

Re:constructing Detail

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The term 'detail' is frequently used in architectural discourse, but as a concept, its precise meaning is often unclear. Does it simply refer to a joint or collection of joints between materials, as in a 'construction detail', or is it something more? At times, one might refer to a smaller part of a larger whole, a significant 'moment' within a more expansive composition, as a detail. For example, one might see a house and call its porch a detail, a salient moment within the context of the larger structure. Here, rather than referring to a joint formed between singular material components, the term is applied to a scenario that is perhaps more complex. An expanded conception begins to emerge whereby the detail is constituted from the interaction of a greater number of elements, or more complex, compound elements, themselves consisting of joined things. However, this conception of detail is still lacking in clarity. What exactly *is* the detail and what value does it possess in relation to the discussion and production of architecture? An attempt will be made to answer to this question through a *reconstruction of the concept of detail*. In rethinking its meaning, a particular theoretical framework will be developed that will begin to illuminate the detail's vast communicative and expressive potential within architecture.

THE JOINT

Marco Frascari has suggested that anything one considers a detail in a work of architecture is always a joint.¹ Applied to the term's common usage, this seems correct, as a 'construction detail' depicts a method for joining materials of construction, but what of its application to the 'moment' as a detail?

To answer this, a closer look at the concept of the *joint* is necessary.

The dictionary defines a joint in many ways, but amongst the most applicable to this study's purpose is "a part or place at which two or more things are joined."² What then does it mean for things to be *joined*? While there are many definitions of 'join', they all have in common that they suggest contact, unity, connection, and/or attachment.³ Therefore, as the concept of joining is here deployed, it will be associated with this group of qualities and potential relationships. However, another question follows: in architecture, what are the *things* that are joined? One might say that the things that are joined in the production of architecture are its parts or elements, a set of things that includes the materials from which it is composed. However, might there be things other than simply physical materials that one can consider elements joined in the production of architecture?

AN ELEMENTAL APPROACH

One might say that producing architecture involves the bringing of its elements into a state or order, the result of a particular process of organization. This is evident in regard to a work's physical materials which are ordered and joined through the process of construction. Here, the production of joints is implicit in the process by which the typical structure is made, the accumulation of pieces that are bonded to one another in some way. It's not always the case however that architecture is produced through such a process of accumulation. In the example of the ancient site of Petra in Jordan,

works of architecture have been carved from solid stone, produced by subtraction rather than addition and, therefore, not necessarily involving the joining of materials. To be sure, such a work still involves joining in some way or another.

At Petra, the importance of the space inside the work is evident, for aside from its decoratively carved façade, the primary feature of the work is its provision of a space in which to dwell. In occupying the work one moves from *outside*, the space of the world, through a threshold to *inside*, the interior space. For one to pass from one to the other, from outside to inside, there must, at some place and to some degree, be a joint made between their volumes of space.

Thus, in producing architecture, one can be said to make joints not only between material components, but between spatial components as well. By this view, it should not be difficult to accept space as an *essential component* of a work of architecture, and therefore as one of its *primary elements*. What other things might be considered to be architecture's primary elements, things that it necessarily involves?

In addition to *material and space*, it will be proposed that architecture also necessarily involves components of *phenomenon and body*, with these four things serving as architecture's most primary elements. By this *elemental approach*, the act of joining these primary elements will be revealed as one of the fundamental aspects of architecture's conception and construction, exposing the detail as a concept that touches upon architecture's very essence. However, before delving into the depths of this claim, a more thorough understanding of the joint between materials must be developed, for in the material joint, and the concerns implicit in its production, one will find an analog for the joining of any and all of architecture's elements.

MATERIAL JOINT

Understanding a material joint should begin with two critical points. First, a material joint is intended to serve a *particular purpose*. Second, for it to effectively serve its purpose, its components should be joined in a way that responds their *specific nature*. Again, some questions arise.

In architecture, what *purpose* is a material joint intended to serve? Often, material joints in a work of architecture are intended to hold together, maintaining a more-or-less permanent connection between components. This is the case with joints between stone blocks that make up the pyramids at Giza, which have held together over the course of millennia. Now, consider a mortar joint between bricks in a typical masonry wall. Such a joint is also intended to hold components together, but it may serve an additional purpose as well. If the wall bounds an interior, conditioned space, then the joint may also serve the purpose of sealing the wall from the unwanted passage of moisture and air.

With other joints, it is sometimes *not* the purpose to hold components together in a static, unchanging relationship. The joint between a door and its frame is operable, and its components can exist in a range of relationships from 'open' to 'closed'. In one state, it allows for passage through the space between components, while in another, it seals the assembly against the passage of unwanted things. Clearly, different material joints may serve different purposes and it will be important to understand what the specific purpose of a joint is in each particular case.

Also, if the making of a joint should respond to the specific nature of components, what is meant by the *specific nature* of a material? Any material has its own set of *physical and perceptual properties* that define and distinguish it from other materials.

Physical properties of a material are objectively known. They can be easily measured, recorded, and communicated. These properties, largely a function of the specific chemical composition and microscopic structure of a material, include things such as density, mass, compressive and tensile strength, and thermal conductivity. Other physical properties might be determined or affected by the modes of processing a material or its shape and dimensions. These qualities and characteristics will create predictable 'tendencies'⁴ of behavior in a material and affect its interaction with other things under the action of natural forces.

Perceptual properties encompass qualities and characteristics of a material that are primarily sensed or felt rather than measured or quantified; they are known subjectively rather than objective-

ly. These include things such as perceived lightness or heaviness or pre-existing associations that one might have with a material that evoke feelings such as comfort or uneasiness.

The sum of a material's physical and perceptual properties can be said to amount to its specific 'nature'.⁵ In understanding the nature of a material one finds the possibility of knowing how it can best be joined to other things. In application, this knowledge will help one ensure that a joint effectively serves its purpose.

Returning to the pyramids at Giza, consider the joint between stone blocks in terms of its purpose and the nature of its materials. The purpose of this joint is to hold together, and it has done so. The particular type of stone employed here is very dense and heavy. When large pieces are stacked, the combination of their great mass and the friction between meeting surfaces will hold components together simply by virtue of their surfaces' contact. Thus, the joint satisfies its purpose because it's made in alignment with the nature of its components' material.

Consider this same method of joining in relation to a different material - wood. Imagine that, rather than stone, one wished to join two lengths of lumber, 2"x4"x1' in dimension. When stacked in the same way as the stone blocks of the previous example, would the components still hold together well? No, they would not. The connection between them could easily be broken. This is because the nature of most wooden components will not lend to making joints hold together through surface contact alone.

When contact alone will not effectively join components then they must be *bound* in some other way. This means that at the locus of the joint, they must be configured, reconfigured, or produced in such a way that they may be joined by virtue of their relative form. Essentially, components must either *be or become shaped* such that they can be placed into a relationship that satisfies the purpose of their joining. Such shaping and interrelation of components at the locus of a joint will be referred to as *articulation*, and it may occur either directly between components themselves, as in the case of a nut and bolt, or between them and a secondary, mediating component that serves to bind the other components together, such as glue within a lap joint between sections of wood.

The Superleggera Chair (Figure 1), designed by Giò Ponti, provides an interesting example of how ma-



Figure 1: Superleggera Chair. (Photo by author.)

terial components might be articulated to fulfill the purpose of a particular joint.⁶ Consider the connection between one of the chair's legs and the perpendicular members that structure its seat. What is the purpose of this joint?

Due to the chair's function, this joint must be able to accommodate the stresses placed upon it when someone sits. To this end, members must be connected well enough to hold together under these circumstances. However, this joint serves a secondary, aesthetic purpose as well.

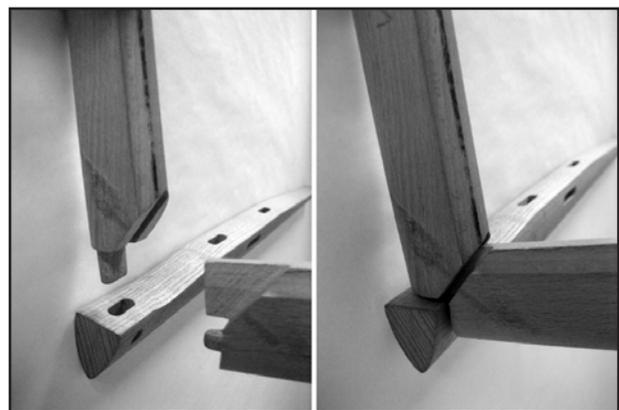


Figure 2: Detail, Superleggera Chair (Photo by author.)

This chair was designed to give an impression of lightness, both in weight and form, and it was therefore the purpose of the joint to contribute to this

expression. At the locus of the joint, wooden components have been shaped to receive portions of each other, allowing all three to become interlocked (Figure 2). This mode of joining responds to the nature of wood as a material, which is easily and effectively carved into various shapes, providing for components to interlock and, with the addition of glue, effectively bond them. The components' articulation, while serving to hold the joint together, also minimizes the connection's size and conceals its complexity, forming the detail to satisfy its functional purpose while also granting it the ability to communicate through its expression of particular qualities.

Understanding the role that *purpose, nature, and articulation* play in producing a material joint and how, beyond mere connection, the joint might serve more complex, communicative purposes, one can begin to apply these concepts to other elements of a work of architecture. In doing so, it will become clear how this way of thinking about joining materials might inform the production of joints between any and all elements from which a work of architecture is composed, thus unlocking the full potential of the detail.

SPATIAL JOINT

'Architecture has been understood as the art of bounding space.'[□] This is to say that in producing architecture one creates boundaries within the space of the world, distinguishing the space of the work from that of its surroundings. Further, the space of the work itself is often subdivided into spaces, distinguished from one another through the definition of their boundaries as well.

By these terms, considering spaces and the relationships between them when creating or evaluating a work, it should not be difficult to accept 'space' as an element, or essential component, of a work of architecture. Given this, how and why might spaces be joined?

Often, within of a work of architecture, one must be able to move from one space to another. One might pass from the exterior of a house to the interior, from bedroom to hall, or from kitchen to dining room. In these cases, to allow passage, distinct spaces must be joined, either at the place of their intersection or through their mutual relationship to another, mediating space.

Consider the example of Casa Del Menandro (Figure 3) in Pompeii, Italy. Here, one finds an atrium that provides for circulation and the organization of other spaces around it. Any spatial joint between the atrium and a room around it exists for the purpose of physical passage; however, the form that the joint takes in each circumstance responds to the relationship between the natures of joined spaces.

This point is illustrated by comparison of the joint between atrium and tablinium with the joint between atrium and service space. While distinguished by shifts in their defining planes and pairs of engaged columns, the atrium and tablinium open to one another across the majority of their shared boundary and, with a single step pushing out of the tablinium, their volumes of space are effectively overlapped. Space's articulation at the locus of joining reflects the natures of components, expressing their primary and public roles within the dwelling through the detail of their connection. In contrast, the joint between the atrium and a service space expresses a different sort of relationship. This connection consists merely of the space of a threshold, a simple doorway. While this joint effectively serves the purpose of allowing passage, it constitutes a relative disconnect between spaces compared to the former example, a connection more appropriate to the relationship between the public atrium and the more private service space.

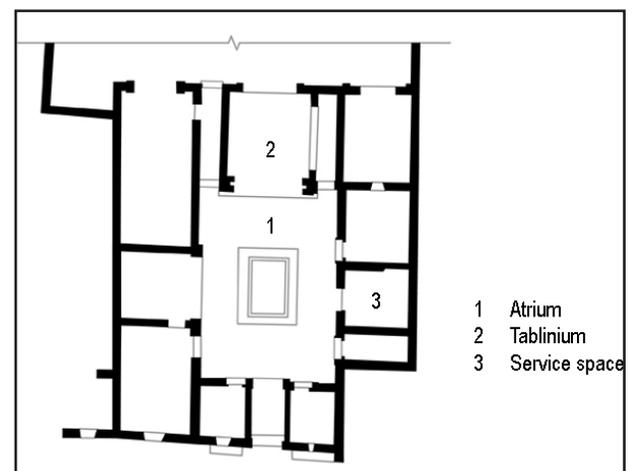


Figure 3: Plan, Casa del Menandro. (Drawn by author.)

While both situations can be seen as spatial joints, their varied forms result from differing purposes and relationships between the natures of connect-

ed components. In each case multiple purposes are served through the articulation of material and space at the locus of the joint.

Within the center of the atrium, another point of interest can be found. An opening in the roof exists for the purpose of collecting light and water. With the material and space of the work being articulated in response to the phenomena of sunlight and rain, the presence of another of the work's primary elements is revealed.

PHENOMENOLOGICAL JOINT

From history to modernity, architecture is replete with examples of works in which the phenomenon of natural light plays an important and central role. Would not Rome's Pantheon or Le Corbusier's Ronchamp seem somehow incomplete in the absence of natural light? As such, it should seem reasonable to consider natural light one of the primary elements of such works.

A phenomenological joint can be seen to occur at any place where the material and space of a work of architecture are articulated directly in response to the presence, or possible presence, of some phenomenon of the natural environment.

Consider a skylight that shapes sunlight as it enters a space, or a scupper that directs the flow of rainwater as it sheds from a roof. It is obvious that for such details to satisfy their purposes they must be formed in response to the natures of joined components, in this case not only the materials and space of the work, but also the phenomena of sunlight and rainwater. Where the work and phenomena of the environment make contact and become articulated, they are joined, albeit in a bond of a temporal sort.

To further illustrate this, consider the Thermal Baths at Vals (Figure 4), designed by Peter Zumthor. The baths draw their water from an ancient spring that rises from the mountain beneath. Along the length of the entry hall wall, one finds a number of small spouts from which water is constantly flowing. The water, as it comes from a natural spring, is very rich in minerals. As it spills down the wall, these minerals are deposited on the concrete's surface, oxidizing and forming a rich patina. This change at the place of interaction between water, air, and material is a process of articulation. Components are



Figure 4: Vals fountain. (Photo by author.)

reconfigured at their place of meeting and through accumulation over time they become, in a sense, bound together. This detail demonstrates the nature of its components, flowing water and the material of the building, and their temporal interaction, informing one's awareness of 'the life of the building in time.'[□]

In speaking of the ability of the detail to demonstrate something, it is implicit that there exists someone for whom something is demonstrated, gesturing towards the last of architecture's primary elements.

CORPOREAL JOINT

It can be suggested that any work of architecture, by its very nature, necessarily involves its occupation by one or more corporeal presences, the bodies of those who inhabit its space. What is architecture's purpose if not to provide places for humans to dwell? Works of architecture are designed around the scale of our bodies, the size of a door or proportions of a step testify to this. Buildings are

formed around our activities and made to house our interactions and institutions. The relationship between architecture and the bodies of its occupants is so central to the very purpose of building that it should not be difficult to accept the body of an occupant as one of the essential elements of a work of architecture.

A corporeal joint, made between one's body and a work of architecture, depends, just as in cases previously discussed, upon the shaping and interrelation of components at the locus of the joint. In a sense, material, space, and phenomena become configured around the presence of the body and at the place of their touching, interaction, and mutual articulation they can be seen as joined. A doorknob grasped within a hand, a seat built into a wall to hold one's body within it, or a stair cast in natural light from above to illuminate one's ascent are all moments where other elements of the work have been configured in response to bodily presences.

In the case of one's body, its nature is complex. Physically, the body has particular dimensions, proportions, and mechanical capabilities. These are important, as things like a doorknob or step must respond to them in terms of their scale and the movement required of a body to interact with them. The perceptual properties of a body are a topic of endless complexity as they relate all aspects of the body as a vital, sensing, and thinking self.

In accepting the body as an element of a work of architecture and the possibility of its being joined with other elements through their mutual articulation, the detail's most critical layers of complexity become revealed.

COMPLEXITIES

In Venice, Italy at the Fondazione Querini Stampalia, designed by Carlo Scarpa, one finds a moment that begins to illuminate the potential of this particular way of seeing. The most traditionally important entry to the Fondazione fronts on a canal (Figure 5). This threshold between exterior and interior was designed to provide access for those arriving by boat, a traditional mode of transportation in the city. Open to the elements, the threshold is barred only by porous gates, through which water may freely pass. Inside, a series of steps rise within a coped basin from the level of the ca-

nal's water to the top of the coping. Primarily, this moment serves to provide for one's physical passage from the water to the higher floor level of the interior, but it is configured in response to other factors as well.



Figure 5: Stair at the Fondazione Querini Stampalia. (Photo by author.)

The rise and fall of the water level as the tide comes and goes, along with the periodic flooding that inevitably coincides, is a thing that defines Venice as a place. Functionally, the configuration of this particular detail prevents the interior's flooding, but in its mode of doing so it celebrates this aspect of the nature of its context.

Throughout the day, as the canal's level rises, water flows through the porous gates and into the basin from which steps ascend. The level of the basin's bottom is varied and, as rising water gradually fills its levels, the temporal relationship between water, basin, and stair progresses through a series of phases. At its greatest height, the water surrounds the steps and, seeming to rise from its depths, they

are rendered distinct within the basin's sea. Eventually, as the tide goes and the water recedes, the basin's bottom is revealed, traces of wetness left upon it in memory of the water's passage. In a way this moment serves as a marker, an indicator of the past, current, and possible states of affairs between material and phenomena at this particular joint in space, demonstrating the nature of its components through their articulation at the locus of joining. But still, the primary purpose of this detail is to provide for one's physical passage from canal to interior.

Entering from the canal, one steps upon the stair. Traversing the basin, the archipelago of steps guides the body's procession across the width of space. At the appropriate height, the stair turns and meets the edge of the coping at a recess, providing a place for one to step down to the space's primary level.

As a corporeal joint, this moment, in its scale, proportion, and orientation responds to the physical properties of the body, articulating its movement through space. Perceptually, through the occupation of this complex detail, between interior and exterior, material and phenomenon, architecture and context, the nature of these things at the particular time and place of their joining, is expressed and, to those who are receptive, communicated. Endowed with the ability to communicate as such, what other things might a detail be made to say?

POTENTIALITIES

By the conception developed here, it should be clear that the architectural detail possesses the ability to embody and express complex ideas. Essentially, this amounts to a proposal of one way of seeing and thinking about the role of the detail in the production and analysis of architecture. I believe that it constitutes an open-ended system, an analytical lens of sorts, which can be adapted to nearly any set of beliefs that one might hold in relation to architecture.

In providing this particular critical framework, there is the hope that these ideas might serve as a position from which to ask meaningful questions about architecture by probing the how and why of its elements' joining. What other phenomena, activities, or interactions might a work of architecture

be articulated to receive? What about the nature of its elements might a particular joint say? What about the depths of human experience might the detail be able to express? It is perhaps here, in one's attempt to answer questions such as these, that the detail finds its greatest value, beyond the mere function of connection, in its ability to become a communicator of meaning, a vehicle for poetic and aesthetic expression, both shaping and being shaped by our ways of dwelling within the world.

ENDNOTES

1. Marco Frascari. "The Tell-the-Tale Detail." *VIA7: The Building of Architecture* (1984): 23-27.
2. *Oxford English Dictionary*. 2nd ed. 20 vols. Oxford: Oxford University Press, 1989.
3. *Oxford English Dictionary*. 2nd ed. 20 vols. Oxford: Oxford University Press, 1989.
4. Robert Morris, *Continuous Project Altered Daily* (Cambridge, MIT Press, 1993): 77
5. The concept of the nature of a material is a complex one and an understanding of it must typically be drawn from a number of sources. The writings of Lodoli and Robert Morris offer useful information and ideas on the topic.
6. Though by the account of some a chair would not be considered 'architecture', it clearly possesses architectural qualities by virtue of its process construction, and thus provides an example that is applicable to the purpose of this study.
7. Karsten Harries. *The Ethical Function of Architecture* (Cambridge: MIT Press, 1997), 214.
8. Moshen Mostafavi and David Leatherbarrow, *On Weathering: The Life of Buildings in Time* (Cambridge: MIT Press, 1993).