

POLYVALENCE: A POSSIBLE WAY IN REPROGRAMMING HOUSING ARCHITECTURE

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Summary: *Unpredictable changes in the everyday functioning of families demand unpredictable program changes in the living area and also refer to new tendencies in the domain of designing a flexible living space. The paper deals with the topic of Polyvalence - introducing the largest number of spatial conditions that can play a part in every situation whatever the function, and can simply be put to use in each new occasion - as one of the many possible responses to the observed contemporary living requirements.*

Keywords: *Housing, Polyvalence, living requirements*

1. INTRODUCTION

The intent of this paper is to demonstrate how changes in everyday routines represent a base for changes in the access of programming and designing housing.

The subject of the paper is inspired by the insight that the present moment brings about changes in the way of housing via different aspects: above all by rapid changes due to technological evolution that dominantly influences everyday life routines, and more widely, changes in ideas and interpretation of a house by the user (inhabitant). By accentuating individuality through various habits, desires and aspirations a need for apartments that enable a freer functional organization and usage of space has been observed.

The paper focuses on the fact that daily routines oscillate more and more by events that do not demand an important change in living space but its frequent transformation. This formulates a thesis about the arrival of needs to design a space that is not fixed with an intentionally designed open plan that can support (withhold) the changeability in the lifestyle that occasionally appears. In that key quality housing architecture should be more precise, additionally instructed towards concrete aspects of everyday life (a deeper scenario of use), and no more towards a uniform family and its generalized a priori needs. Unpredictable changes in everyday functioning thus demand also unpredictable program changes in the housing space and direct to new interpretations of designing a flexible space. The paper particularly pays attention to a wider interpretation of polyvalence as one of the possible responses to perceived contemporary demands. The theoretical background of the paper is based on Herman Hertzberg's determination that polyvalence alludes to a

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bigger number of spatial conditions that can be a part of any situation no matter their function and that they have a possibility of use in every new opportunity.

Its contribution is gathering knowledge for an argued rendering of one of the possible program-designing responses to the unpredictability of the modern everyday life. In a wider sense, the contribution of the paper is seen in demonstrating the need for a program re-evaluation of harsh differentiations of housing space that have been questioned by the modern way of life.

2. WHO IS THE „USAGER“

A man cannot live without housing, and housing is still in the search of its adequate form. The housing space is very concrete. It represents the space of movements, roads, symbols and senses and is in an everlasting conflict between desires and needs (cravings) and spatial possibilities. Nowadays this conflict appears to be much accentuated.

Social delamination and social and cultural changes in general affect the change of the profile of the user and their needs and the expectations they have from housing spaces. Identities (of users) change under the influence of technological development and such a change is additionally quickened by a fast flow of information. Personal lives and the everyday life, consequently, are not independent on world phenomenon. Hyphenated individualization of the user also influences the fact that traditional lifestyle is slowly disappearing; a traditional family is only one of the present models. The everyday life becomes unpredictable during time and is suffocated in its own fixed housing space. A contemporary apartment now demands (aspires to) 'withstand' elementary traits of the diversity of the lifestyle, models and values in relation to modalities or modulations of the everyday life. Homogenous and qualitatively globalized space – a housing machine – is presently considered as a rigid system that cannot enable the functioning of different concepts of housing and active corresponding to change. The more the professionals defined the quantitative aspects and transformed them into projects (the project neglected qualitative aspects that are difficult to measure) the smaller the chances were for the project to provide an answer to unpredictable changes in use. Rigid visible compartments, such as walls, generate for their appearance of differentiating space, and the modern user needs multipurpose space continuity.

The modern apartment user needs to define something else. He faces the directness and the objectivity of its own. He positions himself into the center, determines himself, measures himself, and uses himself as measurement.

The modern user has turned the page to the architects and urbanists. He brings back the poetic into housing that designing rationality has been longing to suffocate for years. Even a long time ago Henri Lefebvre criticized this rationality pointing to the fact that a man lives as a poet. Lefebvre explained that in housing one can establish and read the relation of a human being with nature and its own nature, with a being and its own being [1]. The housing space is part of the human being and people aspire to enable themselves to inhabit a space poetically and that they produce the housing in accord with the everyday changes. It is up to the architectural practice to offer (give) and adequate shell that allows the development of everyday life.

3. THEORETICAL BACKGROUND: POLYVALENCE

One of the concepts that can deal with changeability and unpredictability is polyvalence. A polyvalent space means – if a generic space does not contain architectural elements and with its form and dimensions enables different changes.

Bernard Leupen clarifies that the word *polyvalent* has been known for years in the context of the multi-purpose hall or *salle polyvalente*, the kind of building that is to be found in every French village or small town, that can be used for weddings and parties, for musical and theatrical performances and as a cinema. A hall of this kind can be used for all kinds of functions without any adjustment being required to the building itself [2].

It was Herman Hertzberger that familiarized architects with the word polyvalence. His ideas is seen in the *Diagoon* houses he designed for Delft. He considers that these spaces can be used for various uses and its inviting form is what actually makes it essentially suggestive. In order for a space to be appropriate for the next user it is necessary that its surroundings are familiar. This gives the most basic forms (call them arch-forms) and spatial principles, which possess the capacity to initiate in every situation a process that can create for everyone the spatial conditions most appropriate to them. What this does in fact is reach back to the structural basis, the capacity to give each new situation the interpretation appropriate to it. [3]

Polyvalence represents the capacity to transform housing and to create space for all the different processes that happen simultaneously. It is the ability to deal with each new situation. Herzberger claims that polyvalence is a capacity or inbuilt suitability to generate pertinent solutions for each new situation as it arises. polyvalence is the capacity (where nothing has been fixed beforehand about how a form or space will respond to unspecified situations) to not just take up unforeseen applications but to actually incite them. Powered by knowledge about general human behaviour, polyvalence can anticipate the form of objects and spaces, thereby foreseeing the unforeseen. [4]

One of the approaches that has been broadly used is when a space is created to be flexible by using panels or moving walls. Even though this is merely a physical shift, one space can also be made flexible just by adapting it to serve previously determined uses (two or three). But polyvalence is wider concept. As Herzberger writes the only constructive approach to a situation that is subject to change is a form that starts out from this changefulness as a permanent - that is, essentially a static - given factor: a form which is polyvalent. In other words, a form that can be put to different uses without having to undergo changes itself, so that a minimal flexibility can still produce a optimal solution.[5]

4. SIX BASIC ACTIVITIES OF HOUSING AND TWO EXAMPLES OF THEIR CHANGE IN TIME

In order to deal with polyvalence in housing, it is necessary to first recognize the activities it integrates, since they are the ones that are changing in a polyvalent space. All humans live/inhabit and no matter the numerous differences in housing during this process they perform six basic activities. According to Leupen they are: Sleeping, Get Together, Eating, Cooking, Bathing and Working.[6]

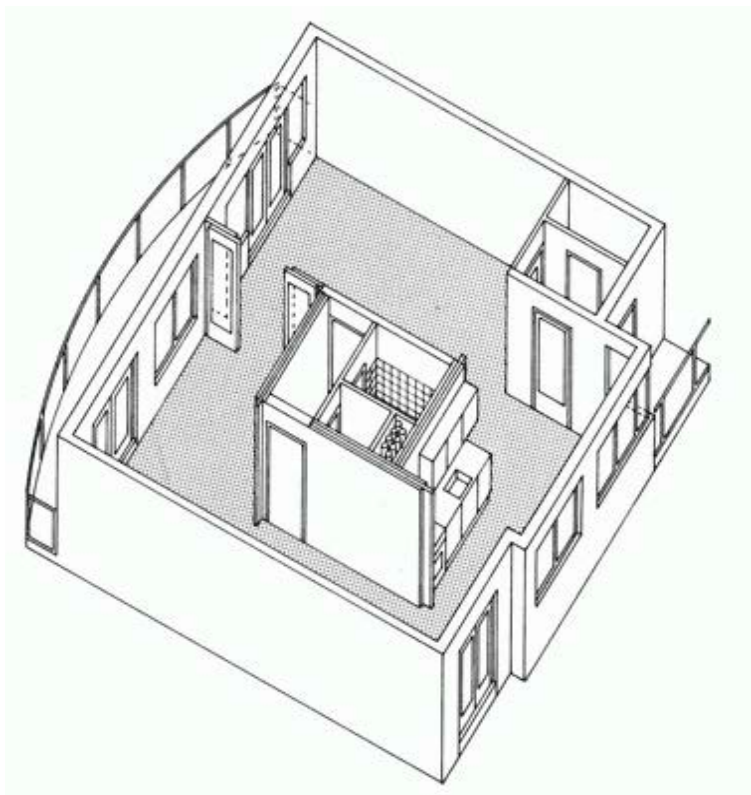
Duinker & Van der Torre, Dapperbuurt district, Amsterdam (1986)

Figure 1: Axonometric view of apartment and its fixed elements

The floor plan of the Duinker & Van der Torre project for Dapperbuurt district in Amsterdam has two fixed spaces. The first one is an entry space, that contains storage and two doors for possible accesses to rooms. The other fixed space is the interior one, an almost central cube that connects: the kitchen along one of its shorter sides, a bathroom and a toilet, a service canal and a hallway. Three sides of this cube also have boxes for sliding walls that can split the space up to four rooms. In that case, the hallway separating the access and gives privacy during the use of the bathroom and the toilet also enables a direct access to newly formed spaces.

In this project the doors and moving walls have an important role in manipulating the spatial system, which benefits the concept of polyvalence. In the offered spatial variable (figure 2; right) Duinker & Van der Torre establish a circular connection. Leupen considers that in this case polyvalence is limited by the fact that only one room is big enough to place the Get Together activity. If all three rooms were large enough for this purpose, the apartment would be far more polyvalent. [7]

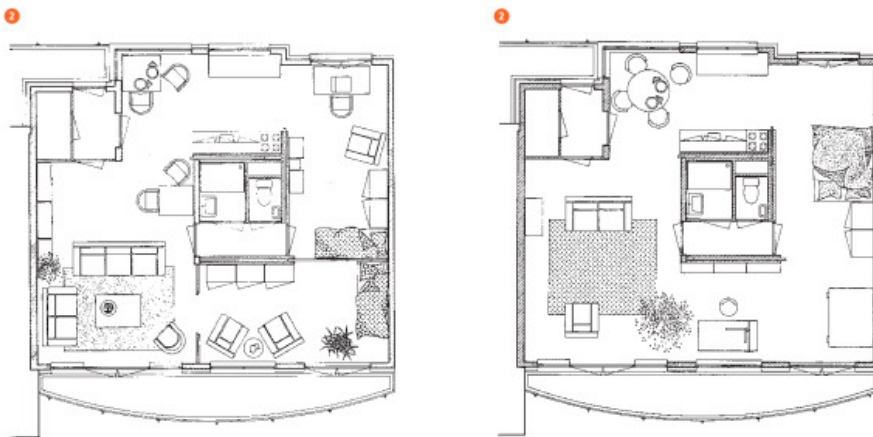


Figure 2: possible spatial organizations

AKVS Architecture, Polyvalent Housing

(First prize at Open International Competition For Alternative Layout Design In Standard Housing in Russia, 2018)

This design proposal is one of the first prize winners of a competition that rethink standardized housing and apartment typologies.

This work, as a response to the unpredictability of contemporary everyday lives, proposes a polyvalent housing system that is able to constantly adapt to the variability of its inhabitants' needs over time. In a functional way, authors suggest a polyvalent space – loggia in the size of an entire room, within the central area of the dwelling unit (figure 3). It would face two or more different areas of the apartment, and it can either serve as an extension of each of these, thus providing the option of changing the following activities in this space: Get Together, Eating, Sleeping, Working. Also, it is possible to achieve what Leupen criticizes in the previous example, which is a more comfortable Get Together space when the loggia is completely opened (figure 4). This work also shows that the position of a polyvalent space can be crucial for its functioning.

SPATIAL EXTENSIONS:

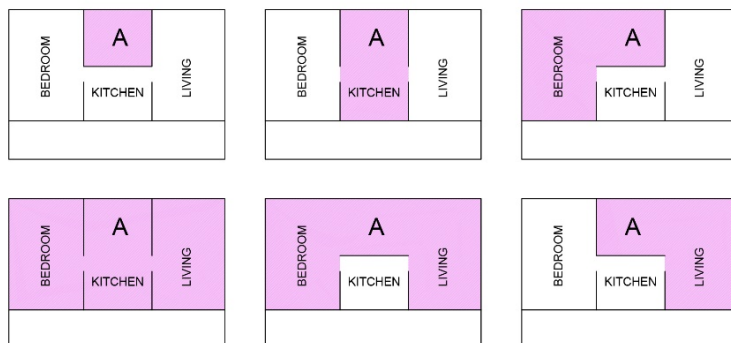


Figure 3

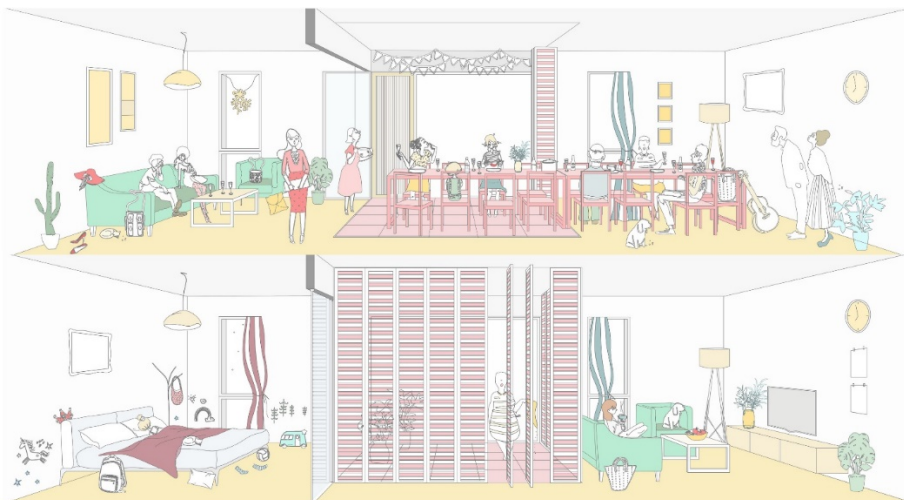


Figure 4

5. CONCLUSION

Adding the concept of polyvalence and presenting examples that lean on this concept has the possibility to open new questions in the access of designing housing. Instead of opting for fixed intentions for every room which enables a uniform way of housing, introducing polyvalent spaces, an apartment becomes easily adjustable and very sensitive to the everyday needs of its residents. Acquiring knowledge about polyvalent apartments could result in a new generation of homes with interesting spatial organizations and significant expectations in regards to changes and unpredictable uses.

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Figure 3 and 4:

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ПОЛИВАЛЕНТНОСТ: МОГУЋ ПРАВАЦ У РЕПРОГРАМИРАЊУ СТАМБЕНЕ АРХИТЕКТУРЕ

Резиме: Непредвидиве промене у свакодневном функционисању породице захтевају непредвидиве програмске промене у стамбеном простору и упућују на нове тежње за пројектовањем флексибилног простора. Рад се бави темом поливалентности – укључивањем што већег броја просторних услова који могу да учествују у свакој ситуацији без обзира на функцију, и имају могућност употребе у свакој новој прилици – као једним од могућих одговора на уочене савремене захтеве живљења...

Кључне речи: становање, поливалентност, стамбени прохтеви