

DRAFTING CULTURE

A Social History of *Architectural Graphic Standards*

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## INTRODUCTION TO DRAFTING CULTURE

*The management of a society leaves in its midst an enormous “remainder.” On our maps, that is what is called culture. It is an ebb and flow of muffled voices on the architects’ blueprints in their advanced stages of drafting.*  
—Michel de Certeau, *Culture in the Plural*

The unwritten history of the profession of architecture in the United States is the history of the architectural draftsman. Narratives of the production and reproduction of architectural labor in the late nineteenth and early twentieth centuries have typically favored the benevolent role of the architect-practitioner in nurturing office boys into draftsmen and then draftsmen into architects. The role of the draftsman in the formation of the modern profession has mostly been ignored. The iconic persona of “the architect” has historically depended, nonetheless, upon the ranks of subordinate workers whose anonymous efforts

have supported the imaginary facade of singular genius by which their own identities have been effaced. The relationship between architect and draftsman thus constitutes a far more complex and reciprocating lever of social exchange than is commonly acknowledged, one whose fulcrum has shifted but whose force has not been diminished in the profession’s transition from vocational to academic authority.

As participants in the production of culture, architects are often portrayed in the popular imagination, and in their own professional press, as creative, charismatic figures battling against conservative interests in defense of singular

urban or architectural visions. In this cultural trope, the architect is a champion of individual expression against the homogenizing forces of bureaucratic rationalization, a hero of the people in their struggle against sameness and the oppression of the everyday. Masked within this construct of professional ethics and political agency, however, is the more sobering fact that the architect, in order to achieve any ends at all, must serve at the right hand of power and wealth. Architects are dependent upon clients for both the initiation and realization of projects; and by helping to shape the official spaces of democracy and the public faces and private retreats of capital, architects serve to reinforce the symbolic hold of the dominant culture. This effect accrues even when architects endeavor to advance progressive agendas of form and space founded in the practices and discourses of art, technology, and critical social theory.<sup>1</sup>

What is elided in such conceptions of the architect—either the architect of heroic resistance or the one of opportunistic complicity—is the extent to which the architectural profession is itself significantly stratified. Architects compete for influence within the field of design with other professionals such as planners, engineers, landscape architects, interior designers, and builders. Architects and firms vie with each other for cultural status measured in terms of the prestige of commissions, clientele, and public recognition. Meanwhile, firms themselves are internally stratified by the division and specialization of architectural labor. It is with this latter aspect of vocational differentiation—one that operates within a unitary and popularly promoted professional ideal—that this study is concerned. This book historicizes the roles and status of those subordinate architectural workers, the drafters, upon whose labor the profession has depended even in the moment of their negation.

In order to challenge essentializing representations of the architect, it is thus necessary to shift our focus within the oppositional pairing of architect and draftsman. Fair attention must be given to the social fabric of situated architectural workers whose acts of production

have been mostly kept out of sight. Inevitably, that shift also entails a reordering of our attention from discourse to practice, from the objectified realm of architectural knowledge to its incorporated form—not lodged in the minds of individuals alone but in the structures, instruments, and bodies that together comprise the continually transforming, collective existence of “the architect.” The predisciplinary, preprofessional realm of drafting is one vocational venue for this research; but vocation must be understood in other than just its pejorative sense, as *mere* vocation. Vocation here implies “the long dialectical process . . . through which the various fields provide themselves with agents equipped with the *habitus* needed to make them work.”<sup>2</sup>

What is drafting? Perhaps the question is too obvious or any answer too trite. An English architect and author declared in 1912, “Generally, the object of architectural drawing is the representation of architecture. It will include a wide field of draughtsmanship, ranging from the plainest and most practical working drawing made for the purpose of actual building, to the opposite pole of such wild visions of architecture as Piranesi gave the world in his *Carceri d’Invenzione*.”<sup>3</sup> The words “drafting” and “drawing” are etymologically linked through terms of work, acts of dragging or pulling tools across surfaces, whether inscribing marks upon the earth or plowing the parchment.<sup>4</sup> The labor of bodies and the work of hands endures in both the moving of heavy loads and the manipulation of precise instruments, in the building of walls and the projection of lines. In architectural drafting, the two extremes are indelibly linked.

Over the first half of the twentieth century, the vocational base of the architectural profession comprised a *drafting culture*, both the setting for and the product of drafting practices developed and transformed over time. It was through such practices that aesthetic, social, and technological knowledge about architecture was traditionally constructed, communicated, and construed. Subsumed within practice even while constituting it, drafting culture was propagated through a changing succession

of tools and instruments by which the authority of the architect was delegated and exercised. Even in an era when the architect was growing increasingly remote from the building site, and even as knowledge about building was transcribed from the traditions of craft and experience into the portable knowledge of books and machines, drafting culture maintained an epistemological link between constructions in the field and drafting board representations.

Over the same period, however, the profession's basic vocational motives, grounded in manual production, were incrementally replaced by an academic ideal promoted by professional organizations, journals, and university-based architectural education. Concomitantly, the social cohesion that drafting culture had supplied—by mediating the profession's latent and apparent class divisions—gradually waned. Having historically served as a crucible for architectural training through office apprenticeship, drafting culture began to serve instead as a mechanism of social closure, especially as vocationally trained architectural drafters were, over time, statutorily denied access to professional licensure and status.<sup>5</sup> Academically prepared architects-in-training, on the other hand, equipped with intellectual tools based in architectural theory and design methods, were indoctrinated into an elite and often elitist culture of architectural design. Thus skilled, they were nonetheless unprepared to recognize the structural shifts that had transpired in the profession. Drafting, once a subordinate and specialized activity, had merely been displaced by another one, design, within a newly articulated division of architectural labor.

Today, as sophisticated computer models enable three-dimensional integration of design and construction to exacting new levels of standardized production, as architects are cognitively distanced even from the site of design, the drawing board, through powerful but opaque digital mediations, and as lower-level drafting tasks are being routinely outsourced within a standing reserve of architectural labor, drafting culture has entered a new virtual realm of rules, operations, and discourse, stripped of the practical and pedagogical contexts that once defined

its disciplinary core.<sup>6</sup> Standards of architectural production, once encompassed and communicated through the draftsman's dialect of graphic conventions, are now embedded within computer codes indecipherable to even the most experienced practitioners. Such epochal changes, however, are impossible to evaluate within the course of their unfolding, nor are they isolated from the historical forces that precipitated them. Events and attitudes from the twentieth century, still close in time but already distant in memory, constitute circumstances of the profession's ongoing transformation even as its vocational base, drafting culture, has become an anachronism. Looking, therefore, at drafting culture from almost a century ago and at architectural practice from the bottom up, from the point of view of the draftsman, reveals the extent to which the project of professionalization as well as the social identity of the architect have been continually redefined within the bounds of the cultural milieu.

The accrued conventions of the drafting room both shaped and were displaced by emergent standards of architectural practice in the machine age.<sup>7</sup> Beyond a narrow and proprietary focus on the culture of the architect's drafting room, however, two other senses of "drafting culture" suggest a critical frame for further qualifying the relationship between architecture and society. Considered in the productive sense, architecture plays a significant role in the drafting of culture. Through their practices, architects are actively drafting—or producing—culture when they create designs and drawings intended to guide the construction of buildings and spaces, edifices that in turn provide symbols and frameworks for the social intercourse of everyday life. But in their proposals, architects are also "drafting culture" in a more passive sense, in the same sense in which a swimmer or a cyclist is pulled along by the vortex of a competitor's wake. They are pulled in a direction that responds to the multiple sites of the work's formation. Thus, architecture simultaneously opens a space for cultural production while being drawn along its path. Consideration of all of these contexts, linked within a common historical frame by the figure of the

draftsman himself, is necessary in order to arrive at any understanding of the architectural profession beyond mere caricatures of Daedalian heroics.

The challenge in attempting to excavate the drafting culture of the first half of the twentieth century, however, is the very anonymity of the draftsmen who filled its ranks. Their muffled voices are barely audible within the din of architectural discourse and the histories of elite professionalism. The only records they left were for the most part embedded in the work they performed in the designing, drafting, tracing, and inking of the architect's graphic instruments of practice. Nonetheless, at the beginning of the twentieth century, drafting was held up by pedagogues of the manual training movement as a mind-and-body-melding model for education, for opening minds to the world. "Drafting" understood in its broader applications entailed modes of artistic as well as mechanical drawing as means for sealing individual observations with social purposes. It also served as a vocational vehicle of upward social mobility for working-class males aspiring to traverse the territory from craft or trade to profession. The venues and values of manual training thus provide us with one entrée to the early-twentieth-century matrix of drafting culture.

Another crucial venue for capturing the ambiance and ambivalences of drafting culture is the drafting room itself. While the physical space of the drafting room can be readily documented through published plans and period photographs, the social space of that work environment is more difficult to study. We cannot become participant observers after the fact, but contemporaneous dialogs between architects and draftsmen contained in the pages of a self-styled "journal of the drafting room," *Pencil Points*, provide ample evidence of the interlocking tensions that bound drafting culture together in the boom years following World War I and then threatened to pull it apart in the distress of the Great Depression. Architects and draftsmen were joined together in relations of mutual dependence, the architect needing hands to realize his vision, the draftsman needing an organizing

vision to occupy his hands. The artistic ideal of fraternal fellowship that had united employers and subordinates in a common creative enterprise waned, however, as business motives and the employment of methods of scientific management transformed the architect's atelier into an avowedly more efficient unit of production. The shifting expectations and animosities between architect-employers and draftsman-employees spilled over onto the pages of *Pencil Points*, exposing the paternalism of the system for all to see.

The social dynamics of the drafting room, however, were also intertwined with the ferment of ideas and revolutionizing technologies stimulated by World War I. The rush of wartime preparations spurred a number of progressive architects to consider not only means for improving the efficiency of architectural and building production but also rational approaches to the intensifying problems of the city. The exploitative process of real estate development by which maximum private profits were extracted at the expense of the social good led some reform-minded architects to question the very basis of the capitalist political economy. The problems of inadequate housing and urban congestion required direct government intervention, some argued, guided by the foresight of regional planning and the application of scientifically derived principles to the development of minimum standards for the inhabited environment. The design of housing, for example, offered an opportunity for testing prototypical solutions, while the simplification and standardization of manufactured components extended the reign of the machine from the factory into the house.

Drafting culture was thus comprised of a series of telescoping contexts: from a pedagogical philosophy that assigned reformist intents to the draftsman's education, to a vocationally circumscribed community of architectural draftsmen whose growing class consciousness coalesced out of the profession's waning promises of upward mobility, to offices of specific firms in which public expression of social ideals was unmatched by drafting room justice, and finally to the primary site of architectural production,

one draftsman perched upon a stool at a single drafting board. In the years following 1932, if one looked closer still, one would have found in ever-increasing numbers a ready reference upon those draftsmen's tables, the handbook *Architectural Graphic Standards* by Charles George Ramsey and Harold Reeve Sleeper.

Now in its eleventh edition, *Graphic Standards* serves as a standard planning and technical reference for architects and related professionals. In its early editions, *Graphic Standards* reflected vestiges of craft traditions previously conveyed through pattern books and customs of practice. Over the course of the editions revised by the original authors, those traditions were displaced by an industrial order of productive logic, codified through standards and conventions and translated into the draftsman's graphic dialect. Besides serving its instrumental role as a draftsman's manual of design and construction, however, *Graphic Standards* provides a key for unlocking the history of American architectural practice embedded within "the language of the drafting room." The record and residue of early-twentieth-century drafting culture is concentrated on that book's pages in both subtle and explicit ways; and in a broader sense, *Graphic Standards* registers the shifting ideological assumptions, social conventions, and technological standards of American architectural practice that accompanied the material force of modernization. What were the historical contingencies of those assumptions, conventions, and standards; and how has drafting culture itself been remade by the part it played in the process of standards formation?

As a framework for inquiry, this book positions *Architectural Graphic Standards* as the centerpiece for historicizing the major shifts in the drafting culture of the American architectural profession over the first half of the twentieth century. On one side are the precursors of *Graphic Standards* rooted in the context of late-nineteenth-century architectural practice. On the other side are the monumental changes in design and building practice following World War II. In the middle, in the period between World War I and the Great Depres-

sion, *Graphic Standards* emerged from the vision of two individuals, Harold Reeve Sleeper and Charles George Ramsey, one an academically prepared architect, the other an immigrant draftsman, who together defined a form for indexing the knowledge of both architect and draftsman.

Ramsey and Sleeper worked within the office of Frederick L. Ackerman, a vocal and socially conscious architect who struggled to reconcile his criticisms of the reigning political economy with the dictates of machine production. In that setting, Ramsey and Sleeper were exposed to the debates that swirled around their changing profession. Over the years they endeavored to constantly update and expand *Graphic Standards*, to satisfy the drafting room exigencies that issued from changing construction means and methods and to reflect the standardization of planning parameters which their book both propagated and recorded. As "the architect's Bible," *Graphic Standards* assembled the range of topics, conventional wisdom, and rules of thumb informing the draftsman's trade. But the draftsman's web of knowledge evident in *Graphic Standards* was not isolated from the world; rather, it was a part of a socially determined network of relations and practices.

We can also read, therefore, something of the social assumptions that structured the architect's and draftsman's worlds—their institutional norms, their vocational habits. The determinants of those practices were evident in the tension between building conventions accrued over time and construction standards fomented by technological change, habits of industry, and governmental authority. *Graphic Standards* fused the piecemeal facts of everyday practice into a working reference of abstracted principles and physical parameters cross-indexed and ordered through the temporal logic of construction processes. Decidedly nontheoretical, *Graphic Standards* registered nonetheless the ideological assumptions infusing architectural practice in the interwar period and then the accelerating changes enacted in drafting culture by material conditions both issuing from and engendering social and technological

change. This focus upon a pivotal document in the development of American architectural practice thus inserts an alternative chapter into the social history of the profession.

The central problematic of this book is therefore to uncover, historicize, and explain the tension within architectural practice between two conflicting identities of the architect: one *vocational* and the other *professional*. The vocational identity reflects the division of labor within architectural practice, the manner in which the work is instrumentalized through tools, manuals, handbooks, and various architectural representations, and the means by which the knowledge *of* practice is reproduced *through* practice. The professional identity of the architect, on the other hand, is publicly projected and embraces the social contract that all professionals enter into as a basis of their public trust and esteem. In its social orientation, the architect's professional identity is discursive, and the reproduction of *that* knowledge *about* architecture is formalized through academic theory. The tendency over the past 150 years has been for the professional identity to increasingly mask the architect's vocational identity, with the result that the latter has been devalued and effaced. How was the tension between the vocational and professional identities of the architect negotiated over the first half of the twentieth century in the United States, and were those tensions resolved or simply repressed?

Questions about any profession are intrinsically tied, as has been suggested, with considerations of the social milieu within which that profession is immersed. Thus, a series of linked questions concerning the relationship between the architectural profession and society emerges from the initial problem. In what ways have social class structures been encoded in the discourses and instruments (theories and practices) of the modern architectural profession? Has the field of architecture merely reflected broader social, economic, and technological tendencies? How have the shifting conventions of training and education been linked to developments in the field of practice? To focus on the genealogy of *Architectural Graphic Standards* brushes against the grain of these questions because

the contents of that text are so integrally intertwined with their social and professional contexts.

As an instrument of practice, therefore, *Architectural Graphic Standards* localizes the boundary between professional and social concerns; it is both subject to and an object of their exchange. But how do we go about "reading" *Graphic Standards*? As a bounded thing, it has two interlinked spatial contexts—that is, both an inside and an outside. And having been produced in multiple editions over time, it is lodged within multiple temporal orders as well, the synchronic relations within each edition as well as the diachronic changes that are registered across the series. Different strategies are required, therefore, to navigate among these different contexts and to excavate the relations of practice—at the most fundamental level, the draftsmen's hands—for which this *handbook* serves as an index.

Working therefore with Ramsey and Sleeper's graphic text, which typically portrays fragmented paradigms of material order, the interpretive task of this study is to contextualize those iconic plates within their social and ideological milieus. For example, the practice of drafting itself, the very basis of drafting culture and the *raison d'être* of *Graphic Standards*, can be understood as being comprised of so many disciplinary motives for fitting minds and bodies to the work of the profession. Likewise, Ramsey and Sleeper's practice of cataloging the ephemera of inhabitants' everyday acts of dwelling and use of architecture suggests that the particularity of such details necessarily coincides with draftsmen's rules of thumb and architects' planning parameters. Examination of such everyday facts, therefore, can provide a window to broader structuring assumptions about social conventions and the processes of their formation.

There is another sense, however, in which the *Graphic Standards* text must be considered beyond the fixities of structural analysis. That is the sense in which a book composed out of representational fragments, the individual plates of which issue from the hands of many authors (in terms of both their delineators and information sources),

cannot be said to point toward any unitary, objectifiable reality. *Graphic Standards* was not intended to be a pattern book like so many of its predecessors, a template of totalities meant to be reproduced whole; rather, it was more aptly meant as a pattern *maker's* book, intended to convey generic principles applicable and adaptable to unique circumstances *out there*, outside the book. But even then, what is inside the book is spatially and temporally coded, informed by and formed out of the social, cultural, and technological relations structuring its external setting. The book is part and parcel of historically specific assumptions about the organization of the field of architectural production.<sup>8</sup>

In the case of *Architectural Graphic Standards*, that field was comprised of the hands and minds of those who conceived and produced the book, Ramsey and Sleeper, who were themselves potential users of the book, engaged as they were within a system of production, one situated within a historical and professional context, part of a larger society itself buffeted by the forces of modernization and change. It is necessary, therefore, to historicize and to contextualize *Graphic Standards* in such a way that it provides an entrée to *drafting culture*. So while there is at one level a story to be told of the drafting history of *Graphic Standards*, its predecessors and precedents, there are other nested cultural frames as well which require their own elaboration. In short, the goal of “reading” the

history of the architectural profession through the plates of *Graphic Standards* involves both decoding its multilayered representations and deciphering the changing social contexts to which those representations merely allude. To borrow Pierre Bourdieu's terminology, drafting culture is both the *opus operatum* and the *modus operandi* of *Architectural Graphic Standards*.<sup>9</sup> It is both the object of study and the process of its production.

By focusing on one of the most prosaic and taken-for-granted tools of architectural practice, the graphic handbook, this study advances an implicit critique of the ideologies underlying dominant modes of architectural production. By so doing, it suggests an alternative emphasis for architectural historiography and the history of professions in general, one that looks beyond the professional facade of heroic individualism to the productive efforts of socially situated if subordinate professional workers. And finally, in this context of change, as manual means of production are displaced by digital formats and as *Architectural Graphic Standards* in its familiar form is compelled to adapt, this mode of inquiry offers a model for future research. It suggests a means for historicizing and uncovering the embedded assumptions of now emergent tools and modalities of architectural practice, and it invites consideration of what price is exacted from architectural labor in pursuit of new professional ideals.

