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A Review on Shearing of Single Living Space in Residential Architecture

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ABSTRACT: - This paper traces the rules that are governing the use of living spaces in the cases when two or more users – inhabitants are reduced to share the space and live together. As such, this research is aims to present the minimum living requirements of one human individual – user that are supposed to be satisfied within the process of planning of configuration of spaces that are expected to accommodate the users and to expose the principles and rules that should be followed through the process of architectural planning and design. This research is based on observations made within the qualitative analysis method, in the frame of which the selected examples and illustrations will be evaluated and properly compared according to the standards and architectural planning principles related to the rules of configuration of living spaces. This study gives the better insight into the principles of configuration of living spaces that are planned to govern the shearing of one living space and evaluates the 'minimums' that are required to be satisfied for each individual – for each user / inhabitant. Complete focus of this research is based on the functional organization of single room for teenage children within the residential complexes and dormitory facilities, and through this review it is aimed to follow the possible traces of simplified understandings of the relations between users (as individuals), actions – functions, and living space.

Keywords:- Living space, shearing, areas of activities, individual areas, basic needs

I. INTRODUCTION

From the architectural practice as well as from the construction market, it is possible to detect that there is an unwritten assumption that living spaces are supposed to be configured primary according to the physical dimension of space. It is possible to detect the traces of this statement through different examples of approaches in planning and process of configuration of living spaces. Another, equally important, aspect of this matter is that the role of human as an individual in architecture is completely based on his physical dimensions, while all other aspects and dimensions of human existence as an individual, are treated as pure theory, which is usually justified as something that is not profitable – too expensive. With this research it is aimed to expose the aspects of generalisations in approaches of processes that are treating the configuration of living spaces, and to present possible approaches that could be taken into considerations when it comes to functional organization of rooms of children in apartments, that they, in the most of the cases, must share with each other. Without any doubt it is possible to state that the reason of existence of standards in architecture and in the building sector lies in the need of to provision and protection of the minimums below which the decent living of users would not be possible. According to Rapoport (2005) *architecture is not a 'free' artistic activity but a science-based profession that is concerned with problem solving'*. But, despite the mentioned definition and the contemporary fact that architecture is supposed to be concerned with problem solving, the "the final touch" when it comes to the configuration of living spaces is mainly in the hands of architects, due which the final successful functional solution of any kind of configuration and design of space usually depends on their individual understanding of relation of architecture and human as an individuals.

II. CONFIGURATION OF FUNCTIONAL SPACE

Human as an individual has his own physical and sensory dimensions, and these two dimensions are depending on each other, and as such they are inseparable. Living space, as a physical environment is expected to provide the proper environment for users, for their physical and sensory needs. The importance of understanding the shearing of single living spaces in architecture is very important, since humans as a living beings, from their early beginnings were surviving and coexisting in different kinds of collectives, and where there is a collective, there must be the case of sharing the space. In the contemporary world, humans are configuring their living spaces according to their needs that are standardised into materialistic, which is in practice referred as furniture (Novalić, 2012). Another important information related to this topic is that human beings, together with all their needs, possess the natural need for area, for "usable area – space". According to Rakočević (2003) the definition of *'needed area - space covers the outline (contour) of one furniture element, the position of user, and flow of movement'*. By relying on this definition it is possible to claim that this is the

main sort of way and technique of arranging the needed usable space, by which the planner (architect) take under control the size and scale of space that is up to be configured.

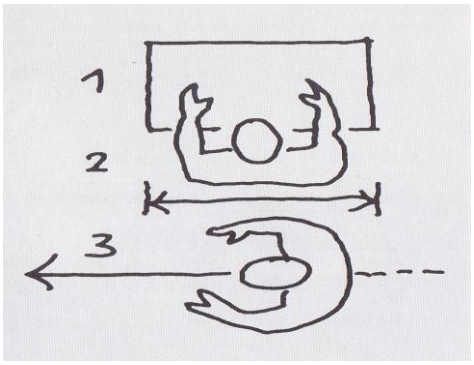

Fig. 1: Example of the 'creation of usable space': 1 - contour dimension of furniture, 2 – the position and dimension of user, 3 – flow of movement.

Another important issue related to this matter is that the main functional problems may occur within one space when it is being shared by two users. In that case, the equality in arrangement becomes of the crucial importance, and the most delicate and demanding part of essential importance is the function under the number 3 – flow of movement. It is the most delicate part of any kind of planning, since the flow of movement is something that usually is treated as void – or empty space between the furniture, but it is evident from the practice and built environment that the communication flow or flow of movement is an essential part of any kind of configuration of space and functional organisation of any spatial areas in architectural planning and design. This kind of approach is observable in the experimental examples of buildings that were designed by Le Corbusier. One of these is the example of single room arrangement for needs for one person designed in the Le Tourette Monastery (|French, 2006)

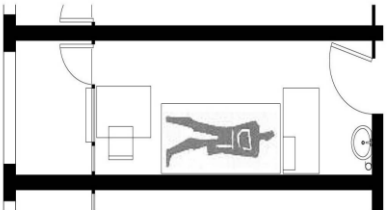

Fig. 2: Example of the single room sized and configured according to furniture couture dimensions, user dimension and flow of movement in the case of La Tourette Monastery designed by Le Corbusier, 1960

III. OPTIONS IN GROUPING OF FUNCTIONS

According to Novalić (2012) there are two possibilities of grouping of functions (functional elements – furniture) in rooms that are supposed to be inhabitet by at least two inhabitants: Grouping of funtional elements according to users (individual approach) and grouping of functional elements according to their type.

A. Grouping of Functional Elements According to Users – Individual Aproach

The most prominent example of individual approach in functional organisation of room may be found in the example of United'Habitation in Marseille (by Le Corbusier) for two is the example of functional flexibility in the case of two room that are separated with non movable and movable walls, due which the proper separation where it is needed (sleeping areas and areas for personal hygiene – areas that require some kind of privacy) is permanent, and were the connection of rooms and interaction of ihabitants is requred (working and resting areas) with the movable wall.

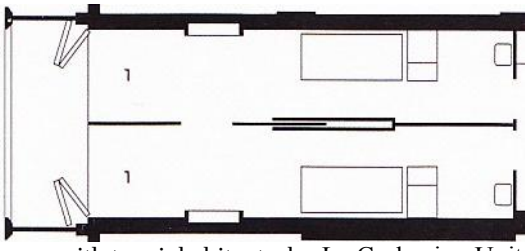

Fig. 3: Example of the single room with two inhabitants, by Le Corbusier, United'Habitation, Marseille 1957

B. Grouping of Functional Elements According to Types of Functions

The approach in which functions and functional elements are grouped according to their types is the case that is usually aplicated in practice, since in this way it it possible to reduce the size of room, and minimise the amount of areas of communication. In these cases inhabitants are sharing the spaces within a room in the frame of type of their functions.

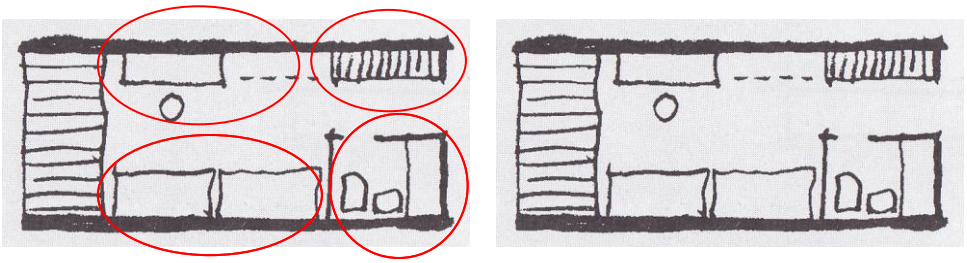

Fig. 4: Example of the grouping of functions according to their types. With the red colour the grouped functions are marked: Sleeping area, working area, area for storing, hygiene area

In the cases were individuality of each inhabitant is intended to be protected in a way that the rate of equality among users is intended, than the grouping of functions according to each inhabitant is inevitable. In this case the complete separation of two same function does not need to occure, since, even in this case the working area may be aplied as a group, but the only condition is that what ever they are doing together is aplicable with certain amount of individuality. It is possible to observe from the layout of single room for two persons in the figure (Fengler, 1963) that users may study together but have equal amount of natural light, that they might sleep in the same position within a room but with reasonable amount of distance between beds, and they may even store their clothes in the sam closet, since it is a function that when it is being shared by few inhabitants is not going to produce any kind of inconvinience, if the capacity of closet is enough. The horisontal line on the illustration below is representing an invisible but easily understandable functional division of the single room according to two inhabitants that despite sharing the same space, they have a reasonable amount of freedom and privacy within single living space.

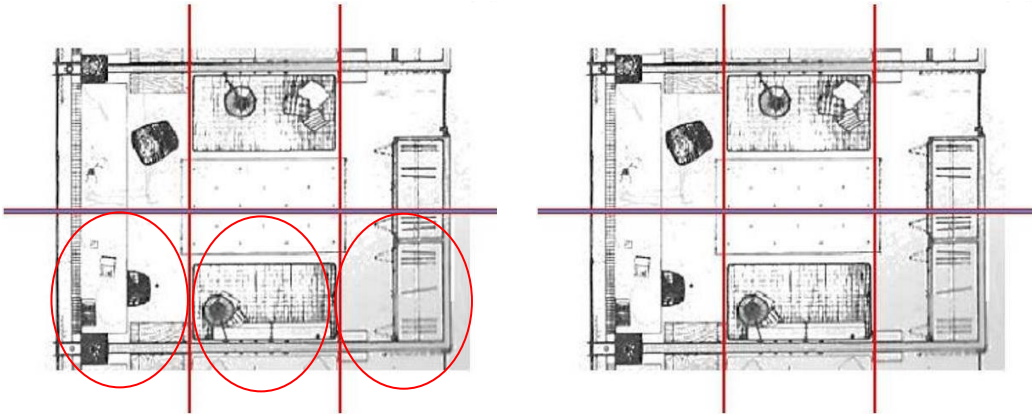

Fig. 5: Example of the case of the room where individual approach is dominant (horizontal line), but the grouping of functions according to their type is evident, from which it is obvious to conclude that the natural light resource (openings – windows) are dictating their arrangement.

IV. CONCLUSION

The significance of this review of the main principles related to distribution and formulation of functions and functional elements within single living space lies in the fact that architectural planning and design is the most delicate process of all stages trough which one project passes through, within the journey from the point of abstract idea – intention, until the realisation and its construction. In the process of configuration and design everything what is intended takes place in the ‘still alive’ stage within the whole process and as such it is suitable for all kinds of changes, adaptations and reconsiderations. After the end of process of thinking, planning & design, for any kind of adjustment and correction of possible omission(s) is too late. This research draws attention to one of the most reliable methods of configuration of living spaces and architectural spaces in general, by demonstrating two approaches in distribution of functions and their relations

with users, in which users personal – individual rights and needs might be satisfied without any kind of production of possible frustrations from the aspect of both users. As a result, user based approach in the process of configuration of living spaces is strongly recommended, since it is evident that the size of one room – space is being dictated by the type, size of the functions and user factors, which is completely opposite from the perceptions of building and construction market in which everything related to living spaces is being measured by meter squares. It is evident that human beings and their architecture is more than that.

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