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## **FORMLESS DIAGRAMS: THE EMPLOYMENT OF STUDIO METHODS IN THE HISTORY CLASSROOM**

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### **ABSTRACT**

Efforts to cross boundaries separating history classrooms and design studios are hampered by the very different objectives of historical and design teaching. Whereas design requires synthesis and clarity, the study of history should challenge and complicate students' assumptions about the relationships between design and culture. More importantly, studio-based considerations of historical objects—often through the study of 'precedent'—necessarily emphasize the formal and instrumental value of a work, while historical knowledge requires instead an emphasis on the ideological and cultural underpinnings of form. This paper views the productive tensions between these differing objectives through the lens of the diagram. The potential for diagramming exercises as components of history-based learning is examined through projects completed by my students in the context of semester-long historical research assignments. These activities complement written work with less traditional procedures that apply diagramming processes to diverse non-formal problems including the evaluation of textual evidence and the mapping of ideological content.

### **INTRODUCTION**

This paper centers on one central question: What spaces exist for productive collaboration between design and history components of architectural curricula? My consideration of this question is focused through the lens of the diagram, a tool that has been central to design process for much of the last century, but which has recently been given a new status within contemporary discourse. Diagrammatic methods, I will argue, are implicated in the most reductive conceptions of history and its application to practice. On the other hand, as a device that attempts to connect form with ideas, the diagram offers us a path for the profitable application of studio methods to deeper historical problems.

I also approach the topic as an instructor of both history courses and studios. This experience has led me to a holistic view of how discrete subject areas contribute to meaningful design practice. At the same time, I am skeptical of attempts to level differences in content through so-called ‘integrative’ approaches, especially when these imply the elimination of dedicated history courses and the translation of their content into studio settings. Arguing against integrated *content*, my paper proposes instead a synthetic approach to *method*. In particular, I ask whether diagrammatic strategies typically employed in the studio can be profitably transferred to the history classroom. This question implies a second: can the diagram, which is rooted in formal analysis, be applied to issues beyond form?

## **DIAGRAMS AND THE CONTESTED HISTORICAL OBJECT**

According to theorist Robert Somol, during the second half of the twentieth century diagrams replaced drawings as ‘the fundamental technique and procedure of architectural knowledge.’<sup>1</sup> For Somol, one path for the diagram’s ascendancy was in the writing of Colin Rowe, for whom the diagram organized considerations of “formal or analytical truth”. Similarly, Peter Eisenman has traced the rise of the diagram’s “explanatory” role in Rudolf Wittkower’s well-known nine-square-grid analyses of Palladian villas.<sup>2</sup> Both Wittkower and Rowe provided a means by which history could be appropriated within the design studio, through an alliance between the diagram and the so-called ‘precedent study.’ The institutionalization of these approaches is represented in Roger Clark’s 1985 book *Precedents in Architecture*, which uses diagrammatic strategies to analyze historical works according to standardized formal criteria.<sup>3</sup> In recent decades, such procedures have become commonplace within design education, and precedent analysis is now formalized as a specific student-

performance criterion for the accreditation of professional programs.

It is important to see the prominence of studio-based precedent studies in the context of criticisms of the role of history within the discipline. Clark defined the role of precedent as inherently a-historical, in that it seeks to identify “generic solutions to design problems which transcend time....”<sup>4</sup> In the studies published by Clark, the goal is to employ design knowledge—through formal analysis—as a means of reaching beyond certain limitations of historical pedagogy. His view is that history can only become “a source of enrichment for architectural design” if designers can see “between and beyond the layers of historical styles, within which architecture is generally categorized and presented.”<sup>5</sup> Diagrammatic analyses of precedents were the lens through which this clearer view of the historical object could be obtained.

One can take exception to Clark’s characterization of the stylistic orientation of history teaching, especially as it has evolved and expanded in recent decades. It is ironic, however, that this bracketing of historical context ultimately seeks to re-establish the authority of the historical object, by illuminating its formal truths, previously obscured by the scholarly apparatus of the historian. To the extent that analytical engagements with precedent are primarily formal in nature, precedent studies carry an implicit argument about the role of history in the architectural curriculum: that questions of ideology and intent, geographical and cultural context, and political and economic circumstance are all secondary details of concern to the historian rather than the designer. Whereas the historian endeavors to anchor the work in its historical position, studio instruction demands its transport into the present, in order to unlock information deemed relevant for contemporary design.

## **DIAGRAMMING AND HISTORICAL METHOD: RESEARCH MAPS**

Architectural historians have varying objectives for design students enrolled in their courses. Depending on the approaches of individual instructors, historical coursework can sharpen interpretive skills, foster reflective and critical practice, or trace lines of connection between architecture and the wider culture. For most historians today, I would argue, the selection and dissemination of canonical lists of significant monuments is of secondary importance to these broader goals. Nevertheless, educational strategies within history curricula still often aim at the formation of skills employed by the professional historian. This approach is most apparent in traditional semester-long research paper assignments, through which students model the practices of historians by means of miniaturized works of historiography.

The merit of these assignments is in their intentions: to strengthen research and critical thinking skills, to build organization and clarity in writing, and to foster understandings of historical methodologies. I would argue, however, that these objectives are better served when design knowledge and studio methods are brought to bear on historical issues. One such method is found in the act of diagramming. In its capacity to merge form with ideas, the diagram is increasingly considered an essential tool in the development of designers' critical capacities. As we have seen, however, the diagram has also provided a medium for the privileging of formal-analytical values over more complex historical and cultural understandings of the past.

To propose ways around this dilemma, I would like to present possibilities for welcoming the diagram into the history classroom. These examples are drawn from semester-long research projects in courses on the history of modern architecture and urbanism. In the projects, diagrammatic procedures are layered onto other activities more typically associated with historical research.

The first of these research projects is aimed at reconstructing formal realities and discursive narratives surrounding certain key, but vanished works of modern architecture. In the assignment, students work in teams to research buildings that lived short lives, but that have nonetheless figured prominently in histories of the period. Aware that their eventual task will be to build physical models of the vanished building, students' initial research is focused on the challenge of 'knowing' a work using only spotty graphic documentation. Assigning buildings that cannot be fully known is intended to stand for the historical project in general. The limited visual evidence counters the more typical experiences of students when they are asked to conduct precedent research on existing buildings. In the latter cases, the surplus of evidence can make research too easily and uncritically conducted. Inquiry into the past becomes sharpened when Flickr albums and Google Earth fly-overs are made unavailable; here only grainy black-and-white imagery and the odd plan or section act as guides to an ephemeral past.

Written components of the project are aimed at identifying and investigating the dominant historiographic themes surrounding the vanished building. The process here is clearly spelled out and comprised of discrete steps. First, pertinent quotations are extracted from primary and secondary sources, and arranged according to appropriate themes selected by the students. Arranging the quoted material thematically is the first act of synthesis, but is followed by more challenging synthetic operations in which the quotations are spatialized through their arrangement in hierarchical diagrammatic structures. The goal here is to appeal to skills and ways of thinking normally associated with the design studio: information gathering, spatial analysis, diagramming, programming.

By applying spatial strategies to the analysis of research materials, these 'research maps' allow design students to better visualize the subtle connections and disjunctions between

collected quotations (Figs. 1 and 2). But the act of spatializing ideas also highlights for students the precariousness of historical judgment. Is the intention of the quoted thought primarily descriptive or analytical? Is a textual statement more relevant to the building's technical qualities or its cultural position? By attempting to determine precise positions for the quotes, students confront their own role—or that of the historian—in shaping historical meaning.

This exercise also assigns a new role to the formal aspect of the diagram. Whereas diagrammatic form is most typically linked to building form—making the diagram primarily an abstracted representation—in this case the formal qualities of the diagram serve to sort through and arrange ideas. More importantly, as a matrix of qualitative differences, the form of the diagram asks that research materials be mapped as data points having precise coordinates. The meaning of a particular quotation, however, cannot typically be designated in this way; instead it fluctuates in time and space. Moreover, the quotation's representation in the diagram—its physical form on the page—is a line or block of text. The design of the research map must therefore balance the functional requirement of legibility with the experiential fluidity of the quote.

Only after this diagramming exercise are students asked to bring their own textual voices to their conclusions, in essays that summarize the narrative roles played by their assigned buildings within histories of modern architecture. Even here, the essays are intended to be clear and succinct rather than elaborately argued. The goal is not to mimic the products of professional historians; rather, historical methods are modeled through analogous activities transferred from the design studio.

The essays are expected to pursue arguments synthesized from the mapped research, and they set the stage for a final component of the project, in which teams build physical models

intended to reconstruct formal aspects of the assigned building (Fig. 3). As with the project in general, these models are understood as analogies of historical understanding. Like historical writing, the models aim at accurate reconstructions of the past, even as they reflect students' awakening sensitivity to the limits of claims of historical truth. As is also the case with historical writing, the models are expected to have a thesis and to make a clear argument. This allows discussion and consideration of the subjective points of view that are always embedded in any representational strategy.

### **CONCLUSION: THE FORMLESS DIAGRAM?**

Ultimately, the point of this project is to re-appropriate the historical example, translating the studio-based precedent study back into a historical language, and in the process reinstalling issues of intention, ideology, and culture. The objective is not to firm up barriers between studio and classroom, or between design knowledge and historical knowledge. Rather, design knowledge lends essential skills and outlooks to the acquisition of historical knowledge while, conversely, historical questions help students to become more critical about their application of design strategies to broader issues.

This premise is tested in the second course in the modernism survey, which extends from the immediate post-war period to the present day. In this project, students devote the semester to understanding a single recent building. Once again the research process is highly orchestrated and broken into distinct activities involving the extraction and mapping of relevant material. The project culminates in presentations to the class, which are expected to make use of analytical diagrams developed and refined over the course of the semester. Compared with research maps, these 'idea diagrams' are more conventional in nature—typically containing a strong



representational component (Figs. 4 and 5).

The earlier research maps had suppressed the representational capacity of the diagram's form, allowing a concentration on the role of the formal design in organizing and conveying ideas. In contrast, the idea diagrams reinstall representational strategies, but are expected also to clearly convey the relationships between forms and ideas. The exercise prompts students to engage that quality that has made diagrammatic thinking so central to recent practice: its position "precisely between form and word."<sup>6</sup> Students are challenged to make diagrams that suppress the formal aspects of the building in question, in order to engage the ideas behind them. They quickly confront the difficulty of this, since diagrams are inherently dependent on formal strategies. The 'formless' diagram proves to be an unattainable objective, but its pursuit is not futile. Struggling against the easy employment of the diagram as a tool of trite analysis or prescriptive pattern, students discover its more difficult qualities. Neither fully text nor fully form, the diagram can be a powerful metaphor for a more critical engagement with the past—one that balances the formal products of our discipline with their ideological and cultural substance. By struggling to adapt design-based methods to historical questions, students confront the complex relationships between form and content, in the process unlocking attitudes that are essential to the critical consideration of history.

ILLUSTRATIONS

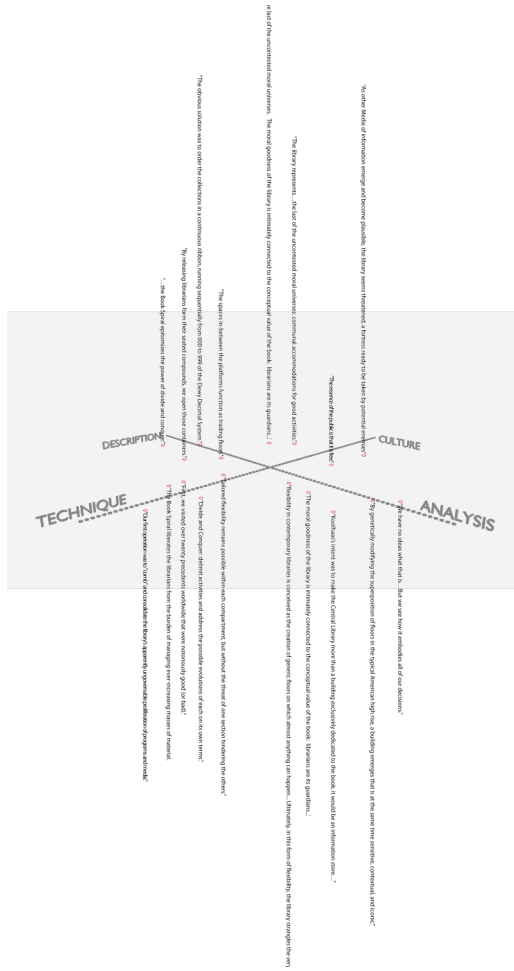


Fig. 1. Research Map, Ian Lee and Christopher Richards

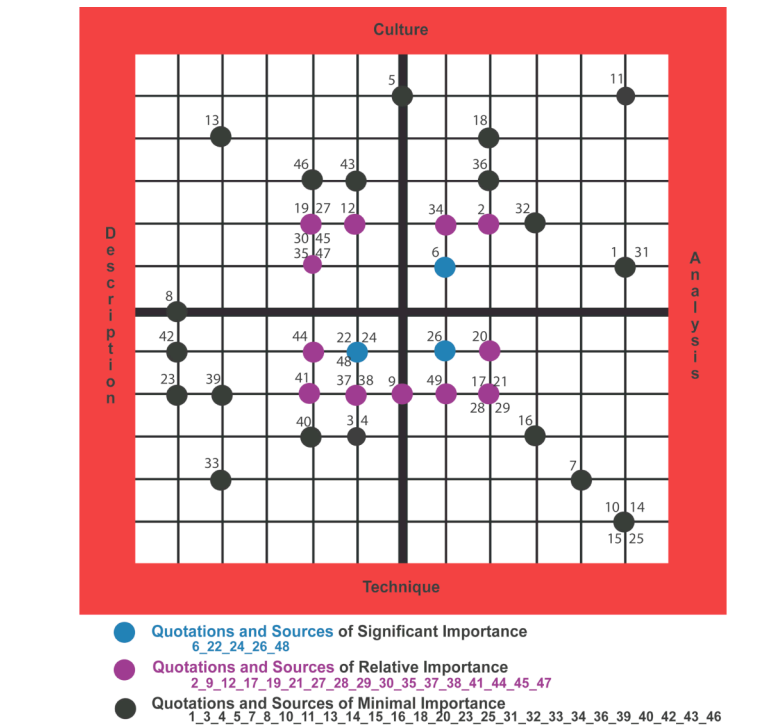


Fig. 2. Research Map, Mary Compton and Micah Gray

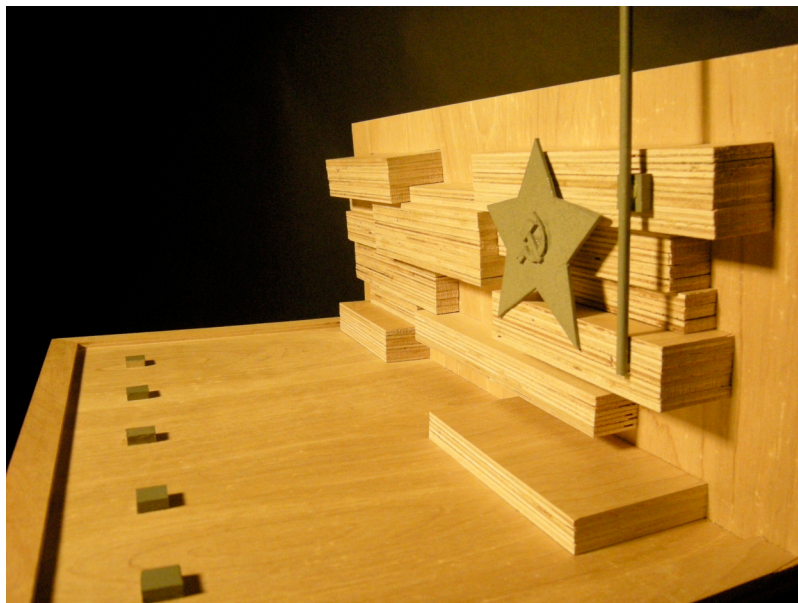


Fig. 3. Analytical Model, Devin Barnes and Stephen Clond  
Monument to Rosa Luxemburg and Karl Liebknecht, Ludwig Mies van der Rohe



Fig. 4. Idea Diagram, Derek Berry and Roshelle Pfeifer  
Villa VPRO, MVRDV



Fig. 5. Idea Diagram, Gregory Wanko and Alex Wiley  
Le Fresnoy Contemporary Arts Center, Bernard Tschumi

**NOTES AND REFERENCES**

1. R. E. Somol, "Dummy Text, or the Diagrammatic Basis of Contemporary Architecture," in Peter Eisenman, *Diagram Diaries* (New York: Universe Publishing, 1999), pp. 10-11.
2. Peter Eisenman, "Diagram: An Original Scene of Writing," in *Diagram Diaries*, p. 27.
3. Roger H. Clarke and Michael Pause, *Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis*, Third Edition (Hoboken, New Jersey: John Wiley and Sons, 2005).
4. *Ibid.*, p. v.
5. *Ibid.*, p. xi.
6. Somol, p. 8.