

**Adaptability of an urban square by means of polyvalence**  
*- The case of Városháza Square in Budapest*

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## Abstract

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Adaptability seems to be turning into a highly critical issue of our time, both looking at it through the lens of the current pandemic of 2020, with rules of social distancing, as well as considering a more persistent feature of today's society, a move towards social awareness and plurality. Therefore the question of possible methods to integrate adaptability into design, in order to create public spaces that are versatile, both in regards to different times (e.g. pandemic, different seasons, day/night time) and different users (with different needs and lifestyles), is crucial. Bearing in mind the variety of means to achieve adaptability in public space, polyvalence, despite its potential, is perhaps rather overlooked. Polyvalence is of particular interest based on how it relates form, interpretation (or meaning), and usage to one another, therefore creating a level of personal connection with the users which might be absent in many other methods. When it comes to analysing the relationship between form and meaning, comparison to linguistics and in particular semiology proves fruitful. Due to its nature, polyvalence can occur organically through users' interpretation of forms, in the absence of design intentions or even against them. This provides further opportunities for designers to study and subsequently utilize this triangular relationship between form, usage and meaning. Moreover, in the case of polyvalence, the interaction between the designer, the design, and the user does not follow the prevalent practice of our time; polyvalence design offers the user a higher level of autonomy when it comes to interpretation of forms and consequently their usage. Városháza Square, being a historically and geographically significant location in Budapest, is a favorable area in need of an investigation for a design intervention with a methodology such as polyvalence.

Keywords: adaptability, polyvalence, interpretation, form, usage, public space

## Introduction

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Times like the one we are experiencing during the 2020 Covid-19 pandemic, highlight our need for adaptable architecture. And although rules of social distancing have changed our perception of our physical space rather drastically, yet changing circumstances, and therefore our need for adaptability is not a unique and temporary characteristic of our lives. On the contrary, changefulness is a constant feature in our world.

In the following pages, I will look at polyvalence as an approach to create adaptable space. Firstly, I will contrast polyvalence with functionalism, and compare it to flexibility and illustrate its advantages. Next, I will clarify a few key concepts that will help in understanding polyvalence, and afterwards I will examine how polyvalence can be applied in design. Lastly, I will give an overview of how the mentioned concepts and theories can act as a guideline for redesign of the Városháza Square in Budapest.

Through this text I will primarily study the theories and opinions of Herman Hertzberger, since he was the prominent advocate for polyvalence. It is worth noting that since this study is concerned with public space, I concentrated on the theories of polyvalence which can be applied to the public realm.

## Polyvalence and adaptability

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The functionalist approach to architecture, in which forms are planned to function in a highly specific manner, and serve a highly specific goal, results in a very limited possibility for the form to adapt to changing needs. Even when architects aimed to “predict” the future needs, there was a reductionist background to this attempt. And thus, as Hertzberger puts it: “The rapid obsolescence of all too specific solutions leads not only to dysfunctionality but also to serious inefficiency.” (Hertzberger 2005, 146) and he believes that such an approach is the minimum that architecture can offer.

Another issue with functionalism in this sense, is its rigidity when it comes to its identity. This is not because functionalism lacks identity, as it is sometimes represented, but the rigidity of its identity results in rejection of any interpretation that does not follow its predetermined logic. This rejection of alternative meanings, causes the user to

become subservient to the form, based on a priori stereotypical “agreement”. Therefore users are left in a passive state: “People today do not seem to have any idea how to give expression to their own way of living.” (Hertzberger 2005, 110)

Opposite to the extreme specificity that is caused by such a functionalist approach, lies a neutrality that is caused by reductionist flexibility. This type of flexibility aims to please everyone, and acts as a common denominator. And although on a theoretical level it might work, due to its lack of identity, and its absolute dependency on users’ input, in practice it often fails to create meaningful connections with users.

It is at this point where Hertzberger puts forward the idea of polyvalence, which he considers existing beyond duality of specificity and neutrality. He suggests that architects need to shift their concentration from “building programme, which usually reflects only a collective interpretation,” (Hertzberger 2005, 164) to the “everyday reality of everything that we build.” (same) It is embracing this “multiplicity” and “changefulness” as a constant, which leads Hertzberger to define polyvalence as “a form that can be put to different uses without having to undergo changes itself, so that a minimal flexibility can still produce an optimal solution.” (Hertzberger 2005, 147)

Therefore Hertzberger is concerned with forms that not only allow the users to interpret them freely and differently, but even encourage that. In other words he tries to liberate form from their explicit, established and restrictive meanings, and search for “archetypal” forms which due to their implicit meanings and associations, can both absorb and generate programmes: “Form and programme evoke one another” (Hertzberger 2005, 149).

And through an architecture that is developed around the concept of “changefulness” as a given, it would become possible to achieve a situation where the form can be interpreted in multiple ways while not losing its identity. In fact, when the users project themselves into the form, through this interaction, the user and the form reinforce one another and generate a mutual appropriation. This is a highly adaptive architecture that incentivizes the user to influence it, and as a result enhances the user's identity while staying essentially the same.

## Polyvalence, form and interpretation

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To understand the relationship between form, interpretation (or meaning) and usage, it would be useful to take a look at language and semiology. Forms are on one level a type of sign, which signal meanings to the observer. In the same way that meaning in words and language are inseparable from their usage, and to some level their usage makes them mean something, forms and usage have a similar relation. And similar to signs in the language, forms are also motivated, and have the capability of being motivated through usage.

The sentence "The sky is blueing." both does and does not make sense simultaneously, in perhaps the same manner that sitting on a railing. If it is possible to use familiar words in unconventional ways that create new meaning, the same can be said about architectural forms.

When Hertzberger talks about liberating forms from the explicit, established meanings attached to them, it mirrors Jencks ideas about meaning in architecture. Jencks suggests that "the more a message is expected the less its information" (Jencks 1969). And when ridden of the explicit meanings attached to forms, considering that people have differing memories, and therefore different expectations, people's experience of meaning and usage of forms can vary.

It is by utilizing forms that have the ability to suggest different interpretations and subsequently can be put into different uses, that the users are able to "discover and develop latent potentials in themselves as well as in their constructed settings." (Buchanan 2018) Hertzberger borrows two related concepts in linguistics from Chomsky: "competence" and "performance". Competence is one's knowledge and skill in their language, and performance is their ability to apply that knowledge in certain scenarios. Hertzberger writes: "In architectural terms you could say that 'competence' is form's capacity to be interpreted, and 'performance' is the way in which form is/was interpreted in a specific situation." (Hertzberger 2005, 93) It is worth noting that whereas Chomsky attributed these concepts to the user of the language, Hertzberger reformulates them to relate to the form instead of the user.

Hertzberger suggests that in a polyvalent design, the user must be able to imagine the range of possibilities, and understand these alternatives on his/her own terms. In this manner the user would be able to relate these possibilities to their conscious or subconscious experience, and generate "associations". These new associations combined

with past experiences, can extend the user's understanding of their environment. Therefore it is needed that forms, instead of being neutral, contain the highest degree of propositions, which would stimulate multiple associations in both an individual user, as well as users with different experiences. Hertzberger formulates these ideas about the relationship between form's stimulating incentives, associations and interpretations or in other words competence, associations and performance in the following manner:  
incentive + association = interpretation  
competence + association = performance

*"A (musical) instrument essentially contains as many possibilities of usage as uses to which it is put - an instrument must be played. Within the limits of the instrument, it is up to the player to draw what he can from it, within the limits of his own ability. Thus instrument and player reveal to each other their respective abilities to complement and fulfill one another. Form as an instrument offers the scope for each person to do what he has most at heart, and above all to do it in his own way." (Hertzberger 2005, 170)*

In polyvalent architecture, the role of the user transforms from being subservient to the form and its established meaning, to a cooperator in the process of creating meaning: "Just like words and sentences, forms depend on how they are "read" and which images they are able to conjure up for the "reader" (Hertzberger 2005, 151). Regarding form from such a viewpoint results in what Hertzberger calls an "altered awareness of form", which introduces the possibility to create an architecture that adjusts to changing situations by absorbing and abandoning meaning when necessary, without changing its essence.

## Polyvalence and design

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The next issue is how to apply the previously mentioned concepts in design. In other words, how to utilize forms that can be interpreted variously, and even incite different interpretations. It is through this interpretability that diverse range of usage would become possible, and therefore the form adapts to different scenarios.

As mentioned before, Hertzberger is of the opinion that by simply stopping the design process in an early stage to provide freedom, although "flexibility" might be achieved, better functionality is not necessarily accomplished. He writes: "As long as there is no real expansion of the choices open to people, the stereotyped pattern will not disappear" (Hertzberger 2005, 170). Therefore he suggests an increase in concentration

of spatial conditions, in order to provide clear suggestive forms that regardless of the particular function, would incite numerous interpretations. He calls these “inviting forms”.

Hertzberger, referring to the amphitheatres of Arles and Luca and their alterations (the amphitheatre of Arles was inhabited until the nineteenth century), writes:

*“The oval structure and the surroundings proved, in both cases, capable of transforming each other. These ovals represent an archetypal form - in this case that of the enclosed space, an interior, a large room which can serve as work-place, playground, public square and place to live. The original function is forgotten, but the amphitheatre-shape retains its relevance because it is so suggestive as to offer opportunities for constant renewal. These amphitheatres succeed in maintaining their identity as enclosed spaces, while their content is subject to change. The same form could therefore temporarily assume different appearances under changing circumstances, without the structure itself essentially changing.” (Hertzberger 2005, 102)*

Here, Hertzberger mentions the concept of archetypal form, which he identifies as a form that can elicit multiple associations, while resisting a fixed meaning. Additionally, it can be concluded that polyvalence can occur unintentionally on the part of the designer, which means everyday life can become a reference to what forms are capable of, and how users relate to them. And lastly, Hertzberger suggests that different interpretations can be stimulated by specific local circumstances.



The inhabited amphitheatre in Luca, source: Wikimedia Commons



Hertzberger gives great significance to structuralism when it comes to the basis of polyvalence. He writes: “Just as language is necessary to be able to express ourselves collectively in terms of structure, so a collective formal structure is necessary to be able to express oneself spatially in one’s environment.” (Hertzberger 2005, 120) He regards the collective spatial organization as the context in which individual interpretation becomes possible. He believes that although an overarching spatial organization might seem restrictive, finding the suitable structuring principle enables the expansion of possibilities of adaptation and individual expression: “The correct structural theme does not restrict freedom but is actually conducive to freedom!” (same)

An area to which Hertzberger applies polyvalence is what he calls “The Inhabitable Space In-Between”. He sees an opportunity in the space that exists in between the explicitly established functions. He suggests looking at “irregularities” (such as differences in level that are inevitable in many situations), and instead of trying to minimize them, treat them as opportunities for increased exploitation. It is through precise forming of these “in-between” spaces that it becomes possible to gain value from elements or spaces that seem unusable. “Parapets, railings, posts and gutters are forms of articulation and represent increased possibilities for attachment. ... Occurring as they do in diverse shapes and sizes they are a constant stimulus for usage in everyday life.” (Hertzberger 2005, 177)

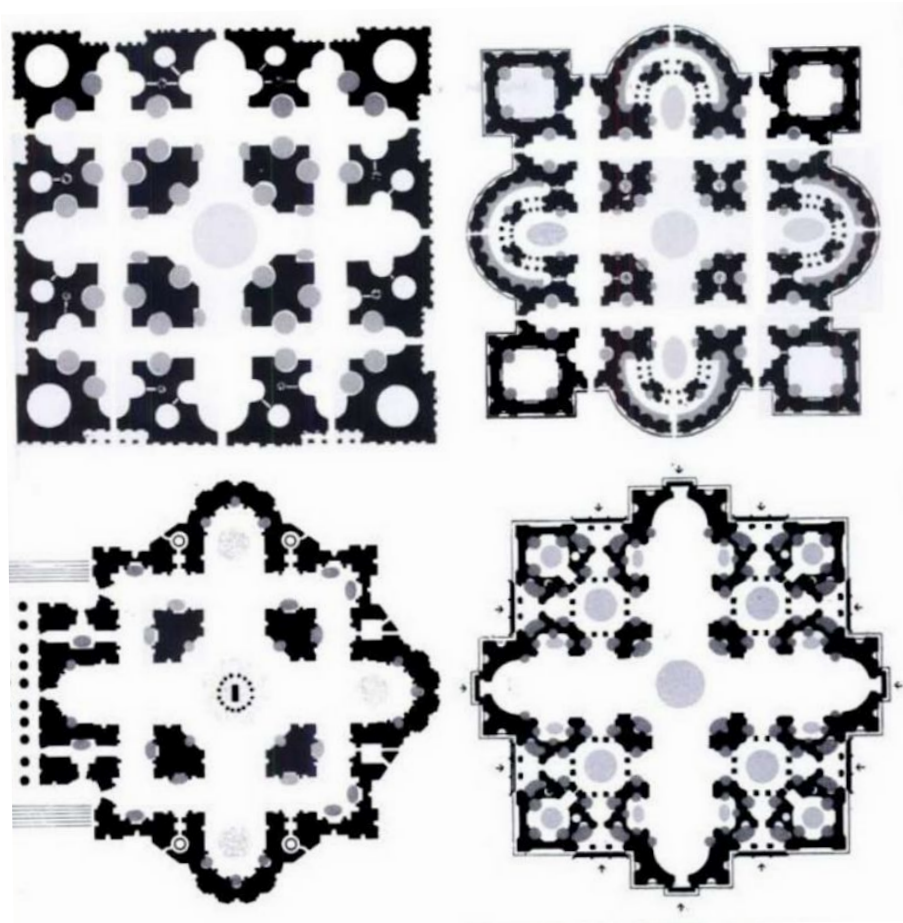
Utilizing the space in-between, can occur in a variety of ways, but probably the most prominent utility that can be exploited from these spaces is for seating. Hertzberger notes the importance of seating (particularly in the public realm) due to considering it as the most elementary method that enables people to appropriate their environment, albeit for a short while.

And I think it is through Hertzberger’s remarks on seating that an omnipresent duality in Hertzberger’s theories about polyvalence can be understood. It is his attempt to create a symbiotic relationship between the formal and informal function/meaning. And in parallel, explicit and implicit: “The extension of [formal] usable space by the addition of (informal) extra horizontal planes represents the reward for making more explicit what was in fact an implicit requirement.” (Hertzberger 2005, 188) It is, for example, by designing a parapet with such a principle in mind that the parapet which has a formal/explicit function/meaning, can develop its informal/implicit function/meaning. In many cases, the informal forms have the ability to take advantage of not having to follow standards or regulations, while serving the needs of the users.

Another area in which Hertzberger applies polyvalence is the articulation of space. When writing about articulation, he concentrates on the spatial characteristics of architecture, the size, the proportions, and how different spatial units compare to one another and how they relate to the whole. In his view, the graphic features of plastic articulations must follow the spatial articulation, in order to make the architecture and the spatial patterns it contains more “legible”.

Hertzberger’s approach to articulation emerges from attempting to balance distance and proximity between people, and accommodating the pattern of relations between the users. He warns about the tendency in architects that whenever the opportunity presents itself, they design spaces that are rather too large than too small. And although he is wary of using minimal dimensions that reduce the capacity of a space to be able to take up different roles, he believes that unnecessarily large spaces have the same result. It is through articulation that the concentration of spatial conditions occur, and hence the competence of the space increases. Hertzberger believes that big spaces need to be comprised of smaller spatial units, so that they would not create unnecessary distance and detachment: “Largeness based on multiplicity implies greater complexity, and that complexity enhances the interpretative potential thanks to the greater diversity of relations and the interaction of the individual components that together form the whole.” (Hertzberger 2005, 194)

The way in which a space is articulated affects whether the users use the space individually or in groups, as well as the size and the relations between the groups. To illustrate these different scenarios, Hertzberger compares different plans of St. Peter’s Church in Rome, attributed to Bramante, Peruzzi, da Sangallo and Michelangelo. He notes that although they are principally similar, they are articulated differently, and therefore each one offers different scenarios for user interactions, in addition to how they differ from the point of view of “enclosedness” and dominance of the main space.



Plans of St. Peter's (top left: da Sangallo, top right: Peruzzi, bottom left: Michelangelo, bottom right: Bramante), source: Lessons for Students in Architecture

Articulation naturally relates to concepts of partition and separation, but Hertzberger gives equal attention to the other side of the spectrum, combination and unification. And although articulation itself can be utilized to serve openness, the main device that Hertzberger concentrates on is “view”. It is in striking a suitable balance between view and seclusion, that the users are able to position themselves freely in relation to each other. This is why Hertzberger regards openness and enclosedness as complementary concepts, creating possibilities for gradations of privacy and view, enabling users to move between ignoring others to joining them.

There are many examples of how view changes the user's understanding of the space and their relation to each other. And although view and openness are primarily discussed in indoor spaces, one example that stands out is Gaudi's curving bench in Barcelona's Parc Guell. Hertzberger notes that the continuous S-shape curve, creates “enclosed” semicircular spaces that enables users to sit facing each other, and “open” convex parts, which gives a larger view and feels “outside”. Therefore one single

continuous form creates gradients of introverted and extroverted space, that are suitable for different scenarios.



Gaudi's curving bench in Barcelona's Parc Guell, source: Wikimedia Commons

Finally, I will analyze the Liberty bridge in Budapest with polyvalence criteria.



Using Liberty bridge as a seating surface, source: author's own photo

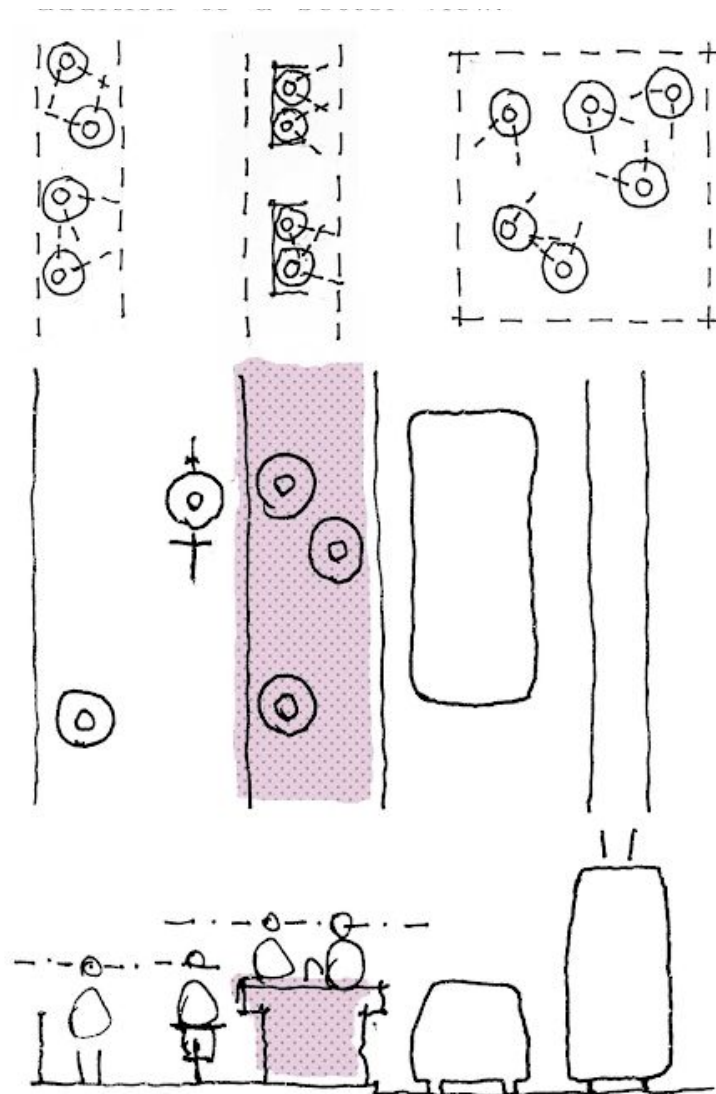
It is worth noting that in the case of Liberty bridge the polyvalence was probably not an intentional decision by the designers. And how the formal function of the bridge and the informal implicit function it provides interact.

Even though the structure of the bridge was not designed to accommodate people using it as seats, while being both illegal to sit on and having an uncomfortable surface, it is one of the most popular examples of alternative interpretation by the users. And while

bridges are fundamentally corridors of movement, people use Liberty bridge as a location for pause.

It can be said that the bridge reflects the idea of the in-between. In a simplified manner the surface is a horizontal extension of a boundary between pedestrians+bikes and cars+trams, but perhaps it is also a utilization of the gap between the bridge functioning as a structural element and a pedestrian path.

It is also interesting how the proportions and the views shape the gradation of openness and seclusion. The eye-level difference creates a separate, “safer” atmosphere, while the width of the surface enables people to sit in different arrangements and groups, keeping their relative privacy.



Illustrating competence of Liberty bridge, source: author's own drawing

## Polyvalence and Városháza Square

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In this section, based on the previously mentioned concepts and theories, I will try to identify opportunities in which a polyvalent approach can be applied in the redesign of Városháza Square in Budapest.

Since this is not a design task, I will limit myself to a “conceptual” or abstract scope, and do not attempt to suggest concrete design decisions.

Firstly, it is critical to keep the idea of increasing spatial conditions in the foreground. To achieve interpretability, the designer must be aware of the established meanings attached to a space, and attempt to create opportunities to illuminate a wider range of possibilities. This can be achieved through multiplicity caused by spatial conditions.

Városháza Square has a particular situation, with its position in relation to the old city wall and neighbouring the city hall building. These conditions create specific local circumstances which can be exploited through forms unique to the site for an increase in interpretability.

Regardless of the new programme of the square, which would naturally create its own habitable spaces in-between, the site in its current form shows a few functional boundaries that through precise design, can offer opportunities to gain additional value from the in-between. These could be the boundary between the streets and the site, as well as the site and the facade and arcade of the city hall.

When it comes to articulation and view, we must consider the number of ways that such a public square can function. From informal seating of individuals and groups, to communal activities such as an open door concert or a protest. Therefore first by clarifying this range, we would be able to create spatial articulations that offer different levels of distance and proximity. In the same manner, the views can impact the freedom of the user to choose a space from different levels of privacy and seclusion.

Obviously during the process of design, many more areas to apply polyvalence will arise, but the few ideas mentioned above can act as a starting point for such an approach.

## Conclusion

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There is a certain level of ambiguity in definitions and applications of polyvalence, which I believe is inherent to it. I cannot imagine the possibility of creating a “mechanical” guide or rule book for applying polyvalence.

In this sense I think there might exist an infinite number of areas other than the ones mentioned previously, and depending on each particular design case, some of these areas would be more prominent. Therefore I think Hertzberger’s categorization of these areas is only an interesting and useful starting point, but not an ultimate classification for possible applications of polyvalence.

I think, the principal idea here, would be the necessity to accept and acknowledge uncertainty in our built environment, and therefore embrace it in the design process.

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