



## Experience & analysis: composite drawing to reveal complex urban transformation

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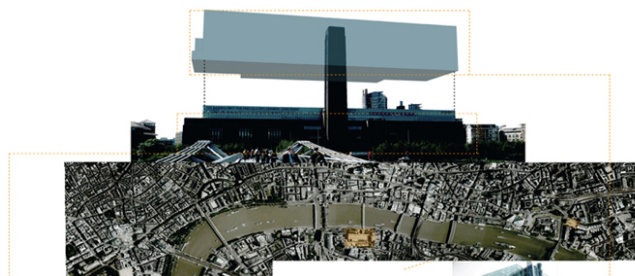
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**Abstract** The contemporary European City is made up of a nexus of historically disparate forces that range from radical industrialization, vast rebuilding due to war, the rise of new infrastructural systems, to the insertion of huge areas of temporarily occupied zones for World Exhibitions and Olympic Events. Many of these forces leave ruptures, scars and traces that can be read today. More than that, these forces are playing a pivotal role in the transmutation of the city into an emergent global urban condition.

This paper will discuss the methods of analysis and the documentation process developed in a co-taught study abroad program run in the summer of 2012. Using the Cities of London, Rome and Barcelona as a point of departure, the program examined in detail the evidence of the forces of change in the city through the use of mapping techniques and composite image making. Post-travel, the students participated in a documentation course, developing an analytical strategy for understanding their experience of the city. This strategy was framed by the larger lens of the evolution of cities and urban space, studying the role that technology plays in the integration of structure, systems and materials and how that might be a reflection of unique site or cultural conditions. The goal of this study was to develop a way of understanding an emerging urban tectonic grappling with these changes.

The nature of the city is changing and architecture students must prepare to address these changes. Sketching and traveling has traditionally been seen as crucial to any architectural student. But what is the role of drawing today for the architect? Do we understand the city through sketching, or are there different means to discover the nature of the City? Using James Corner's innovation on the analytique developed in *Taking Measures Across the American Landscape*, the students were given this composite drawing method as a model for their own work. They generated composite drawings investigating overlapping scales of inquiry (at the city scale and the building detail scale). By developing a method of analysis and documentation process for the students our intent was to concretize and re-process their experience in tangible terms. The representations sought to reveal an emerging and unseen condition of the city.

Fig. 1 Forces of Change – Nathan Brown



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## Introduction

*"The ubiquitous site visit, traditionally entailing physical displacement to an actual place in order to observe its context and conditions, might now mean observing various phenomena related to site - anything from analyzing a televised spectacle to dissecting an object or deconstructing a text. From this systematic re-reading of the site an implicit re-writing takes place...."* - Hani Rashid & Lise Anne Couture (1995, p. 18)

Experiencing place involves open-ended and changing perceptions: it is made up of the complex, interwoven relationships of many people, their senses and interactions with each other and the environment. As Robert Beauregard states, "All sites exist first as places. ...they exist in personal experience, hearsay, and collective memories." (Beauregard, 2005, p. 39) Change is transmuted over time within the space of the city; it is slow and incremental, barely perceived in quotidian life. Being somewhere *other* than what we are used to amplifies our ability to perceive the "various phenomena" to which Rashid and Couture refer. Traditionally, we draw maps to "see" the lay of the land, and make plans to "see" the buildings within it. With the advent of photography, we can now literally "see" our surroundings through a lens. These systems of representation are reductive: they reveal only a small fragment of a larger understanding about what a place *is*, so that they can show specific relationships for specific purposes. This paper will explore the use of open-ended representation, discovering how to reveal a place in the way in which it can be perceived. Juxtaposed to a study of set pieces of architecture read as localized moments in chronological time, the study abroad program introduced in this paper focuses on analysis and representational experimentation to produce new ways of perceiving architecture.

## Background

The contemporary European City is made up of a unique nexus of historically disparate forces that range from radical industrialization, vast rebuilding due to war, the rise of new infrastructural systems, to the insertion of huge areas of temporarily occupied zones for World Exhibitions and Olympic Events. Many of these forces leave ruptures, scars and traces that can be read today. More than that, these forces are playing a pivotal role in the transmutation of the city into an emergent global urban condition. Transmutational Cities, the study abroad program at the center of this paper, was jointly developed and taught through the University of Kansas in the summer of 2012, using the cities of London, Rome and Barcelona as a point of departure and as an armature to explore these complex phenomena. The program examined in detail the evidence of the forces of change in the city through the use of mapping techniques and composite image making. Post-travel, the students participated in a documentation course, developing an analytical strategy for understanding their experience of the city. This strategy was framed by the larger lens of the evolution of cities and urban space, studying the role that technology plays in the integration of structure, systems and materials and how that might be a reflection of unique site or cultural conditions. The goal of this study was to develop a way of understanding an emerging urban tectonic that is grappling with these changes.

Traditional architectural study abroad programs focus primarily on sketching while traveling from site to site, or they operate from a fixed location and produce architectural projects that result from the repeated exposure to a particular location. This has led to a way of perceiving architecture that focuses on the objects themselves. It creates a static object-based way of understanding architecture that in many ways defies the relationship buildings have with the context into which they are placed. Our interest in developing a method of analysis and documentation post-travel lay in the need to reveal an emerging and unseen condition of the city, through representational systems that cannot isolate the object from its context. By providing students the opportunity to see multiple sites that have transformed in particular ways, the students could more easily perceive both the integration and juxtaposition of previous orders, new orders, etc. on the move. Representational experimentation was then made possible through the analysis of the orders or patterns found within cities at two scales: the building and the city.

## Analytical Experimentation

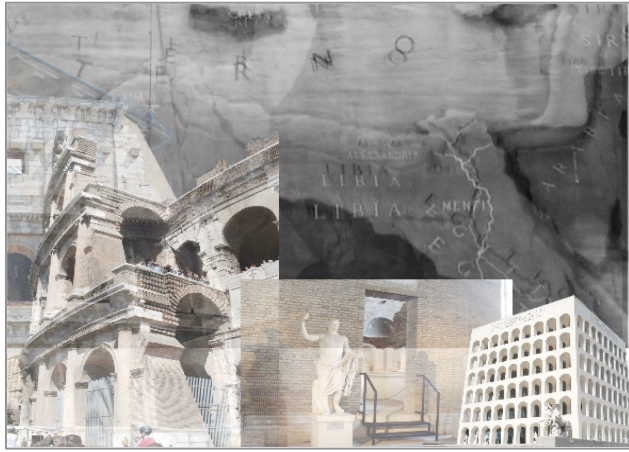


Fig. 2 Ryan Shults – Rome Building Scale – Evolution Over Time

When Le Corbusier began his modern experiments, they were informed by travel and the study of the past, which he understood would be re-made with the new technologies and emergent materials of the day. His *'Journey to the East'* played an essential role in his development as an architect, establishing a pattern for his own work and for modern architecture students, where sketching and traveling has traditionally been seen as crucial. In his sketchbooks you begin to see him move from the descriptive sketch to the reduction of the environment to simple strokes of the pencil, drawing out formal relationships between objects in the landscape. His travel drawings and photographs helped him accomplish what culminated in *'Towards a New Architecture'*. His work should not be conceived as the rarified sketchbook and snapshot, but as a kind of critical and experimental analysis using the book form to undo traditional methods of representing architecture. The juxtaposition of key photographs, like the infamous comparison of the automobile to the Greek temple, used the actual page-spread of the book to open the door to new meanings that could be derived by placing these two images in relationship to each other, whereby the psychological power of association became activated - the same power that the technique of collage enables as a mode of composite image making.

Analytical experimentation as both thought process and design impulse can be seen in the work of many significant architects since Corbusier. Saleh Uddin, looking at the development of composite drawing techniques, states, *"The composite drawing has changed our perception and expectations of the role of architectural drawing. Although it communicates on many levels beyond utility, it is also perceived as artwork, a prized artifact that endures beyond the completion of a project."* (Uddin, 1997, p. 11) Uddin hits on a key understanding related to analytical and composition experimentation: it is both notational of something else and exists also for itself, as its own object. As Vincent Scully states of Aldo Rossi's work on the city, *"The drawings are beyond all else spatial; they create architectural volumes and urban environments. They are not abstract studies but recordings of visions."* (Scully, 1981, p. 111) Rossi's drawings are the transformation of urban analysis into form, and they are themselves spatial tests and prophetic drivers of future form/architecture. Bernard Tschumi, designing the Parc de La Villette in Paris, first conceived through diagrams the grid in relationship to the city, stratifying the layers of his design as internally and externally linked to the city and the grid. Zaha Hadid, designing the MAXXI in Rome, first experimented with the nature of the paths through the city and then the site, using these notational drawings to build the formal armature of the building out of the

representation itself. Without the aid of physical analytical models, Antonio Gaudi could not have imagined and later begun building his masterwork the La Sagrada Familia.

James Corner's work in *'Taking Measures Across the American Landscape'* is also in this lineage of analytical experimentation. Hybrid drawing is not new to architecture – from the Bauhaus on, architects have used composite techniques as a way of borrowing meaning, much like Corbusier's juxtaposition of the automobile to the Greek temple. In Corner's work, he goes a step beyond this – for him, *"Composite montage is essentially an affiliative and productive technique, aimed not toward limitation and control but toward emancipation, heterogeneity, and open-ended relations among parts."* (Corner, 1999, p. 166) While analytical, his work carries a multiplicity of meaning. This is essentially the opposite of the reductive power of the diagram, the sketch, the map or the plan. A diagram simplifies: it is reductive for a direct and clear interpretation. Composite montage reduces and recombines: it is complex and multivalent in order to convey a whole series of meanings at multiple scales and through multiple programs and cultural conditions.

Corner's composite drawings can also be seen as a transformation of the Beaux-Arts analytique, seeing the detail driving the whole, compositionally on the page and topographically on the landscape. Analytique, within the Beaux-Arts curriculum, can be defined as *"...the study of architectural elements and the proper combination (disposition) into an integrated design."* (Pai, 2002, p. 41) Marco Frascari, in describing Carlo Scarpa's drawings relative to the analytique, states, *"The lines, the marks on the paper.... are a transformation of... on the one hand the phenomena of construction, and the transformation by the builders, and on the other hand, the phenomena of construing and the transformation by the possible users."* (Frascari, 1996, p. 507) Scarpa's detail drawings illustrate for Frascari the construction and construing of the whole design. These drawings bridge the gap between the "working drawing" and the detail as signifier of the whole, created by separating the draftsman from the designer at the end of the Beaux-Arts movement. Corner's work in *'Taking Measures Across the American Landscape'* can be seen to be tackling a similar bridge at the scale of the American landscape. Corner describes his and Alex MacLean's project as, *"perhaps best read as a provisional project, a rhetorical and speculative work that is intended to provoke thought about the making of the American landscape, the culture that lives upon it, and the possibilities for its future design."* (Corner & MacLean, 1996, p. xi) Corner's work is not only creating an open-ended representational system promoting multiple readings, it is working at two different scales of meaning through the construction (leading to the whole design at the scale of the landscape) and the construing (at the scale of the detail as we perceive it on the ground). As with Scarpa's drawings, both the construction and the construing of the whole are driven by the detail, so, for example, the pivot irrigator<sup>1</sup> for Corner drives the landscape of circles within squares dominating agricultural America.

## Implementation

In the documentation for our study abroad journey from London to Rome and Barcelona, students were introduced to James Corner's composite drawings developed in *'Taking Measures Across the American Landscape'*, and given this composite drawing method as a model for their own work. They were asked to generate six composite drawings investigating overlapping scales of inquiry (the city scale and the building detail scale). By developing a method of analysis and documentation process for the students, our intent was to concretize and re-process their experience in tangible terms as a form of pre-design. The work sought to reveal an emerging and unseen condition of the city, focusing on an open-ended representation system that could bridge between the construction and the construing of the built landscape to which they were exposed. Students were encouraged to use any and all media available to them, from their sketches and

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<sup>1</sup> The irrigation system is often called central pivot or circle irrigation where a rotating axis on a pivot point artificially waters crops via sprinklers.

photographs en route, the snippets, brochures and leaflets we picked up along the way, to any image media they could locate - from books, articles to digital images available on the internet provided that they viewed these as raw materials for re-appropriation.

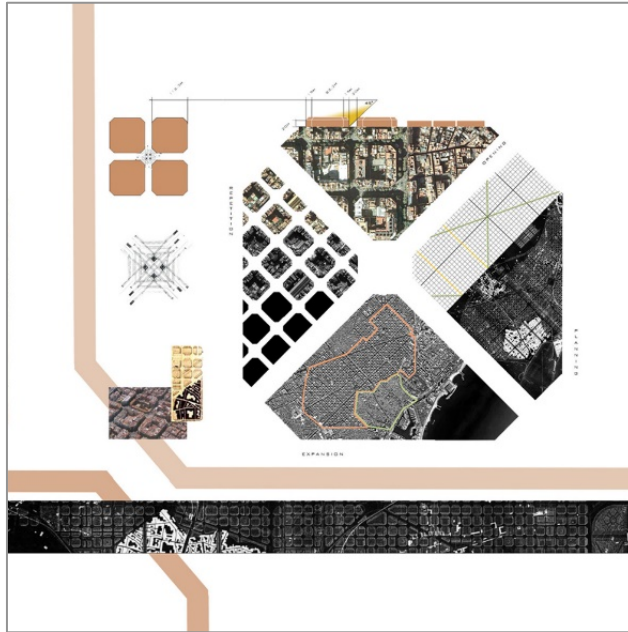


Fig. 3 Melanie Arthur – Barcelona City Scale – Chamfered Corner As Space and City

Students began their projects by first proposing what they would be investigating as a theme for the three cities. Each city would be studied at the city and the building/detail scale, and the students were free to choose what they would pursue with feedback from both faculty. With this framework, each student would produce six composite drawings, developed over the course of three pin ups, refining their work and discussing their progress along the way. The initial range of response was quite varied. Some responses were very clear-cut, choosing a work of architecture, or a choice of two or three, for the building scale, and a larger area, typically surrounding a work of architecture, for their city scale drawing. An example of this approach would be Lloyd's of London for the building scale, and the axis between St. Paul's Cathedral and the Tate Modern for the city scale. A few students broke from this method by choosing specific details that for them created their idea of the city as a whole. These details ranged from the high reflectivity of the contemporary buildings reflecting their older neighbors in London to the basic corner chamfer of the city blocks in L'Eixample in Barcelona.

The first formal pin up was both a test of the method for the documentation and a moment for the group to reflect on, summarize, and gather the meaning of the trip as a whole. The students were all exceptionally keen to be heard, eager to explain the information they had learned about the architecture they had experienced first hand. The template they had been given was a simple 24" x 24" blank canvas with two offset strips running through the board as placeholders for either their sketches or their photographs. The work presented at the first pin up was exceptionally rough, with only one or two students who had wholeheartedly absorbed Corner's method of composite montage with any success. Most students treated their boards as they would a Powerpoint slide, pushing images as discreet objects around their board, generally with a large amount of text to explain the building or site they were studying. There was in general a palpable discomfort attempting to understand how the representational system they were given could

promote experimentation, analysis, and innovation. Time was spent discussing the strengths of the best work, and the potential graphic strategies individual students could take. The two students who achieved some amount of success fragmenting and recombining the media they chose to work with were used as a model for the rest of the group.

The second pin up demonstrated a positive degree of improvement as students began to grasp the technique of composite drawing and as they refined their own work. Interestingly, despite the provocation to emulate both Corner's work and those students who were successful in the first attempt, most of the group developed an individual method of composition, fragmentation and recombination. This pin up quickly became about graphic refinements, pushing the work to a higher level of sophistication. The third pin up followed suit – students became very individually focused, preferring to receive their own feedback towards the completion of their work.

### 'Decoding'



Fig. 4 Melanie Arthur – Barcelona Building Scale – Casa Mila: Curvilinear Chamfer

Students were asked to 'decode' transmutational changes in each city through the play between the manipulation of drawn or found fragments and the potentialities latent in their personal observations/tactics as derived from an examination of both Corner's work and select Bauhaus era collages that were brought to their attention during pre-travel discussions and during museum visits abroad. For example, this focus on the affiliative quality of collage technique yielded work that punctuated the transformation of Pagan Rome to Christian Rome to fascist/secular Rome by considering how the fabric of the city was reoriented and literally torn away or overlaid on an original fabric – thus the layering of collage/composite drawing found a correspondence in the history of urban design and the city itself (Fig. 2). Decoding was also able to expose transmutation to the urban fabric by looking at the Olympic reorganization at the edge of the city and how architects/urban-planners and patrons have been working in the last 20 years to build on this restructuring by looking at Hadid's MAXXI and Piano's Auditoria Complex as infill to bring visitors and development to these areas. In London the sheer scale of the Olympic construction was something that the students were intrigued by and could readily begin to access

as a drawing. Other city scale examinations that took advantage of assemblage/collage were provoked by sound, traffic, waterways and parks/open space. Some individual work from the final results of the group is worth discussing. Melanie Arthur's approach was immediately effective from the first pin up. She had readily absorbed the framework provided by James Corner's work, and this allowed her to achieve a much higher level of refinement. (Fig. 3, Fig. 4) are a sample of her work, illustrating her approach to Barcelona at the city scale (which she replicated at the Building Scale via a study of Gaudí). She was very taken by L'Eixample, how it shaped the space of the city through the simple formal gesture of the chamfered corner, and how this piece of city planning fit within the city as a whole. Graphically, all scales of the city are tied together with the chamfer.

The city scale also yielded an interest in social life/interaction that proved difficult for students to represent. One of the more successful journeys into this venue is a modest composition (Fig. 5), which fails as a composite image since it remains largely pictorial and non-associative but succeeds in terms of its scale of operation at the level of the street. What better way to analyze the transformation of cities/culture than by looking at social interaction and the fragments that illustrate this occurrence such as, food/beverages, music, lighting, furniture, and the surfaces of the city that touch or inform the body.

Most forays into the social life of the three cities remained zoomed-out as a result of the student's use of aerial images or their use of place names to describe these zones and failed to literally see the real Londoners, Romans or Catalans. The power of composite drawing to address social interaction is touched on by Brandon Taylor when he states: "*Collage as indecency, paradox, and perplexity – as impurity by any other name. Collage as...the expression of the modern sensibility: sensibility attuned to the matter of the modern city...*" (Taylor, 2004, p. 8) What better way to re-present the societal power of a particular place itself made of the fragments of a previous culture over time than by collage or composite images that are themselves fragments.

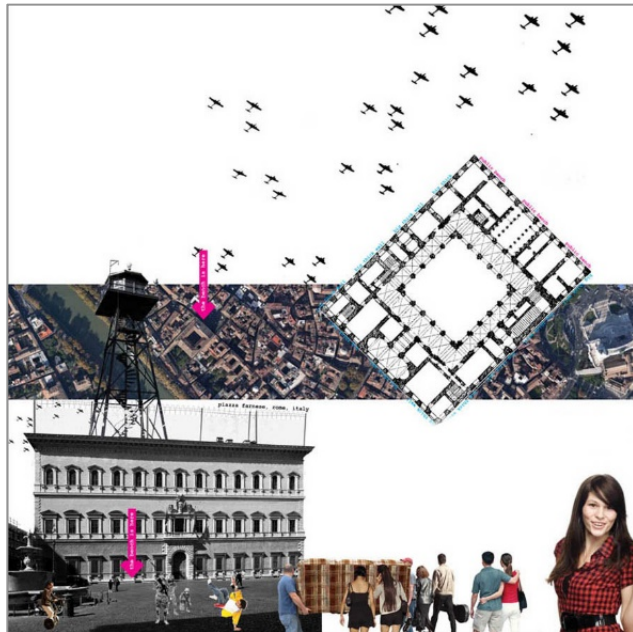


Fig. 5 Owen Huisenga – Rome City Scale – Social Interaction

## Conclusions

Without analytical and representational tools, architecture is potentially headed toward formalism – the manipulation of objects without regard to context. Today's prevalent use of the hyper-real rendering becomes a snapshot-based justification for why a building is sited the way it is. The nature of the city is changing and students must prepare to address these changes. But what is the role of drawing today for the architect? Are there different means to discover the nature of the City? All of the students who participated in this study abroad program were exposed to multiple sites, cultures, and buildings that all manifest the complexity of cultural meaning as embedded in the urban condition. These students were challenged to discover the meaning of place as tied to a typology of drawing/representation that is not literal or pictorial in nature but that speaks to the eidetic recollection of experience – the composite image. Some were successful, all of them struggled, but none of them will remember London, Rome and Barcelona without thinking about their drawings as a system of representation from which they could begin to design at either the urban scale or at the scale of a building detail. In this sense the analytique-like nature of Corner's work, which served as a precedent for the course, grounded the students' work in the lineage of the part-to-whole tradition of the Gothic by way of the Beaux-Arts. In *'The Portfolio and the Diagram'*, Hyungmin Pai writes: "*In the Beaux-Arts system, a new design was conceived as a harmonious piece of an existing condition: an element of an architectural configuration, as in the analytique, or more conceptually, part of an architectural type or urban fabric. The analytique was then not only a piece of the whole but also its miniature.*" (Pai, 2002, p. 46) The sense that an element of a building is both evoking and tied to fabric of the city is essential to re-grounding architecture in response to the ethos of the hyper-real snapshot rendering, which is reinforced through the nature of the open ended representation itself, borrowing meaning through perception.

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