Architectural Narrative through Spatial Sequencing

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Abstract:

Architecture is temporal. It is rooted in time and place and subject to the elements and actors that embody its space. As actors, we are active participants in this dynamic, whether consciously or subconsciously. Spatial comprehension is internalized through vision and augmented by touch – the body, hands, feet, and aural experiences. Within this paradigm, we perceive the passage of time and space as an infinite stream of consciousness, or narrative of events, successively linked through memory. Bernard Tschumi describes this sequence as “space, event, movement”, a fragmentary slice within the infinitely repeating sequence of our experiences. Simply existing in the world weaves us into this sequence. Out of the infinite, architects define space and develop a physical narrative through which actors engage and meaning is derived. Our syntax is the walls, ceilings, floors, solids and voids. And like writing or in film, architectural significance is based upon the juxtaposition and combination of sequential “chapters”. Although this quality is inherent to architecture, architects often undervalue supporting content for critical passages. “Programs fall into three categories: those that are indifferent to the spatial sequences, those that reinforce it, and those that work obliquely or against it” (Tschumi 159). Most architecture seems to follow the first order, or reinforce spatial sequences where it is convenient. Are we not concerned with the journey from point A to point B?
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Sequential Space in Architecture

Until the industrial revolution, Western architecture largely focused on the geometric organization of space along strictly controlled axial arrangements: what we have termed classical and neo-classical styles. Symmetric ordering systems limited the potential of spatial arrangements and placed emphasis on the axis above all other elements. The proliferation of this work and its strict order around axially diminished surprise and excitement through exacting control and predictable outcomes. However, as the world acquiesced in the modern movement, new asymmetric ordering systems explored novel spatial configurations. The modern movement's break from symmetric space, and thus the all controlling axis, gave rise to the unexpected. Novel approaches to spatial sequencing and the actor-scene relationships were formed. Movement of the eye, mind, and body became critical elements within design, forming what we might start to call "movement architecture".

"Architectural space is 'geometrical space' when it is based on either an orthogonal or a polar co-ordinate system and its compositional elements are always subordinate to the axis... In addition, an observer must also comprehend his own relationship to the axis or pole.... Palaces, gardens and interior spaces of Baroque architecture employed such effects.... In "movement space," unlike geometrical spaces, the positions of compositional elements relative to some overall framework are unimportant; instead, as in topology, what is important are the positions of elements relative to each other. (Inoue 1985, 146.) (Sfakiotaki p. 43)

Movement architecture does not disqualify the significance of the axis, but rather reorganizes the hierarchical structure so that spatial comprehension is achieved through experience rather than compositional clarity. Architectural sequencing “is the grading of axes, and so it is the grading of aims, the classification of intentions” (Samuel 44). Memory and cognition supersede the axis, allowing for a democratic rather than authoritarian discovery of space, where the “meaning is derived from the order of experiences rather than the order of composition” (Tschumi 161). Sequencing therefore introduces myriad permutations from which to draw architectural significance. In this light, modern architecture does not necessarily imply the successful application of movement architecture, but rather the potential for it to be achieved.
Early sketches exploring spatial sequencing and combinations
The Perspective Flow:

If spatial cognition is elevated above symmetric ordering, or formalism, in movement architecture, then it is dependent and responsive to sensory input from the actor. By existing we perceive. We see, smell, feel, and hear the environment around us, interpret this information physically and emotionally, and react accordingly. Unsurprisingly, architects responded to this dynamic with the advent of the one and two-point perspectives developed during the Renaissance. They attempted to bridge the gap between the physical world and architectural drawings. For the first time, a singular observation point could produce a complete map of space. Over the past six-hundred years little has changed in architectural notation. Today the perspective renderer has become the cornerstone of architectural presentation; however, capturing the totality of space through a perspective, signifies the static nature of observation. “Le Corbusier criticized the products of the Beaux Arts School for being built around perspectives that could only really be understood from one fixed viewing point. He wanted spaces that could be appreciated on the move” (Samuel 42). Le Corbusier rightfully understood that our vision is non-static, and that our environment is "often reveal[ed] in a series of jerks or revelations"(Cullen 11). The great flaw of perspectives is the manipulability of the static viewpoint and the clipping of contextual frames.

Movement architecture implies non-static observation, and thus requires different methods of spatial depiction to capture its essence. Even in highly static environments, time remains a plastic element which perspectives, like photography, can only allude to. James Gibson writes in-depth concerning the self-aware observer, and our subconscious cognition of movement within space.

“Gibson’s ecological approach proposes that movement of the individual actually promotes perceiving by facilitating the detection of the unchanging or invariant structures that serve as information specifying environmental features. Perceiving thus is not the passive reception of sensory input, but a function of a dynamic, exploratory system by which the
individual becomes aware of environmental features... Seeing is normally a collaborative process of acting and of detecting structure, and for this reason, visual experience like tactile experience, is rooted in the activity of the body. The world therefore is revealed through perceiving-active processes.” (Sfakiotaki 55).

Architectural sequences and documentation must be responsive to these tactile qualities so as to engage the actor and induce movement. Sensory input offers the potential to reinforce spatial sequencing and construct compelling narratives. “Each frame, each part of a sequence qualifies, reinforces, or alters the parts that precede and follow it” (Tschumi 163). Singular points produce fragmentary understanding; thus, movement becomes critical to make sense of the fragments. Fragments are relational, and interdependent.

Architecture has the opportunity to be discoverable and move the actor through space. For Bernard Tschumi, Le Corbusier, and others, cinema and theatre’s use of the montage as well as narrative structure served as critical precedents for their architectural work. Each frame in a movie or scene in a play “derive[d] significance from [their] juxtaposition” (Tschumi 166). In a similar way, movement architecture relies on the visual juxtaposition of frames or spaces as an actor moves through its space. Therefore movement architecture plays with the visual perception of its actor.

“The architectural montage is perhaps the compression and expansion of space, the vista and transition which can be layered to form spatial rhythms. Like cinema, ‘frames’ can be inverted, juxtaposed, and combined in unexpected ways. How does the threshold invert its compressive qualities to become a vista? How do frames and spaces cross-reference each other? The combination and manipulation of the frame allows movement architecture, unlike geometric, to form infinite combinations of narrative structure.

“[Harry Heft] distinguishes two types of features present in the flow of perspective structure: vistas and transitions. He defines the vistas as the extended layout of surfaces that are visible in the present from a particular observation point. As the perceiver travels within a given vista, there will be local changes such as motion parallax as well as the occlusion and disocclusion of features. At certain places along the path of travel, changes occur in the flow of perspective structure of a greater degree than these within the vista events. At these points, a new vista gradually comes into view, and the one that has just been travelled goes out of view. These more momentous changes, Heft calls transitions in the perspective flow, and they are, as he says, especially distinction and associated with high levels of interest among perceivers (Heft 2001, 183)” (Sfakiotaki 56).
Meigakure and the Roji:

For architects such as Frank Lloyd Wright, amongst others, traditional Chinese and Japanese garden designs offered great precedents in movement based architectural design. However, the modern appreciation for these spaces arose out of different interests than those which originally created them. For the Japanese, creative spatial configurations were the result of constrained site proportions aimed at creating depth of space within a limited site. Miegakure, meaning hide-and-reveal, created layers of space which gradually revealed elements within the landscape. The path of the viewer was bent and manipulated so that movement became the catalyst which activated the landscape. Every element seen along the actor’s sequence was carefully composed to inform and lead the viewer along. Naturally the idea of layered space required the creation of thresholds and a plastic flow between them. Focus quickly shifted to the path and affordances which carefully led the actor to the gardenscapes.

"The sacred in Japan is hidden in a secret place that can be reached only by means of path of infinite detours….A succession of elements along the path…creates a sense of spatial depth….The succession is achieved with the use of the traditional garden technique called miegakure. Literally meaning 'hidden from sight', miegakure emphasizes only partial exposure of typical garden elements ….The hiding of various elements is intended to induce an illusion of distance….The purpose is to make the viewer imagine the invisible part and thus create not only an illusion of depth, but also the impression that there are hidden beauties beyond" (Sfakiotaki 21).

The roji, or teahouse, is perhaps one of the best examples to study. Here we see all the techniques employed within the most limited scale. Visitors enter through a gate where they are presented with a stone path leading towards the roji. The gate serves as a threshold to bring awareness between the outside world and the garden within, while the path’s stone carefully lead the actor. However, the path does not lead directly
to the teahouse itself, but rather circles or weaves around it so as to take in the site before arriving at the destination. In the process, scenes are brought in and out of view which inform and build the narrative structure. Upon arriving, the actor enters through a small opening at the corner of the teahouse for which they must duck to enter. This final move, which humbles the occupant and compresses the space, allows the final reveal of the tearoom to feel both intimate and more impressive. Although subtle, these moves have significant architectural implications which both inform and captivate the actor’s attention. All of the senses are engaged, and meaning is derived from the movement.

Diagram of miegakure. The path is bent so that foliage only partially reveals elements along the way.

Diagram showing the relationship of views between sequential spaces.
Grammars

Despite the myriad of discussions on Japanese Tea gardens as well as their influence on the modern movement, there is little discussion relating specifically to the application of sequencing in systematic ways. Instead it’s often described in a qualitative rather than quantitative way. Within Japanese garden design there are certain typologies and rules to be followed, but this hasn’t been translated to spatial sequencing in the modern movement. The closest is perhaps Le Corbusier’s five architectural principles; however, these rules do not relate specifically to sequencing or architectural narrative. I do not pretend to offer an answer, but a few paths of inquiry which guided my approach. I drew on architects such as Kengo Kuma, Frank Lloyd Wright, and Le Corbusier whose work offers permutations on similar architectural questions. Below are some critical syntactic translations.

Miegakure: Miegakure, meaning hide-and-reveal can be elusive in a world of hyper-rationalism and economy of space. For architects, screens, walls, or partial barriers replace the trees and shrubs used in Japanese garden design. Movement slowly reveals what lies beyond and is therefore an active player.

Approach: The approach is a critical dimension to the grandeur or humility of space. For the Japanese, entries should be placed in the corner to make the room feel larger. Other architects like Frank Lloyd Wright would often put entries through the threshold between larger volumes of space. Each offer means for diverting the path of the actor for a more sequential exposure of space.

Axis: The axis can be understood in three ways: spatial, movement, and visual; each has own implications on the movement and attention of the actor in space. When axis overlap, a multiplicity of readings can occur within a static points.
Threshold: The threshold is a marker in space which brings awareness through spatial compression. The door, the gap, the window, and the crossing of axes can all serve as physical or metaphysical thresholds which either quicken or slow the pace of travel.
Bibliography


Approach - perspective studies showing entry from different positions and wall arrangements
1.1 The *approach* gives the impression of greater space than the one actually existing. Even if the distance *is* quite short, it appears to be longer and therefore more interesting, and the building itself is not straightforwardly revealed.

(Sfakiotaki p.20)
Axes: study of the metaphysical axes present in spatial configurations
1.1 Because an axis does not exist physically, but only in the metaphysical, it is dependent on an occupant

1.1.1 As a dependent, the axis is a tracing of the human body: movement, vision, and spatial cognition.
Occlusion - study on various means of occlusion within space
1.1 Architecture must treat the room like a building. A city of all openness reveals everything, but a series of rooms presents moments when “a corner is turned an unsuspected building is suddenly revealed. We may be surprised…(a reaction generated by the composition of the group and not by the individual building)” (Cullen 9).

1.2 “The scenery of towns is often revealed in a series of jerks or revelations. This we call serial vision” (Cullen 11).

1.3 “the traditional garden technique called miegakure…meaning hidden from sight…emphasizes only partial exposure of typical garden elements…The hiding of various elements is intended to induce an illusion of distance… Miegakure relies heavily on the principle of overlapping perspective and involves making only a part of an object visible, rather than exposing the whole. The purpose is to make the viewer imagine the invisible part and thus create not only an allusion of depth but also the impression that there are hidden beauties beyond.” (Sfakiotaki 21).
Movement - A study of movement notation and the bent path of the actor
1.1 All sequences are cumulative. Their frames derive significance from juxtaposition…to experience and to follow an architectural sequence is to reflect upon events in order to place them into successive wholes (Tschumi 166).

1.2 The final meaning of any sequence is dependent on the relation space/event/movement (Tschumi 162).

1.3 Partial control is exercised through the use of the frame. Each frame, each part of a sequence qualifies, reinforces, or alters the parts that precede and follow it (Tschumi 163).

1.3.1 Combinations of expanded and contracted sequences can form special series, either coordinated or rhythmical (Tschumi 165).

Occlusion

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Development
Little Stony Creek Watershed - Site at the Cascade Waterfalls trailhead
Screening (top), threshold (middle), and wall partition (bottom) studies in perspective. Site plan (opposite)
Shifting partitions within grid system (top), lab sequencing (bottom), final plan (opposite)
Roof and wall layers - studies in section (top), building sections (opposite)
Detail sketch for the standard post and panel construction system (top), detail section (opposite)
Sequences
The visitor...
Plan for the visiting hiker or conferencer. Views to the landscape are revealed around and through the building as the actor moves through space.
The researchers...
Plan for the lab researchers. Views to both the courtyard and creek are revealed as the actor moves through the rhythm of the lab spaces.
The staff...
Plan for the everyday building staff. Offices and conference spaces are provided with more exclusive and intimate views to the creek and surrounding landscape.