Reformulating Architecture's Past through Drawing: Surveying Chinese Architecture in the 1930s

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ABSTRACT
If the aesthetics of realism held an inferior position in Chinese painting traditions, why were such techniques utilized to describe architectural antiquity in the 1930s? Curiously, Chinese painting tradition emphasizes the brush stroke, and movement or gesture of the line as a register of one's artistic abilities. Realistic representation was often downplayed and minimized as a mode of aesthetic expression, as uniform straight lines displayed a skill or technique anyone could master. Yet, ruled-line painting (jiehua) is one exception, thought to be the only formalized painting technique to convey extreme detail, and line work, involving the use of instruments such as plumb lines, rulers and compasses. These "sharp-edge" techniques were acceptable to portray architecture, with qualities of accuracy and detailed subject matter –such versions of the *Up the River During the Qing Ming Festival* painting.

When Chinese architects educated in the US and Japan returned home in the 1930s, why did they recast China's ancient architectural sites into the pictorial format of construction documents? Ancient architecture was systematically surveyed, scaled, measured, and recomposed with strict straight lines into sets of orthographic drawings labeled with notes. How was this pictorial format, one that largely excludes the expression of one's individual mark, chosen to capture monuments of the past before possible obliteration from war?

Undoubtedly, the "Four Outstanding" architect-scholars were immersed in concurrent debates, and skilled in drawing as a method for the study of both design and historic architecture (as current scholarship maintains the import of the Ecole des Beaux Arts methods from the University of Pennsylvania to China took place through these individuals). But to what extent have the traditions of jiehua (ruled-line painting) been overlooked, or helpful for the collective project of careful reformulation, recovery, and reinterpretation of China's architectural past in a pictorial format? Why were orthographic projection techniques seen as: 1) particularly appropriate to conveying the past's unique architectural achievements to future generations, and 2) as a desirable format with "objective" or non-gestural qualities? In turn, how did the use of such representational techniques, reframe understandings of the built environment in China more generally?

KEY WORDS
surveying, drawing practices, realism, architectural knowledge, exchanges between the US and China, 1920s-1930s

> "Interaction with the past's residues ceaselessly alters their nature and context, unwittingly if not intentionally."
> - David Lowenthal, *The Past is a Foreign Country*

During the 1930s and early 1940s, ancient Chinese architecture was systematically surveyed, measured, scaled, and re-drawn in strict straight lines by young Chinese architects who had recently returned from studying abroad. The surveys they created were composed into sets of measured drawings labeled with notes and dimensions and often accompanied by black and white photographs. However, this was a "new" format in this context, and greatly differs from traditional Chinese painting aesthetic ideals. The aesthetics of realism held a minor role in Chinese painting traditions for hundreds of years, so why were detailed orthographic projections the representational format chosen to describe architectural antiquity in China at this time?

Current scholarship emphasizes the influence of Ecole des Beaux Arts methods imported by way of the US, specifically the curriculum taught at the University of Pennsylvania and the conveyance of such methods to China through these individuals.[1] While abroad in the 1920s, these "First Generation" Chinese architect-scholars engaged in concurrent architectural debates and became skilled in specific drawing methods. But when one takes a closer look at the survey drawings of Chinese architecture from this period, many closely follow the conventions of "working drawings" used in the architectural practice in the U.S., rather than those of the Ecole des Beaux-Arts academic curriculum. Working drawing conventions were outlined in various drafting manuals for practicing architects and draftsman in the 1920s. These graphic conventions were further codified in the 1930s with the publication of *Architectural Graphic Standards*. The format of working drawings encapsulate a different set of temporal qualities and concerns than the Beaux-Arts watercolor renderings. Working drawing conventions depict and anticipate details of a building's construction, visualizing such information for the builder in two dimensions. Orthographic drawings rely on measurement and scale to imply a direct relationship between what is represented on the page to a built material reality. By describing a building with straight measured lines the expression of one's individual mark is largely obscured making this format seem "objective." By extension, this "objective" quality allows one to codify architecture into a set of discrete physical and measured historical facts, which can be systematized into a historical narrative.

In terms of surveying and studying antique Chinese architecture, these conventions were applied in reverse to recover the embedded architectural knowledge in the found artifact through visual description. Thus, these representational conventions codify a *specific* working relationship between the architect as a designer and the builder as a technician. In this sense, working drawing conventions imply a particular way of looking at the world - through the eyes of modern architectural practice, which privileges the analytical deduction and measurement of a building, and the role of the architect as designer. In the drawing-up of existing buildings this "modern" viewpoint sheds reference to any cosmological systems that might have originally informed such found constructions (such as feng shui or ancestor worship, in the case of Chinese traditions). Instead, the focus remains on the measured description of a building's physical elements and assembly of the details holding it all together.

This study evaluates the embedded assumptions in this particular drawing approach and examines underlying concepts it grafts onto the "found" material evidence. Through a careful re-reading of a few drawings by architect and scholar Liang Sicheng from this period, one can re-evaluate how such methods can create a field of discourse specific to the "modern" architect. It is argued that through these specific

[1] See: Cody, Jeffrey W., Nancy Shatzman Steinhardt, and Tony Atkin, eds. *Chinese Architecture and the Beaux-Arts*. Spatial Habitus (Honolulu : [Hong Kong]: University of Hawai'i Press ; Hong Kong University Press, 2011).

drawing practices, the field of architecture establishes its own historical ground by subtly reshaping material "facts" in order to create a systematic understanding of architecture's past in China.

BEFORE THE 1930S

Prior to the use of these drawing techniques, "architecture" was not conceptualized as a high art in aesthetic discourse in China. Instead, poetry, calligraphy, and painting were granted this status. Liang Sicheng himself recognized that, "It was not until late in the twenties that Chinese intellectuals began to realize the significance of their own architecture as an art no less important than calligraphy and painting."[2] There was no specific word for "architecture" in the Chinese language prior to the return of the "Outstanding Four", one of whom was Sicheng.[3] Historian Nancy Steinhardt points out that in the Chinese language the word architecture was itself modern, appearing after the 1920s. Before this, what one might assume to be "architecture" was part of a larger religious and imperial cultural conception, and defined as a series of buildings arranged in space with meaningful orientation, not as isolated structures.[4] This difference is key to understand the shift in representational conventions at this time, and those used by Chinese architect and historian Liang Sicheng to re-capture ancient construction techniques before they were physically lost. Most of the drawings in Sicheng's *Pictorial History of Chinese Architecture* (and studies he produced for the Society for Research in Chinese Architecture) describe ancient buildings in measured orthographic drawings. These drawing conventions imply, through scale and measurement, a direct relationship between what is drawn and a specific material reality. This alternative conceptualization - of architecture as a privileged art and the architect as a singular creative figure – entailed creating a history to root the practice in tradition.

However, representation tied to the idea of the "real" was minimized as a mode of expression in prior Chinese aesthetic traditions. It was thought that uniform straight lines displayed a skill or technique that *anyone* could master. For example, realism was repudiated during the late Song Period as decorative illusion, when Su Shi (1073-1101) stated, "Anyone who judges painting by formlikeness shows merely the insight of a child."[5] This viewpoint directly counters the goals of representing architecture in the format of orthographic projections (measured and scaled plans, sections, elevations) pursued by the Society for Research in the 1930s. Instead, the rich history of Chinese painting traditions emphasized the brush stroke as a gesture of movement, and the line as a register of one's artistic abilities. These aesthetic concerns are focused on visualizing emotions and ideas beyond what the eye literally sees and did not employ drawing tools – such as rulers, compasses, and plumb lines.

Ruled-line painting (jiehua), however, was one exception to this tradition. It is thought to be the only formalized painting technique to convey extreme detail and line work involving the use of instruments such as plumb lines, rulers, and compasses. Anita Chung outlines in her study of jiehua techniques, *Drawing Boundaries*, that jiehua was the only form of Chinese painting to rely upon measuring devices (and not the brush alone). She asserts, "…we cannot assume that the relations between painting and building remain historically constant."[6] Yet, despite the changing discourse related to jiehua it persisted as a form of representation specific to manmade structures. These "sharp-edge" painting techniques portrayed the built

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[2] Liang, Sicheng, and Wilma Fairbank. *A Pictorial History of Chinese Architecture: A Study of the Development of Its Structural System and the Evolution of Its Types* (Cambridge, Mass.: MIT Press, 1984), 36.

[3] Steinhardt, Nancy Shatzman, and Xinian Fu, eds. *Chinese Architecture. The Culture & Civilization of China* (New Haven : Beijing: Yale University Press ; New WorldPress, 2002).

[4] Nancy Steinhardt, *Chinese Architecture.*

[5]Metropolitan Museum of Art (New York, N.Y.), and Wen Fong, eds. *Between Two Cultures: Late-Nineteenth- and Twentieth-Century Chinese Paintings from the Robert H. Ellsworth Collection in the Metropolitan Museum of Art* (New York: New Haven: Metropolitan Museum of Art ; Yale University Press [distributor], 2001).

[6] Chung, Anita. *Drawing Boundaries: Architectural Images in Qing China* (Honolulu : University of Hawaii Press, 2004), 4.

environment with qualities of accuracy and detailed subject matter – even in versions of the famous *Up the River During the Qing Ming Festival* paintings. A key difference between "working drawings" and jiehua depictions, is that the jiehua representations did not visually present the methods of construction, or technical instructions for fabricating the built environment.

The attitude towards "realism" in Chinese tradition is quite intriguing in relation to the architectural descriptions in the 1930s. In Chinese painting traditions brushwork conveys not only the landscapes and figures depicted but equally plays a role in giving form to an emotive state, and communicating this state through pictorial depiction. George Rowely discusses that the impression of immeasurable space was an objective in Chinese painting traditions, expressing the vast unknown – not the finite discrete materiality of the given or existing. Whereas, "In the west psychological scale was measured by man's awareness of himself"[7] which implied the concern for the definite, measureable and "known" facts. These ideas clearly related to architectural representation at this moment in the 1930s, which was very much concerned with describing the material remains of antiquity in detail. Sicheng's presentation of his research findings as a pictorial history, in this sense shifted away from past architectural representation methods and existing literary sources. Sicheng's surveying activities in China created a set of documents that stand in for the material evidence witnessed in the field. This documentation establishes an important relationship between the substantiation of ideas regarding the material of architecture by circumscribing the boundaries of a field of knowledge conceptualized as both architectural and historical.

Another important aspect to consider, prior to these re-drawings, was the transmission of building knowledge which took place without such detailed drawings. Instead, carpenters conveyed their expertise orally from master to apprentice, keeping the craft secret as a form of embodied knowledge. There are several famous building manuals, such as the *Yang Zhao Fashi* (1103 AD), and the *Kung-cheng tso-fa* (1733), which Sicheng and his colleagues also studied. However it was from these literary sources that Sicheng could not recover the form of knowledge he sought. To establish such an architectural history in this 1930s context, it had to be drawn from discrete material evidence, which necessitated a search for "discoveries" in order to recover the secrets of craftsmanship, guiding his quest to capture a texture of architectural knowledge under the threat of physical destruction.

DRAWING HISTORY

Historical knowledge of antique buildings serves to anchor the profession of architecture in tradition, and functions as a narrative device to explain culture in the face of change. Through the discursive practice of drawing the profession of architecture establishes its expertise, its objects of study, its history, and its boundaries as a field of knowledge. The factual basis of history also became largely associated with science at this time. Applying scientific methods to the study of the past was also an ambition of Liang Sicheng, and other Chinese intellectuals at the time.[8] Liang Sicheng describes the changes he witnessed in China, contextualizing the impetus for finding, studying, and recording architectural antiquity:

> "Waves of new influences, stirring up whims of a few men in a conservative town, can innocently deface a masterpiece by their efforts at so-called "modernization" of an "old-fashioned" structure. … Seldom does one find to one's satisfaction a real gem left in peace and beauty by nature and man alike. A stray spark from an incense stick may also reduce a whole temple to ashes."[9]

[7] Rowley, George, and Du Bois Schanck Morris. *Principles of Chinese Painting, with Illustrations from the Du Bois Schanck Morris Collection*. Princeton Monographs in Art and Archaeology, XXIV (Princeton, N.J: Princeton University Press, 1947), 66-67.
[8] See: Fairbank, Wilma, and Jonathan Spence. *Liang and Lin: Partners in Exploring China's Architectural Past.* (University of Pennsylvania Press, 2009), 62.
[9] "In Search of Ancient Architecture in North China" (Liang Sicheng) in *Complete Works of Liang Sicheng*, 303, Volume 3.

The threat of destruction, either from the "progressive" development, accidental mishaps, or weathering caused by the climate, could lead to the loss of exemplary architecture. Sicheng was aware that he was creating a new field of study, and accepted an offer from Chu Chi-ch'ien, the founder of the Society For Research in Chinese Architecture, to investigate the building methods outlined in the Song building manual *Yang-tsao Fashi* he uncovered in Nanking's Kiangsu Provincial Library.[10] The literary descriptions of the ancient building methods had become garbled over hundreds of years of reproduction, and could not be fully understood at the time.

Sicheng was particularly interested in trying to recover "lost" knowledge about timber frame construction he could not decipher from the existing literature. More generally he found that literary sources were too limiting to fully understand the ancient timber frame constructions he studied. He and others were curious to solve the mysteries of construction not described in some of the most ancient construction manuals written in Chinese, and to systematize these findings into a historical narrative, explaining Chinese architecture's traditions and their change through time. To explain such change, the paradigm of "evolution" became an underlying framework of Sicheng's historical narrative, which systematized his fieldwork findings. The following examination of some of Sicheng's drawings highlight the role of drawing as a discursive practice for the field of architecture in relation to writing history. The conventions Sicheng used carry a specific imprint of thinking, which reshaped the historical materials he and his team encountered in the field. This case study is particularly useful to examine the transference of ideas that occurred across national boundaries at this time, which produced knowledge reinforcing nationalist histories and cemented architecture's illustrative role in such narratives.

Sicheng's work also highlights the important role of orthographic drawing conventions in establishing this particular set of historical architectural facts. Orthographic projection, as a representational format, focuses upon breaking down the individual building into a series of views, through which one can see a detailed examination of the buildings constituent parts. Generally these views, (plan, section and elevation) give little reference to surrounding context. It is often thought of as a method of drawing that "typifies architectural draughtsmanship" and has as its main advantage the guarantee that "the building's major measurements are accurately transcribed and can be unambiguously recovered" with the use of a scale. [11] Given this underlying logic, orthographic drawings were seen not only as an ideal method for drawing up designs to be built, but also as the consummate means for capturing existing architecture in a graphic format that was scientific, accurate, and factual.

Sicheng's father, Liang Qichao was a political revolutionary and intellectual reformer, very much engaged in political debates, and even lived in exile in Japan between 1898-1912. Professor Li Shiqiao's research illuminates the depth of Sicheng's father's engagement in debates about modernity and the role of historical knowledge in the project of formulating the present, and actively reformulating "China" into a modern nation state; one that would also conceive of historical knowledge as key to understanding the entity of the "nation" and the "collective."[12] In this context historical knowledge was viewed as a form or tactic of modernization. By depicting architecture from the past, in orthographic drawings, it could become an objective "fact"; standardized in such a way that obscured the appearance of authorship (to a certain degree), and thus becoming relevant, and even evidence of the nation's history.

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[10] Fairbank, *Liang and Lin*.

[11] Blau, Eve, Edward Kaufman, Robin Evans, and Centre Canadien d'Architecture, eds. *Architecture and Its Image: Four Centuries of Architectural Representation: Works from the Collection of the Canadian Centre for Architecture* (Montreal : Cambridge, Mass: Centre Canadien d'Architecture/Canadian Centre for Architecture ; Distributed by the MIT Press, 1989), 158.

[12] See : Shiqiao, Li. "Writing a Modern Chinese Architectural History: Liang Sicheng and Liang Qichao." *Journal of Architectural Education* 56, no. 1 (September 1, 2002): 35–45. doi:10.1162/104648802321019155.

History, as a form of knowledge implies a desire to put the past behind and gives the present an authoritative view; simultaneously this establishes the critical distance required for "renewal" in the present. Specialized histories, in specific fields, were also important to Liang Qichao to more closely attain a complete or comprehensive history. In this sense, nuanced conceptions of history, modernity, knowledge, as well as architecture as a profession, tradition, and cultural object, were codified through the conventions of representation. These very concepts became embedded within the gestures that materialized on the drafting board, and were emphasized by orthographic projection.

Debates concerning the political motivations and ideologies directing Sicheng's activities are not the focus here, rather they serve as the backdrop in which Sicheng and others conducted their studies. My focus is on the representational methods Sicheng utilized to codify and transmit ancient Chinese architectural gestures into a form of historical knowledge, as well as investigating why this particular discursive practice was viewed as the most fitting for this particular task of recovery. It is significant that Sicheng and his research team faced the destructiveness of war with Japan, and civil war within China itself, not to mention contending with both the constructive and destructive aspects of modernity and "progress." It is also significant that at the very same time, practicing architects in the US were also travelling throughout the states to also record existing buildings (the Historical American Building Survey), which produced a different kind of history emphasizing the vernacular types, rather than ancient proportional systems. These activities were contemporaneous, and indicative architectural discourse's international reach and practices at the time. Sicheng even published several of his studies in English in the 1940s. This indicates that a more complex and participatory set of discussions took place across national boundaries, which complicates any over-simplified explanations of this as a simple export of "western" knowledge to China.

DRAWING THE HALL OF KUAN-YIN KE

For nine years Sicheng and the Institute for Research in Chinese Architecture created documentation of over 2000 buildings, spread across China's landscape in over 200 counties. These individual studies fed the larger ambition to weave together all evidence into an overarching narrative about China's architectural history. Key to this search for "actual specimens" was the personal visit and examination of existing material evidence through measurements and photographs. These studies were published in a periodical called the *Bulletin of the Society for Research in Chinese Architecture*, which disseminated written articles and reproductions of photographs and drawings made during survey visits, and some English language translations of these articles.

The results of Liang Sicheng's first research trip in 1932 to the Hall of Kuan-yin Ke (Dule Temple) in the walled city of Chi Hsien, were some of the first to appear in the *Bulletin*. This hall, dedicated to the Buddhist deity Kyan-yin of Tu-le Ssu, was described by Sicheng as standing "high above the city wall and can be seen from a great distance."[13] Nearly one thousand years old at the time of Liang's recording, this three-story timber frame structure was built in 984 AD. Inside the hall stands an approximately 60-foot high clay statue of an 11-headed Kuan-yin, which occupies a central void in the two upper floors.

Two floor plans of the Kuan-yin Ke hall were published in the June 1932 issue of the *Bulletin*. Drawn in orthographic projection, dashed lines indicate the overhead extension of the roof's eves on the building perimeter, and indicate the central clay statue. Columns and exterior walls are demarcated with a thickness of line weight, and an arrow indicating the direction of an interior stair's incline, including a section cut line convention. Drawn this way, the hall is imagined as horizontally "sliced" to reveal the building's full anatomy in plan. These drawings are reproduced in Sicheng's *Pictorial History*, where the section and plan are composed together on a singular sheet. The plan is drawn at a smaller scale than the section, and given far less space at the top of the page, while the composition generously privileges the

[13] Sicheng quoted in Fairbank, *Liang and Lin*, 56.

cross-section. Copious notes are labeled in both English and Chinese, indicating building construction vocabulary with leaders and arrows. Such notes resonate with the standards for drafting outlined in *Architectural Details* (1924), which emphasizes the use of notes on drawings. "Explanatory notes form a most important part of working drawings. These should be added wherever they lend themselves to a clearer understanding of the drawing."[14] Such notes were not found on Beaux-Arts academic drawings, which privileged the plan view as the representational format most effective for conveying the "parti" or design concept. Analytique[15] drawings in the Beaux-Arts curriculum composed various scaled drawings onto a single sheet to give one a sense of the building from various viewpoints and scales, however the stark and diagrammatic quality of Sicheng's composition does not follow this Beaux-Arts exercise taught at Penn.

The simple line border of the page's composition is broken by the outer extents of the section on the left and right, and by the plan's upper limit at the top. Devoid of surrounding context (such as a site plan, topography, or other buildings), the drawings of the temple float on the page, making the hall's orientation within the broader complex unclear. In this sense, this visual description reinforces the notion that architecture is a singular building, an isolated "fact," which distances itself from the traditional understanding of architecture as an assemblage buildings and courtyards in Chinese culture. One might assume plans and sections are typical conventions used by architects, but historical reflection contextualizes just how varied their use can be – especially when applied to recording the past.

These drawings also made use of overlapping lines at perpendicular intersections, such as the framing border of the page, forming tiny "crosshairs" where lines meet perpendicularly. This may seem an insignificant detail, however in the 1920s there was nuanced discourse about the difference between lines drawn by the architect and those drawn by the mechanical engineer. The "architect's drawing's relative freedom of technique and expression" characterized the difference between mechanical engineers and architects. In *Architectural Details* (1924) the architect's lines are described as "allow[ing] lines to carry over slightly and not attempt to stop them exactly. This practice tends to give a touch of freedom to the drawing and also saves much of the draftsman's time."[16] The "snap" of the line, or its subtle crossing, emphasized the limits of construction in graphic form and embodied the relationship between drawing and building, and the authorship of the architect. [17] Therefore this subtle detail in graphic representation indicates and reinforced the underlying idea that the architect is the creative author. Clearly Sicheng was familiar with this convention and employed it in his own depiction of the material evidence he and his colleagues described.
Standards, such as line weights, title blocks, lettering, notes and dimensions, were all elements of such orthographic drawing sets and serve as a visual means to link the (conceptual) process of architectural production to the found "object" or building; in a sense not just "recording" the given material building that exists from a primary material source, but rather extracting a specific understanding of its construction. A set of abstractions are also at work in this format that appears to be "factual", for example the details of construction are not always immediately apparent to the naked eye, but can be inferred from examining the building. For example, a section drawing is itself has a degree of abstraction; no one actually can see the building in section unless the physical structure is cut open. Many of the detailed sections that Sicheng emphasized in his drawings rely upon the technique of creating a section from what was observed, therefore there is a moment of imagination and extrapolation that takes place when creating an orthographic projection based on one's observations. Despite the graphic rhetoric of the drawing format and it association with the "facts", it is not a literal copy of found material evidence.

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[14] Ibid., 5.

[15] The 'analytique' was the name of a specific drawing exercise within the Beaux-Arts curriculum and its adaptation by Professor Paul Philipe Cret to the University of Pennsylvania. This curriculum continued to use the French name/vocabulary in America

[16] Ibid., 6.

[17] Johnston, George. *Drafting Culture*, 41.

In the cross section and plan of the Main Entrance or Gateway of Kuan-yin Ke, conventions such as overhead framing center lines, section cut lines, dashed lines, and line weights indicate a sense of depth in orthographic projection. Door swings are depicted in plan with arcs. In the cross section, notes with leaders also describe different elements in the bracket and wood framing construction. These are all representational conventions illustrated in the early publication of *Architectural Details* and characteristic of working drawings of the time. It is important to note these are not graphic conventions found in academic Beaux-Arts drawings, such as those Sicheng would have drawn during his studies at Penn. Sicheng and his colleagues clearly had exposure to this style of drafting from practice, while in the US and chose it as the visual means of capturing the construction of the buildings they recorded.

Hatching and other graphic material description conventions are found in these drawings as well, such as concentric circles indicating a tree's growth in the cross section of "king-posts" and other wood structural framing members. In Beaux-Arts drawings the surface of the building is the focus, and the construction, largely assumed to be masonry and carved stone is often left without graphic detail beyond a thickness of line. Lettering, also prominently featured in Sicheng's drawings, and was another important aspect of working drawings. Publications such as *The Art of Lettering* provided detailed discussion and instruction to the draftsman about lettering on drawings.

Systems of measure also indicate the temporal stamp of the drawing's author. Measuring units and conventions tie a drawing to a specific social and economic context. In the Kuan-yin Ke drawings, the metric scale is used, giving all dimensions to the building within this modern unit. Obviously this system of measure was not the one used to build the structure almost a millennium prior. Therefore, even the measurement scale itself is a means through which one's understanding of the past is remolded into a current format, transcribing the physical evidence into a set of instructions that outline the potential of how a practicing architect might be able to rebuild, or repair, such a structure today. Discussing the indication of dimensions on drawings, *Architectural Details* states that, "Probably the most important thing about the making of a drawing is its proper dimensioning."[18] This also remains important in the case of accurately capturing the existing, so that knowledge of its construction could be preserved or even reconstructed later.
Existing scholarship emphasizes Liang Sicheng's importation of the Beaux-Arts methods he learned under Paul Cret and John Harbeson at the University of Pennsylvania, however when examining his drawings of the buildings he recorded during his field work from 1932-1941, there are significant differences from the Beaux-Arts methods. While there are watercolor renderings and a history of this pedagogy taught in schools in China, Beaux-Arts renderings portray a different type of detailed information about a building such as the casting of light upon its massing, the composition of space, and the atmospheric qualities of its imagined setting (entourage), and color. In short, these depictions do not intend to portray the building's construction assembly, rather they illustrate an image of the building's surface.

EXCLUSIONS

Whether the working drawing format is used for a practicing architect's plans, or as an "after-the-fact" template to record the existing, both privilege the moment of the building's just after completion. This graphic format crystalizes a particular moment in the building's life - its complete realization. In the process of surveying, the "found" becomes regularized and filtered through such drawing conventions. For example, photographs of the Kuan-yin Ke hall depict additional support members added to each of the outer eves of the building.[19] These were not part of the original design, but came later in the eighteenth century to shore up the structure as it aged. Yet in Sicheng's drawings, these posts are not represented.

[18] Rouillion, Louis. *Architectural Details* (New York: J. Wiley & sons, inc.; [etc., etc.], 1924), 4.
[19] See Sicheng's *A Pictorial History*: 50, figure 25, 51, figure C. Also, Professor Steinhardt mentions that these were additions from eighteenth century repairs in *Liao Architecture*, 36.

Here, one can see how a process of selection takes shape, even though these additional posts constitute what was 'found' on site, they were not part of the original design of the building, and subsequently edited out of the building's representation. This type of editing reveals that a specific temporal moment of the building's original design is privileged, thus reinforcing the idea of the architect as creator and the building as having one static form that must be preserved. In this way, the building's state of "origin" becomes a treasured temporal moment, captured and replicated by orthographic projection for future dissemination. This recording format also implies the possibility for future re-construction, by an expert. Thus, the kinds of measurements, notes, and depictions reflect this ambition. Less easy to discern are the exclusion of particular elements from the drawing, yet these also annunciate the intentions embedded in such a recording practice.

CONCLUSIONS

This drawing format encapsulates both the "past" in terms of construction knowledge extracted from an existing building, and the future promise of the resulting facsimile. This mode of recovery through drawing carries with it a hope to transmit the codified construction knowledge to subsequent generations, transcending a building's physical limitations. The degree to which a building's material qualities have been rectified in the drawing are not always immediately apparent, especially within a convention that emphasizes facticity, totality, and transparency. In this sense, a degree of imaginative projection, back in time to the "beginning" of the building's life, is a point is the architect's greatest concern. Perhaps this conceptualization of the architect's practice plays a role in cementing this concern with a building's origins.
Liang and the research society encountered destructive forces in many forms, including modernity and its "progressive" forward movement. These forms of destruction are what the record keeping and record making practices intended to thwart. In this context, drawing was essential to uncovering past textures of knowledge embedded within architectural examples from the past (such as proportional systems and construction traditions). The desire to distill the architectural gestures of past traditions into a series of measured orthographic projections aims to capture craft for perpetuity, yet this takes shape in the architect's concurrent visual language (working drawing conventions). This redrawing is at once a process of recovery and reformulation, casting the existing material evidence into a pictorial format and embedding underlying assumptions that define architecture as a specific field of expertise and practice.

In this sense, the knowledge of one's craft, past or present, had to be drawn in a particular format to be distilled as a form of historical knowledge. By reconstructing what they observed on-site, in the format of measured orthographic drawings and photo documentation, architectural achievements of the past were identified, selected, and captured on paper. Through the example of the drawings by Liang Sicheng it becomes apparent that the profession's drawing practices played a pivotal role in both crafting the profession as a modern field of work, and anchoring such a practice within a history of its own making. Orthographic projection became associated with historical facts depicted in through visual means, to assure the survival of architectural knowledge even if its material evidence was subsequently obliterated. In a sense, this graphic format portrays architecture's present just as much as its past.

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Lori M. Gibbs is an architectural designer and PhD candidate in Architecture at the University of Pennsylvania, where she has taught design studio and history & theory courses. Her dissertation examines methods of survey documentation and drawings that craft architectural histories in a cross-cultural context between 1920-1940. Previously she taught research seminars and lecture courses in the Faculty of Architecture and Division of Landscape Architecture at the University of Hong Kong. She earned an MA in Histories and Theories of Architecture at the Architectural Association in London, and a B.Arch from Pratt Institute. She is a LEED AP and maintains a small architectural practice in New York with architect Luis Silva da Costa.