

THE ACTUAL AND ITS DOUBLE: EXPERIENTIAL LEARNING AND THE HISTORICAL URBAN FABRIC PEDAGOGICALLY CONSIDERED

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ABSTRACT

This paper examines the role that the anonymous fabric of the historical city can play in the design education of an architect today. Since the last half of the 20th century architectural design education has displaced the currency of actual experience and prioritized the acquisition of and communication with an advanced representational language of form. Foreign studies programs that place students into such locations as Rome for a semester of intensive study are thus introducing a fundamentally different, even disruptive learning experience. How the experience of historical cities can be formulated into a design pedagogy that offers not just mastery of the discipline, but an expanded skill set to make more inventive and ethically capable future architects is the purpose of this paper.

The pedagogy that is proposed will foreground the experience of an historical urban fabric and the intrinsic physical and perceptual discoveries that it can offer through deeper engagement. Rome will be the laboratory, introduced together with Giambattista Nolli's Grand Plan of 1748. A fragment or segment of the plan will be examined experientially to understand it intimately and determine its present-day differences: what remains the same, where and how it has been altered, and what no longer exists at all. With this contemporary iteration of the original fragment,

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FORMA CIVITATIS: International journal of urban and territorial morphological studies
(IJUTMS), Vol. 2, N. 1, 2022

the plan will be disassembled, as if a puzzle, into its various component parts and then speculatively remade. The result is an iterative collection of new urban fragments. Multiple solutions introduce a comparative methodology and allow associative connections to an expanded field of actual cities and places. The analytical and speculative exercise is then tested against the challenge of a design studio program and site that allows for a direct application of the methodology as a means of providing a solution.

The initial experience of Rome's historical fabric is as a labyrinth whereby one must ultimately lose their way. In this sense all that has been familiar will be lost. Orientation and wayfinding will require an awareness of physical and spatial landmarks and their uniquely episodic relationships to the supporting fabric. Building this knowledge of incremental parts to the larger, not quite comprehensible whole is a cumulative process. But through it the student can build a bridge back to what they already know.

Keywords: Experiential Learning, Roman Urban Fabric, Pedagogy

Introduction

I begin with a quotation from Sir Geoffrey Scott's *Architecture of Humanism*.

Architecture is an art of design based on the human body and its states. We transcribe architecture into terms of ourselves. Through its spaces we can conceive ourselves to move; its masses are capable, like ourselves, of pressure and resistance; its lines, should we follow them, might be our path and our gesture. The concrete spectacle stirs our physical memory. It awakens in us, that condition of the spirit which belongs to our actual experiences. We look at a building and identify ourselves with its apparent state. The tendency to recognize, in architectural form, the image of our physical functions is the true basis of a critical appreciation. The tendency to project the image of those same physical functions into architectural form is the true basis of its creative design.¹

Although published in 1914, and as a manifesto in support of classicism, Scott's definition might be seen to have even greater currency for the student of architecture today. As design methodologies have moved away from history as an inventive reference to embrace more tangential possibilities for making, and as the studio design process now promotes

¹ Scott, Sir Geoffrey. 1914. *The Architecture of Humanism: A Study in the History of Taste*. Constable and Co. Ltd. This text was assigned to me during a seminar with William Curtis, the Le Corbusier scholar, for its ability to probe more universal architectural concerns that could subsequently reach across and not be restricted by a historical period.

² *Ibid*

transformational research for the determination of form and meaning, it is the body and human function, as the provider of vertical orientation in relation to horizontal movement, as a conditional measure and spatial determinant, and as an incremental guide with regard to step and reach which remains the critical benchmark. Stripped of “literary fancy, the historical imagination, the casuistry of conscience, and the calculations of science,”² it is the body and human function that are the qualifiers with which the tangents of architectural form-making must eventually identify. With the critique of the body’s transcription, ‘research’ can still pass into the realm of a capable proposal- setting forth an accommodation of program, a condition of scale, the physicality of materials, and the mechanics of construction.

The body and architecture; to fully appreciate this relationship, students must be keenly aware of their own spatial experience,

Fig 1. Aristippus sees “the traces of man” on the Rhodian Shore:



conscious of architecture's physical appearances (those spaces, masses, and lines) as well as determined to understand the means for representing it. This is what has been called by Alberto Perez-Gomez, "operating in the world as lived"³ An interest in the physical circumstances of the world around you (just how that world is shaped to project the body's image and function into concrete form) inspires a diverse memory of spatial experience- something the intellect will require to operate intuitively in conjunction with the problem-solving criteria of architectural design.

Architectural pedagogy, however, still typically begins from the opposite position by intentionally displacing experience from representation. A design student today is most likely introduced to the world of constructed form elementally and reductively, with a problem descended from John Hejduk's 'Nine Square Problem' given at the Cooper Union between 1964 and 1985. The 'Nine Square Problem' presents Architecture as a self-contained and abstract discipline: the site as a cubic geometric measure, sub-dividable into relative parts or sections; elements (columns and beams) typically increments of the site's measure; as well as planes and openings; all of which have to be assembled to shape the space of intellectual habitation. In this world, there is no space for personal associations or nostalgic references. Hejduk noted, "working within this problem a student begins to discover and understand the elements of architecture: grid, frame, post, beam, panel, center, periphery, field, edge, line, plane, volume, extension, compression, tension, shear. The student begins to probe the meaning of form and its representation in plan, elevation, and section."⁴

At the beginning of book six in his *Ten Books of Architecture*, Vitruvius relates a little story (Fig. 1). The Socratic philosopher Aristippus, being shipwrecked and cast ashore on an unknown coast, despaired, until he observed geometrical figures drawn upon the sand, whereupon he cried out to his companions, "let us be of good cheer, for I see the traces of man."⁵

For Vitruvius, a composition of lines, because they have been measured out and drawn specifically in a relationship to each other, suggested not just the presence of another person- the maker of the marks- but an entire culture, a civilization, and its accomplishments. For the student, the kit of parts intends to introduce these same geometric possibilities, from which one must learn to reinvent the accomplishments of history, as an evolving ritual of self-knowledge. The intrinsic value of working with abstraction is to focus one's understanding of architecture as a form of language. A fluency in that language will ultimately allow for an architectural expression of ideas.

³ Perez-Gomez, Alberto. 1986.

"Abstractions in Modern Architecture: Some Reflections in Parallel to Gnosticism and Hermeneutics." Carlton University (Carlton Books).

⁴ Hejduk, John. 1980.

"Architectural Education at the Cooper Union." Lotus International 27. *First Year architectural pedagogy at most east coast design schools has since the early 1970s taken clues from the influence of John Hejduk at the Cooper Union generally and from his Nine Square problem specifically.*

⁵ Vitruvius. 1960. *The Ten Books of Architecture.* Translated by Morris Hicky Morgan. New York: Dover Publications. *The narrative was pointed out to me by Kathryn Gleason.*

No doubt, like Aristippus, there will be moments of despair, of getting lost. And I would argue that these moments are the critical thresholds within the learning process. The student must seek out, must discover, and define for themselves rather than be given the poetic associations that are already around them in the real world.

This process of learning is also incremental and quite slow as architecture is not something immediately grasped. Architecture is a representational discipline and thus the student must also be introduced to the graphic means to present an actual or imagined space- orthographic projection. Understanding constructed space as a set of relationships relative to the horizontal and vertical plane of section is very different from visualizing a moment in time. The ability to construct a syncretic representation is itself a transformation, an intellectualizing (and abstracting) of the true experience, and thus again a step removed.

From this dialectical starting point- between a new language of form and its representation on the one hand and the currency of one's actual experience on the other- a true architectural education proceeds. It is an effort to bring the actual, or experience, and its double, or representation, into a direct and immediate relationship. Perhaps the most critical threshold in a student's education is in recognizing the possibility of this connection; the referential that must accompany the means and markings of the page.

While the idea of drawing remains constant, the mechanics of visualizing continues to evolve. Appropriation is now a 'command' and with it comes a profundity of accessible imagery. Such a delirium would present itself as a substitute for the experience itself, obscuring the more critical path for understanding, operating in the world as lived. Actual learning requires a persistent back and forth- between drawing and visualizing on the one hand and seeing and

Fig 2. Nolli segment in plan context and isolated and modified to its contemporary state



physically experiencing on the other. Through this exchange, maturation occurs- from eyes that do not see- to the hands that remember- an ability to better represent and thus communicate the physical characteristics of one's ideas.

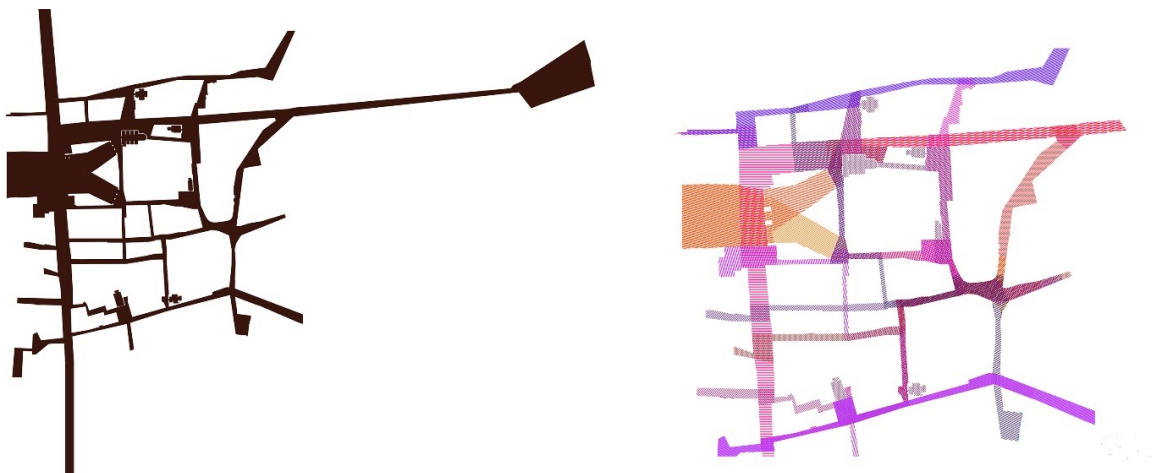
Integrating Experiential Learning

It is a process that can take years, even years beyond the term of a student's degree. It is into this incremental pace of abstract consideration and virtual speculation that the study abroad or travel studio should be located. For Pratt Institute's Undergraduate Architecture Program, this takes place in Rome, Italy during the fourth year of a five-year professional degree program. And it is like a bomb exploding. In Rome, the bias of the three previous years of learning is turned upside down; from a focus on imagining and the representation of that which has not necessarily been experienced, to a world of unexpected experience where there is neither the time to confront it all nor the satisfactory means to represent its challenge.

Rome is still perhaps the most remarkable 'library' of spatial experience in the world. The encounter with this city, foreign yet familiar, profound while contradictory, will inevitably question any student's design priorities. It is a place where city and building remain interdependent and so investigating its urban fabric as well as the antique remains that interrupt and inform it offers a very different understanding as to urban history's ethical value.

Intentional objects, the authentic phenomena of our experience, are never simply what they are. The discovery of meaningful architectural order should occur in the realm of perception, (not through an operation of observing, but) through the operation of making, of "concrete poetry" or poesis, derived from the challenge of materials and techniques... It is what might be called embodied making, involving a mind in a body, its flesh, its pleasure and its pain,

Fig 3. Segment analysed relative to pedestrian porosity



⁶ Perez-Gomez, Alberto. 1986. "Abstractions in Modern Architecture: Some Reflections in Parallel to Gnosticism and Hermeneutics." Carlton University (Carlton Books).
⁷ Rowe, Colin, and Robert Slutzky. 1997. *Transparency with a Commentary by Bernard Hoesli and an Introduction by Werner Oechslin*. Basel: Birkhäuser.

searching for an order rooted in history, perception and materiality. That which is permanent and eternal in a work of architecture transcends the particular meanings addressed by the architect to his contemporaries ... We should emphasize that the most fundamental mystery of architecture, as a symbolic ordering of man's world, is indeed this ambiguous dimension that makes an architecture foreign in place and time, not only accessible, but meaningful to us.⁶

No doubt, the revelation that architecture is an abstract language helps to carry meaning over place and time. But the city of Rome gives Alberto Perez-Gomez's words immediacy, an instinctive accuracy that in Brooklyn students can only seem to aspire to.

In a commentary that placed the essay "Literal and Phenomenal Transparency" into the broader context of the historical city, Bernard Hoesli said: "one has to be willing to renounce a fixed point of view; one has to be prepared to see contrasting or even contradictory spatial notions as not necessarily excluding each other and accept that "certainty" can only reside in a temporary stage of the ongoing dialogue."⁷ This idea of uncertainty can again recall the shipwrecked Aristippus, as uncertainty is also the spatial reality or discovery that is Rome. To inhabit this place for a period of months is to be given a truly remarkable opportunity- the challenge of its history. To come to terms with this challenge is to risk determining some of its possible realities and uncertain truths.

Pedagogy

The pedagogy of Pratt Institute's Undergraduate Architecture Program in Rome, like many others, prioritizes the experience of the physical place. But the design studio chooses to do this by foregrounding the less identifiable historical fabric- the city's more intimate rather than grand spaces. This is the labyrinth into which each student must step. The familiar will be lost. Finding a way out will require an awareness that urban form and space are engaged in collective dialogue;

Fig 4. Describing the spatial sequence and its interrelationships



that the space of urbanism is not merely the leftover but something shaped collectively. And that it is communicating between itself as well as those who inhabit it in an ongoing dialogue determined by accretive modification, intentional intervention, and minor detail adjustment.

It will also introduce a different idea as to orientation that relies on the memory of physical landmarks and recognizing unique relationships between an incremental part and its larger, not quite comprehensible whole. Rome, too, is a form of cumulative knowledge, but with it, each student can build a bridge back to what they already know.

The studio begins with an exercise to examine the city fabric through an experiential comparison of Giambattista Nolli's Grand Plan of Rome. The intention is to probe a segment of his plan, to fully understand its interrelationships, historically and in the present, and to embed into its representation specific associative memories. It puts the experience of the city into a direct relationship with Nolli's representation of the city. What the student finds is different from what Nolli recorded and so the process starts with determining and documenting where the plan remains the same, where it has been altered, where it no longer exists at all.

Students must physically inspect, measure, and then graphically analyse their segment of the urban fabric, their 'chunk' of the city. It is first identified in the context of the larger plan, then isolated from the plan, and finally modified to its contemporary state physically and spatially (Fig. 2).

Fig 5. Catalogue of Fabric Re-assemblages and Transformations (Agata Jakubowska)



With this new revised segment, the characteristics of the public space within it are interrogated. Its figure/ground relationships, its accessibility, its porosity as an aggregation of overlaid paths or routes through (Fig. 3).

The various paths or spatial sequences can then be documented as well. The result is a better understanding of the way that the fabric establishes certain interconnections and dependencies between smaller localized parts and the aggregated whole in both plan and section (Fig. 4).

The subsequent part of the exercise is the more challenging speculative phase. The analyzed segment of fabric is to be broken down, disassembled as it were, and then transformed. It will be reassembled according to different priorities. A series of prompts are offered as possible guidelines for the manipulation of segment parts:

REORIENTATION

DELETION

CONCENTRATION

ADDITION

DUPLICATION

ALTERING SCALE

ALTERING PROPORTION

RESHAPING

The result is a small catalogue of foreign but familiar city plan fragments that can still preserve the porosity of the original. (Fig. 5).

The catalogue segments can be likened to William Marlow's *St Paul's and a Venetian Canal* or Canaletto's more well-known *Capriccio* (Fig. 6). Neither are actual places, but they trigger a sense of familiarity. Aldo Rossi, of course, utilized Canaletto's image to articulate his idea of the analogous city in his *The Architecture of the City*. Yes, somehow, we do know these places. The pedagogy offers a way to design urban fabric- something

Fig 6. Fabric re-assembly and transformations



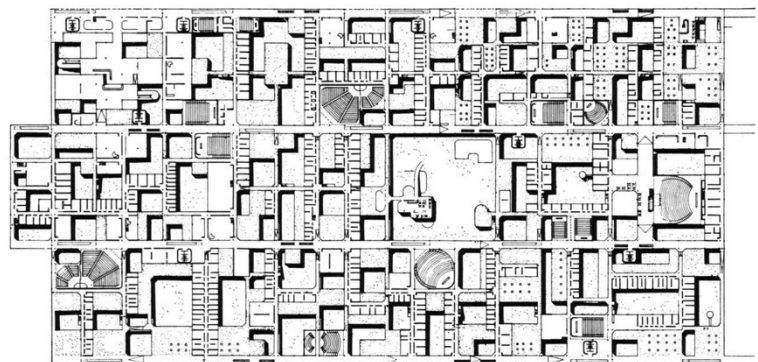
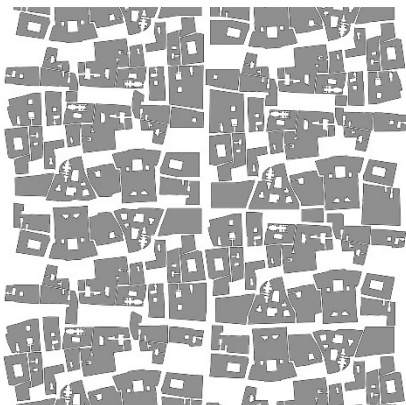
completely outside of the students' curricular vocabulary - and in the process come to terms with the values of shaping urban space as well as thinking of the public realm first.

Generating multiple solutions requires a comparative analogy between the variations. It is necessary to name them and understand their defining characteristics. And while it is, of course, an exercise that is performed graphically, the intrinsic experiential knowledge that each part carries within it helps to compress the difference between the actual and its double. Although not specifically intended by the lesson, a tangent to the work is recognizing that certain fictional city fragments carry the spatial attributes of other actual cities, or projects for actual cities (Fig. 7) - a distinction that can open the research up to even deeper historical interconnections.

As this is design-studio based research there is also a required proposal for a contemporary structure to be introduced into Rome's historical fabric. Three different sites have been delineated (Fig. 8) that offer not dissimilar opportunities: the Piazza Aracoelli, the Via al Mare leading to the Theater of Marcellus, and the Via della Conciliazione. All register as less than defined voids, empty spaces absent of more traditional figural definition. They were each created by being cleared during the Fascist period and thus, are characterized by a certain unfinished or unresolved quality that points to the symbolic and polemical value of the demolition itself rather than the resultant urban configuration.

For these sites, the studio has prescribed a complex, large-scale program, a hybrid problem that brings together city, state, and church requirements centered on topics of exhibition, lodging, performance, and tourism. As such, it is a problem that cannot be resolved typologically and thus must orient toward combinatory thinking. The intention is that the student engages the design process as they have the initial exercise; a puzzle of interconnected parts. The different parts go together to form a larger whole and still differently address their localized contexts.

*Fig 7. Laura Martin
'extrapolated plan' Berlin Free
University*



One exemplary project (Fig. 9) generated an infill by proposing three unique pieces of fabric, which could act collectively to shape and modulate the pedestrian trajectory from Castel s Angelo to Piazza S. Pietro as a sequence of accessible courtyards or piazze.

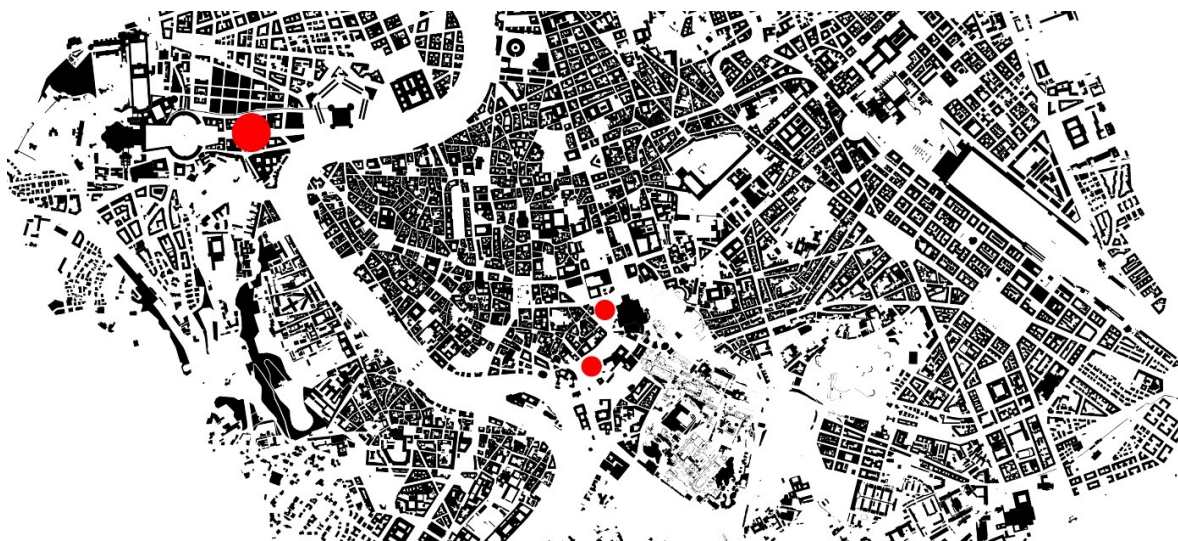
Other projects introduce not dissimilar spatial results while engaging other parallel issues, such as modularity and localized adjustments (Fig. 11).

To research and consider such strategies of assemblage and joinery is to re-examine and reflect upon the experience of the city itself. Rome’s urban body was once the composite building project writ large. This project, in one sense, seeks to act as a restorative measure, yet without compromising the contemporary sensibility of the students’ Brooklyn-based core education.

I acknowledge that these works can open up questions of appropriateness, but it is important to understand that the ‘Brooklyn in Rome’ studio is a laboratory in which American students are being exposed to the sensitivities and profound significances of a site for the very first time. The hope is that this site will ultimately become their every site.

Fig 8. Studio sites defined by Fascist-era demolition

Fig 9. Project by Charlotte Parsons



I also like to think that embedded within the pedagogy is the opportunity for a student to come to terms with another possibility- being a contributor to something much larger than themselves. This realization will hold even greater significance for where they may go next. Because the desire to be unique in one's work and to achieve acclaim for being unique has now been put into a relationship with what might be necessary to improve and contribute to the public good. And with this idea of civic good comes a different responsibility.

Fig 10. Project by Charlotte Parsons

Fig 11. Project by Pablo Gualde and Nadia Kim

