeiro,
Departamento de Artes e Design, Rio de Janeiro,
2016.

RIBEIRO, L. G. *Onde estou? Para onde vou?*
*Ergonomia do ambiente construído: wayfinding e
aeroportos*. 2009. 266f. Tese (Doutorado em Design)
– Pontifícia Universidade Católica do Rio de
Janeiro, Departamento de Artes e Design, Rio de
Janeiro, 2009.