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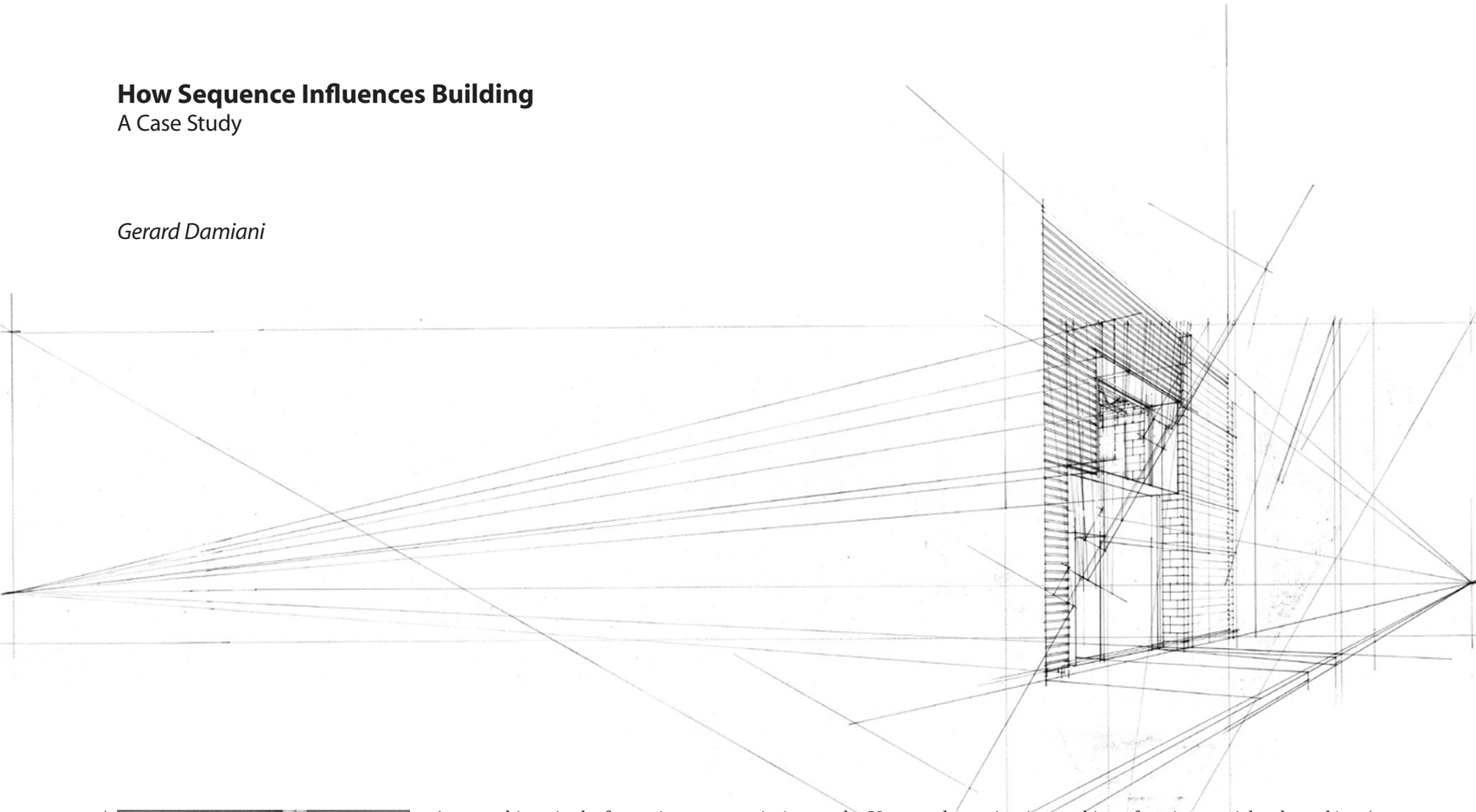
How Sequence Influences Building

A Case Study

Gerard Damiani



As an architect in the formative years of practice, form and its meaning are important. An older colleague of mine once described his view on practice as "the way you start is the way you finish." These words have continued to guide me and the work of my studio. As an architect, the creation of form is a risky business. Why do we make what we make? Is it based on tradition, technology, metaphor or something else? My pursuit to answer these questions has led me to a practice based on assessment and interpretation.

As a student, I was puzzled by the work of Carlo Scarpa. I found the work hard to understand conceptually and spatially. Years later, I now find solace in his work—not in the specific details of his oeuvre but in the strong interpretation of place, tradition and method. His work has a strong association to the Veneto, the region in which he worked. In Scarpa's work, the collective memory is presented without direct assimilation. Scarpa, a resident of Venice, learned that a city can inform a process of discovery and expression. Venice, the city at the heart of the Veneto, is a city made in the most unlikely of environments. It required creativity, innovation and invention for its formation and growth. Venice is a city made from the mind and executed through the hand. Scarpa's work is linked to this tradition by looking at the particulars of place, light, color, etc. as well as how the materials which define it could reveal qualities and symbols beyond the materials itself. Spaces and details were conceived in the mind's eye and executed through the expression of materials and their qualities. How an architect thinks about his or her environment and how one achieves form is essential to the making of an architecture of meaning.

Moving to Pittsburgh, Pennsylvania in 1996 was a decision that offered me the opportunity to both question the context of this city and examine the region's methods of making. Pittsburgh was once the heart and soul of the American industrial revolution. In the eighteenth and nineteenth centuries, it was a place of technical advancement with a willingness to manipulate the found landscape of western Pennsylvania. This manipulation was achieved through innovative works of large-scale engineering feats—bridges, factories, transportation infrastructure—which worked against more humane and ecological sensitive solutions in the name of utilitarianism and efficiency. At the time, labor was a cheap resource and when combined with

technical knowledge was used against the qualities of the environment for the sake of efficiency. This lead to a city which developed more as an efficient machine, a production powerhouse, than a city associated with the "city beautiful" movement. Mile-long factories rather than axes and allees. As Pittsburgh's industrial machine started its decline in the 1980s, so to did these works of innovation. As architects, how can we employ modern methods of construction and experimentation to reconnect a city to its past? These issues of material, technique and labor are central to our work.

In order to understand the post-industrial context of Pittsburgh, first we must begin with the idea of Pittsburgh as a terrain city. If it was not for its natural resources and geographic location, Pittsburgh would have not received such vast efforts of engineering in its transformation. Its urban condition is a direct reflection of the geological condition of the place. The confluence of the three rivers is a direct result of time and erosion of the Appalachian Plateau. This has lead to a landscape that is uniquely Pittsburgh. Neighborhoods are nestled among the terrain within hillside pockets. Neighborhoods are not only defined but also named for their topographic features: Southside Slopes, Southside Flats, Squirrel Hill, Swissvale, Observatory Hill, and Fineview, to name a few. Each neighborhood is defined by the spatial boundaries of its terrain.

In the nineteenth century, architect Benjamin Latrobe in an attempt to describe Pittsburgh to a friend, chose to describe it with a drawing rather than words. The graphic method Latrobe selected was the sectional drawing. The use of section as a design tool is nothing new to the architect's process. Architectural space is inseparable from the use of section. Pittsburgh is a sectional city. How the use of section can reveal a neighborhood, a city, and its terrain is an important aspect of our practice and further connects our work to our unique place.

Live/Work Studio

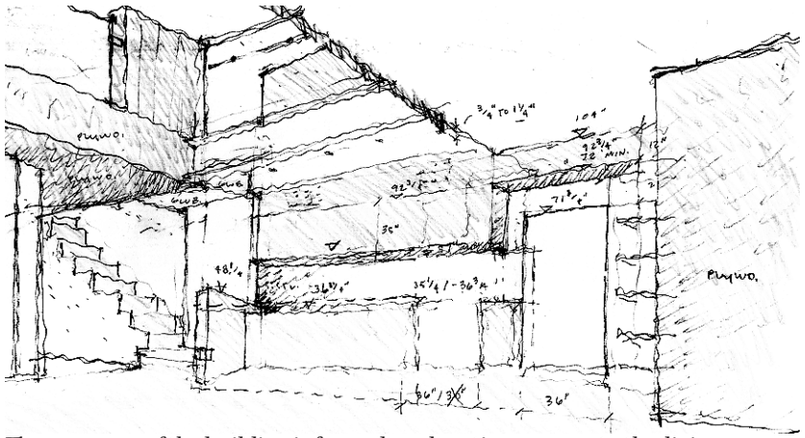
The opportunity to build a residential, urban infill project allowed us to explore how Pittsburgh's history and landscape can influence the form of building and the use of vacant lots. Inspired by the region's ingenuity in building within the unique terrain, this live/work studio celebrates both the built and natural landscape through its materials and spatial sequence.

The site is located in Pittsburgh's Southside Flats neighborhood, one of

the oldest and closest neighborhoods to the downtown across the Monongehela River and an area historically known for its production of steel and glass. The lot was selected because it possesses a number of intriguing characteristics: its prototypical townhouse lot size of 20-feet wide by 70-feet deep (very common in Pittsburgh); its unique location at the junction of industrial and residential fabric within this predominately working class neighborhood; its proximity to a vibrant Main Street commercial district; and the views it potentially offered. The site context photo reveals the juxtaposition between the residential and industrial uses of the neighborhood.

As one ascends from the ground level, the site's context is sequentially revealed: from the street, to the neighborhood, and finally, the landscape. These features are a microcosm of the dominate features of the city within its natural terrain. The house is composed of a modest home and studio influenced by this immediate context as well as the larger landscape of the city.

Built as the home and studio for the architect and his family, this project contains the programmatic needs of a modest studio space and private bedroom on the second level, with an open living, dining, and kitchen area and garage on the first, a basement and two gardens. One garden is an exterior extension of the living space and the second is a roof terrace garden which is the termination of the spatial sequence. The program is arranged to give the sense of spatialness and interconnected spatial harmony.



The sequence of the building is framed by two parallel masonry bearing walls which organize a series of interior and exterior spaces that confront the region's topography. These spaces can be described as: (earthen) basement; the first floor which is hidden from the street and makes direct visual reference to the private garden and the sky; the second floor studio which makes a visual reference to the street and the neighborhood, and the roof garden, which connects the resident to the sky, the city skyline, and neighboring hills.

Three large glazed surfaces organize the interior spaces. The large, second floor studio window above the street collects the strong western light and allows it to travel deep within the interior as well makes a visual reference to the neighborhood and the landscape. A large, sliding roof window acts as a central focus of the double-height interior space. This roof window grounds the house to the site and is an attempt to bring the house back to its sacred relationship between earth and sky. A large window on the first floor's east elevation connects the living spaces to the ground level garden.

Conceived as a series of eroded layers of material, the house transforms from fragmentary to finished as one moves through the house from front to back. The building materials make reference to the construction heritage of the city. Weathered steel and glass on the front facade are used as references to the past industrial character of the area. On the rear facade, black asphalt shingles make reference to the wood frame building tradition of the neighborhood. These houses originally were sheathed in horizontal wood siding and later replaced with aluminum or asphalt siding. The concrete block that is used for the parallel bearing walls is made locally and contains iron oxide within its aggregate which will weep onto the block in time and will help to ground this building within the context of its place.

Other recent projects which work within Pittsburgh's unique terrain include the Bailey Avenue Residence on Mount Washington, overlooking Grandview Park and the city skyline. This home and studio for two graphic designers is located atop the Appalachian Plateau. This plateau extends across the state of Pennsylvania and in Pittsburgh it is eroded by the three rivers creating three unique plateaus. This home reveals through the architectural sequence (and its related section) views of these plateaus. Made of locally fabricated structural insulated panels, engineered lumber, steel framing and weathered steel sheathing, this residence is intended to symbolize how current advancements in materials and manufacturing methods can lead to a structure once again linked to the traditions of place.

Another project in the Southside Flats neighborhood is a rooftop garden pavilion built atop a historic Victorian residence that will act as a biophilic greenhouse. This greenhouse will help to heat the three apartments within the residence as well as provide a common exterior rooftop living space. This rooftop space reveals a three hundred and sixty degree panorama view within the silt plain of the Monongehela River.
The integration of material, form, and sequence to the unique particulars of a place is nothing new in architecture. Cities such as Paris, Rome, etc. have many structures which are inseparable from the places they are apart. Whether its the views of the Roman landscape from the Villa di Papa Giulio or the connections to Paris' monuments through the esoteric roof top of Le Corbusier's Beistegui apartment block, buildings can reveal the unique qualities of place. The projects presented suggest that sequence and materials can be linked to and be inseparable from the places of which they are apart.