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Spatial plasticity

A reading of a selection of existing projects for living as the foundation of an architectural research work.

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Abstract. This paper gives the background of the newly developed term *spatial plasticity* by revealing a glimpse of the history of the word *space*. It opens up an investigation of the understanding of space going back in the history of philosophy before the word *space* appeared within the realm of architecture. Toward the end it presents an extract of one reading of the foundation of the research, a selection of projects for living named the Collection of Examples. This architectural research work is the study of different features of different projects for living and has a focus on characteristic spatial qualities. It is intentionally not a historical evaluation of a linear development of the space but a reflection on some architectural ideas. Existing paper is framing the work-in-progress.

Keywords. Spatial plasticity; space; dwelling; architectural research work; formed space.

The background of the term *spatial plasticity*

This research takes its departure in the reading of existing architectural projects. Knowledge gained in several years of examination of the space for living has formed a term to collect distinct spatial qualities. In Danish the single word ‘rumplastik’ embraces the readings of the spatial appearances, when translated into English the term is formed by collecting two words; *spatial plasticity*.

The understanding of space is immense. It is almost impossible to define the meaning of space. The word is much more than a word describing a physical configuration. One could almost claim that the word contains so many meanings that it transcends the overall purpose of the word as a *word*.

Everyone has an idea of what *space* is.

In the realm of architecture the word seems even further impossible to grasp. Architecture is the enclosing of space without giving the answer to what *space* is – it gives an *idea* of space.

Every piece of architecture frames a position in the world. It embraces an understanding of space which is instantly further reflected on by the inhabitant occupying it. The complexity of *space* lies in the ramifications of meanings: Space is a physical configuration, it is capturing a certain approach to the world, grasping a mental stage and it is both embracing and unfolding memories and experiences.

The philosophical treatment of space exists as long as the discipline philosophy exists (Ströker 1977, p. 1). According to Forty (2000) the word *space* did not exist in the architectural vocabulary before around 1890. Until then architects defined the space captured within walls, floor and ceiling as *volumes* or *voids*, at least since the eighteenth century (Forty 2000, p. 256).

The spatial ideas developed in modernism lead to the adoption of the word space (the German word *Raum*). *Raum* both enfolds a philosophical concept as well as the etymological meanings ‘a place expanding three dimensionally’, ‘width’ etc.

Naturally one cannot ignore the fact that the discourses in the realm of architecture are very much influenced from the preceding philosophical discourses. Whether the discourses within the philosophical aesthetics define the structure for the architectural concept is difficult to say.

However, the inevitable certainty of the influence of the mind in the perception of space is clear. The eye is the instrument to capture the anatomy of a space, whereas the intellect is the apparatus to perceive it not only as a physical configuration but rather as a phenomenon. The understanding of space is the simultaneous act of the eye and the mind.

With the radical spatial development by the modern architects and artists the writings naturally also circled around the understanding of the physical space. Observations of the spatial experiments formed, built and discussed were described in words trying to capture a distinct idea. Forty claims that Gottfried Semper was the one to introduce *space* (*Raum*) in modern architecture, he refers to the writings of Semper in ‘Der Stil’ (1863) where he proposes ‘that the first impulse for architecture was the enclosing of space’ (Forty 2000, p. 257). Adolf Loos soon adopted the word in his writing, in the beginning of the 20th century he was to describe his own spatial idea with the term *Raumplan*. Camillo Sitte already in 1889 described urban design with the term *Raumkunst* (an art of space), Le Corbusier came up with *Le plan libre* (1926), however, not directly using the word space the word *libre* refers to the spatial width and overlappings in his architecture.

Since the Modern Movement architecture has gone through many epochs and developed many spatial ideas and though some take distance to modernism almost all of them are grounded in the understanding of space and spatiality developed in modernism, not least as a reaction to a certain aesthetics fostered from the ideas.

Robert Venturi’s manifesto from 1966 *Complexity and Contradiction in Architecture* is one of the most radical reactions on the influence of modernism. Venturi points at the importance of looking at and using architectural history in developing and designing contemporary architecture. Inevitably the book can be seen as significant for postmodernism with the theory of ‘sampling’ contradictions and allowing multiple interpretations (Nesbitt 1996). However, looking at the book with the eyes and mind of the present the importance of the book takes a new step.

It is a publication pointing at the importance to learn from the thoughts and understanding of *space* in history going back to a time where space apparently was not described, and understood, as space but e.g. as *volume* and *voids*. By pointing at the importance of space going back to ancient architecture Venturi indirectly formulates that the present understanding of space is not only grounded in the thoughts of modernism (and thereby the philosophical approach to space) but also in an understanding of *space* which is not described as *space*.

In this way one could claim that *space* was captured by the intuition before it

was captured by the intellectual mind.

This reading of Venturi's 'apologia' (Venturi 1966, p 13) helps me to confirm the statement of my theory of *spatial plasticity* as a tendency of spatial understanding reaching further back in architectural history than the shift in the beginning of last century. With the term *spatial plasticity* i try to capture distinct spatial qualities cutting through the history and though they are independent of each other in time and place they have similarities in features and approaches to what we in the present understand as *space*.

Contemporary architecture can somehow be described as a unifying patchwork of the architectural ideas developed through the history of architecture. Though theorists have succeeded in naming every architectural epoch by pointing at a common discourse in particular the last century has been a century where idiosyncratic ideas have broken the 'rules' and thereby forced parallel discourses to take place – the result is a beautiful motley rug of strings intertwining in an irregular pattern.

Witin this rug of spatial studies manifested in both built and unbuilt projects the distinct spatial phenomena i talk about materialise independent of time and place. The notion *spatial plasticity* is developed to express some of these varied spatial phenomena.

Spatial plasticity is about specific shaped rooms, their organisation and internal relation to and with each other. *Spatial plasticity* is shown in how rooms are overlapping each other and/or 'meeting' in the section. It is about how the form of a space is defined from the shape of the space on the other side of the wall, *spatial plasticity* can be the embracing of a space of a space or is manifested in a detail celebrating the change in function when the material of the step of a staircase transforms into the back rest of a bench.

The space for living

The understanding of 'space for living' is just as complex as the word *space*. Also the meanings of the word living, or dwelling, are ambiguous because of the many approaches to life.

Everyone has an idea of what makes a place to a home or even *what a home is*. One could even argue that *space for dwelling* and *home* are two different things. It is impossible to make a general description of what makes a space a place for living, or a home. Space designed specific for living is not necessarily a place where everyone will feel at *ease* – one way of defining what is needed to frame individual private actions and thereby define *home*. Christian Norberg-Schulz talks about dwelling as the place where we belong to, in the identification with a place we can act with and towards the world (1985).

On the contrary Kirsten Thorup, a Danish writer, talks about finding home in the act of writing (<http://thirdear.dk/arkiv/anden/>) and by doing so she is extending the understanding of belonging to a place towards a metaphysical place.

Though the differences in the understanding of *place* stated above both Norberg-Schulz and Thorup refers to the state of the senses when it comes to 'belonging'. Both approaches are grounded in the phenomenology, an approach to space explicating the belief in the importance of both the physical and mental experience when inhabiting and understanding a space. This

research positions itself within the field of phenomenology.

Collection of Examples

An intensive travel through built spaces for habitation and by digging into drawings of both built and unbuilt houses and flats have led to an awareness of the value of rooms with character and shape of their own. I have developed a belief in the qualities in an articulated space and the potential richness in being able to move through rooms of different characters.

The project seeks rooms with changing relation to each other by interacting together, overlapping each other and by that defining a sequence of rooms which in their interrelated affiliation define a flow with different possibilities of inhabitation.

The intention of this research is to theorize the agenda found in projects for living developed autonomous of their physical and mental context.

Hence, the term *spatial plasticity* forms the basis of the work. The notion frames the 'problematique' of the research, moreover is the delimitation of the term developed through the selection of the works and how these are analysed. The term has been formed to establish a basis from where the readings of the spaces for living are elaborated. Different sections of studies are unfolded in the process of the delimitation of the term.

The foundation of the work is The Collection of Examples. It is a selection of different projects for living and consists of around forty projects. The collection constitutes the first part of the research. It reveals analysis of existing projects from where the spatial experiments and proposals later will take their departure.

By splitting up the projects from the Collection of Examples into groups, all given a name pointing at properties of *spatial plasticity*, the notion is dissected to get closer to an understanding of the term. Diverse levels, characters and atmospheres of the projects are thereby put into light.

The dissection of the term has revealed following words and notions;

dough/organism, gradual 'space-figure'

-

siting, square, embracement, courtyard, centre, knot

-

shaped space, body/form

-

'richness' in the section, 'expanded' section

-

alley/street, passage

-

transparency, diagonal visual connections, spatial ambiguity, immensity

-

'individualized' spaces, minor differences

Below one example is presented to uncover some of the readings of the spaces selected and thereby open up the insight understandings of the research.

The project is from the group named the Square, the group consists of four projects: Andrea Palladio *Villa Foscari*, 1559 -60: Edwin Lutyens *Deanery*

Garden House, 1901: Toyo Ito *The Silver Hut*, 1984: Peter Märkli *Flats in Sargans*, 1986.

The presentation is an extract of the analysis made.

The Collection of Examples

Category : the Square

Andrea Palladio – Villa Foscari, Malcontenta, I 1559-60

Spacious versus darkness

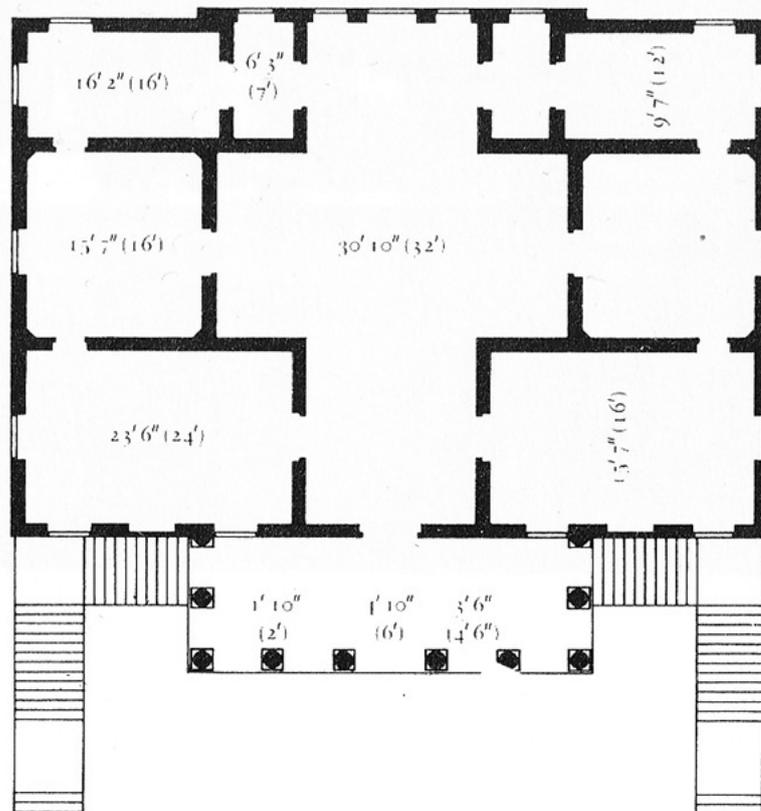


Figure 1
Palladio, Villa Foscari, Plan piano nobile

The reason for the selection

The main space; the establishing of the 'square' and how the main space is formed by the light and the darkness; the vault of the ceiling, its character of embracing the space despite its spacious extent. Space in the space.

other keywords

the Square; corner / nook; 'ambulatory'; circulating movements; parallel movements

The main space of the villa is placed in the center of the building. The space seems to extend its proportions by pushing itself to the facade. With its form like a cross the space pushes two arms towards the rooms placed by the facades, by 'stretching' the arms to the side two dark recesses are established on the 'border' to the neighbour-rooms. The other arms stretch in the opposite direction, both ending in the facades, the one flowing onto the patio of the piano nobile.

The main space has a height of 8,6 metres in the middle of the room, the arms on the sides 7,4 metres, they all end in individual vaults. The light clings around the beautiful earth-colored walls and ceilings, the vaults seem directly illuminated by the way the light move on the walls towards to ceiling.

Due to the form as a cross of the main space of the house recesses for inhabitations appear, the recesses are pockets on the big space, they are pulled away from the light and take form as individual rooms (captured/embraced). Due to the modifications of the intensity of the light, the rooms in the room seems smaller than they are, despite their position within the great space the atmosphere is warm and intimate.

The great space demonstrates its position as the main space of the house in the capacity of its physical size, the space can be described as a square surrounded by houses of different dimentions. It is possible to circulate around the centre (the square) of the house through the rooms surrounding it, the surrounding rooms are connected with each other independent of the main space, everyone of them have access to the square.

The floor is shiny, the intensity of light and the dark recesses are mirrored in the satiety of the tones on its surface and reveals the configuration of the space.

Discourse of the existing plans

Parallel to the texts made on all the existing projects models and drawings are produced. Some of the readings develop a series of models because of the elaborated readings and understandings based on the knowledge gained in the material. At least one model per project is made to substantiate the readings done in the text. Each of the features captured in the different categories are discussed in drawings exploring the possible development of the plan.

The intention of the work

It is the overall goal of the project to give examples of the space for living on behalf of the knowledge gained in the evolving material produced. The written analysis and discourses present in drawings, models, photos, collages etc are meant to release spatial experiments leading to proposals for stacked housing where the spaces interact with each other. The project seeks to organise spatial conditions by combining rooms of different characters and shape, colors and light to vary the possibilities of inhabitation and use.

The work seeks to frame a theory around the term spatial plasticity. The theory will be unfolded in a collection of material explaining the architectural idea that hopefully in its essence can contribute to the field of architecture and the contemporary work with dwelling.

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