

## Discovering Historical Standards: Distinguishing Antecedents from Precedents

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Distinguishing precedent from antecedent may seem to be splitting hairs, but for architecture faculty this distinction offers a way to bring architectural history into the design studio with greater rigor than the National Architectural Accrediting Board (NAAB) considers. I shall be showing the stages of a second-year studio project while briefly contextualizing the challenges raised in each assignment in broader discussions found in architectural history. This is so students can realize architecture history is not solely a catalog for formal or programmatic precedents, but interpreting an antecedent in history that reveals a standard by which to critique an architectural precedent.

Most American architecture curricula incorporate the NAAB definition of precedent for accreditation purposes and so provides an entry into our understanding of precedent. According to NAAB Student Performance Criteria (SPC) A.6 "Use of Precedents," architecture students are to have the "ability to examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles into architecture and urban design projects" (NAAB 2014, p. 16). This directive implies that students are expected to know how to study similar buildings or construction types already completed and be inventive with them. NAAB sees studying precedents as a skill to defend design decisions but the unintentional consequence is that its definition of precedent tends to be a narrowly conceived. At Mississippi State, for example, precedent studies often entails students finding similar building programs, analyzing them, then including the proper program requirements in the studio project. This kind of precedent study instructs us on *how* something is done, but it does not address *why* it is necessary.

Louis Kahn understood the distinction between precedent and antecedent when describing a house project:

*A house has to answer, I think, three important things: it has to answer "house," symbolically house, it has to answer "a house" which is the problem. ... "A house" can be the professional, but the architect lies in "house" itself – symbolically house. He has to find somehow a realm of spaces where it is good to live. ... A "home" has to do with the people in it, and it is not [the architect's] business, except that [the architect] must prepare this realm to make it suitable for "home." But these three characteristics – or rather I would say aspects – of house, must be there. (Kahn 2003 pp. 43-44)*

To summarize Kahn, the three aspects of house are "house" as an idea of good living, "a house" which is a physical building demonstrating good living, and "home" which is the way a client actually lives in

the building, such as the furniture selection, décor, and even where the laptop goes [Fig. 1]. In these distinctions, “a house” is something architects can study in terms of precedents – what rooms are necessary, the necessary square-footage, and how they are arranged. Imagining “house” on the other hand is an antecedent; we can relate to living comfortably, setting the proper atmosphere for rooms, and perform daily routines and activities. To use Kahn’s phrases, precedent is akin to the measurable, the how to manifest an idea. The antecedent, on the other hand, is akin to the immeasurable, or a program’s mythological beginning.



Figure 1: Louis I. Kahn, left: Oser House, Elkins Park, PA; right: Fisher House, Hatboro, PA. Photos by author.

Kahn’s search for a mythological program origin resonated with the earliest story known about the origins of architecture when Vitruvius described the making of the first house. First people congregated around a fire and formulated language, then different groups of people experimented with structures, some digging into the ground and others building in the trees and over time people critiqued the merits and problems of different strategies. Eventually, “they gave up huts and began to build houses with foundations. ... [O]bservation and application led them from fluctuating and indefinite conceptions to definite rules of symmetry...and thus developing the refinements of life, embellished them with luxuries” (Vitruvius 1960, pp. 40-41). Vitruvius’ story of the original dwelling provides insight in distinguishing architecture from mere building, and sets up a standard from which to judge house designs. First, it was important to have a foundation, meaning that the house was fixed in its location and was sturdily built, thus satisfying two important Roman values, a locus and *firmitas*. Second, the first house had a sense of order through symmetry, meaning there was agreement between the conception of the house and how it was made, which contributed to the Roman value of *utilitas*. Lastly, the first true house being of sound construction and conveniently planned offered opportunities of embellishments through luxuries for refined life, the Roman value of *venustas*. The first dwelling was thus a model for the Vitruvian Triad, strength, convenience, and beauty, thereby demonstrating an architectural antecedent, an idea of a house, rather than an architectural precedent,

examples of early houses from which the architect improves through the next iteration. It is very similar to Kahn's three aspects of house, though he did not cite Vitruvius as a source, and we can now address the 'why' for designing a house: the need for sturdy shelter, convenient arrangement for living, and allowing the owner to make it her own.

This second year studio project was thus to explore these three standards discovered through the house's antecedents. The main studio project was to design a private house (approximately 1200 sf. of conditioned space) responding to the qualities of a real site and demonstrating good living. Students therefore had to build groundwork and foundations, make a convenient plan, and imagine living in the house. As Kahn warned, architects cannot always control every aspect of how one lives in a house, but we can imagine it and suggest it. To do so, students would have to project themselves into an unbuilt building for the first time.

### The Measuring Standard

To help students imagine themselves in scaled spaces, it was imperative for students to have a clear understanding of scale. The first assignment was to make a measuring standard so that they could relate actual sizes to scaled artifacts. Students teamed in pairs of two to fabricate a staff primarily made of wood that was 2.5" w x 2.5" d x 8' h [Fig. 2]. One face was a ruler marking feet and inches and the opposite face marked heights and widths of features of the average human body. Students then marked their individual body dimensions on the adjoining faces. The 8' height helped students scale their body to the typical minimum dimensions for room widths and ceiling heights to help make a correspondence between their body, the average body, enclosed space, and standard measurements.



Figure 2: Matthew Hudgins & Jordan Xavier Smith, Measuring Standard.

For this assignment, the obvious precedent is Le Corbusier's *Modulor* (1966), his proportioning system to affirm the golden ratio by merging the metric system, English units, and the human body together. The merits of the *Modulor* system was that it was unit-less, thus it was indifferent to English and Metric dimensions. It corresponded to parts of the average human body, which meant the system had a standard reference that could be approximated due to the inherent rounding of the golden ratio (Cohen 2014).

In terms of antecedents, the "why" of projecting oneself into an architectural drawing or model was certainly of great concern for Renaissance architects. Paul Emmons has explained that the use of scale in architectural drawing dates to the Albertian split. The depiction of the scale was frequently personified with either human figures or dividers walking along the scale line as one would walk the site. Dividers then became a means to project oneself into the drawing and imagine the space. Emmons drove the point home by describing Sir John Soane's cane which contained a small scale and compass in the cane's top and the shaft of the cane had two pieces that could be removed to measure a fathom (2 paces). As Emmons pointed out, Soane's walks through London were analogous to his architectural recordings of the city (Emmons 2009, pp. 64-78). Soane's cane, Le Corbusier's *Modulor*, and the Renaissance compass are all precedents in how architects used tools to imagine scale between our bodies and scaled drawings on paper. The antecedent is a desire to project oneself into a miniature world. The studio measuring standard becomes one more precedent demonstrating that desire, but the assignment's specifications and learning objectives were based on recognizing the antecedent, and how this particular precedent participated in an architectural conversation dating at least back to the Renaissance.

## Case Study Houses

The next assignment had the most direct use of precedent – using houses of near-equal size to the ones they would later design with various approaches to spatial planning, and sloped sites. Students were given a list of houses built over the course of the twentieth century to serve as standards. Each student per studio section made a physical model of one of the thirteen houses at  $\frac{1}{4}''=1'-0''$  scale [Fig. 3]. Students were also required to make a model of their measuring standard for the house model so they could relate the size of the modeled space with actual dimensions. Like Soane's cane, the studio's measuring standards became devices students could use to relate their bodies to standard measurements and to scaled space.





Figure 3: Daniel Ruff, Model and spatial analysis of Charles Moore House.

One would expect that this assignment would have an obvious connection between architecture history and studio, but it was surprising how difficult it was for the students to analyze a case study. Having been previously taught to concentrate constructing geometric proportions and grid overlays, they struggled to imagine how one lives in the house. It was as if the house, either in drawing or in model form, was an object unrelated to their experience in living in a house. The most productive part of the exercise was improving model craft and discussing how a building meets the ground. While the house analysis in terms of studying antecedent – what makes comfortable living – was nearly non-existent in their analysis, it demonstrated the need to have students recall their own experiences of living comfortably and the kinds of activities one does in a house, rather than labeling rooms, as Kahn had already pointed out. Therefore, studying precedents was not enough for the students to think about the “why” to build a house aside from the basic need for shelter.

In terms of teaching architectural history in the studio, this project encountered the very problem NAAB created in studying precedents. Students approached history as a “function” for architecture in the manner the AIA began to encourage in its report on architectural education dating back to 1954. *The Architect at Mid-Century* report noted that *analytiques* and *projets* were eliminated from most studio programs by the 1950s and observed that a number of architectural history classes still held vestiges of those assignments, though the report questioned their merit beyond technical drawing skills. Instead, the function of architectural history was to study the master architects for inspiration, become aware of typical challenges when designing a building, and use precedents for “the student to set a standard of performance” (AIA 1954, pp. 173-175). While a precedent indeed establishes a standard for technical competency and formal composition, the functional attitude merely addressed how something was done but not necessarily why. The AIA’s understanding of architectural history in the 1950s seemed to be a predominately formal studies instead of the program studies I mentioned at the beginning, but the formalist method was equally limiting.

There was however at least one liberating approach to studying architectural precedents during the 1950s. Vernon Shogren at North Carolina State University described a precedent project at the school that began in 1952, whereby undergraduate students must select a building, preferably built before 1900, and document it between their second and fifth year. The goals of the project were to have: 1)

students recognize a building's importance architecturally, such as construction or material use, rather than as a site for an important event, 2) have students make accurate records the realities of building, and 3) imagine the building challenges of the time and how they are different now (Shogren 1963). As hopeful as this report sounded, the last point was problematic because it was still an evolutionary interpretation of history by historicizing the building and suggesting we are better now. Nonetheless, it encouraged students to project themselves temporally, rather than spatially, into observing intentions and consequences within a set of challenges that can be broader than technical knowledge. While distinction is important for precedent, to make it a study in antecedents would be to recognize similarities between past and present building challenges through case studies.

## Student Designs

The last and longest assignment for the studio was for each student to design a private house located on a high hill along the Natchez Trace Parkway. The site is a public park, but for our purposes we pretended it was private property. The students had no specific client; there was no Joneses who ran an underwear factory so that the students would decide to expose the studs. Instead, students were asked to imagine what it is to live in a house and to design would reflect their sense of comfort. Upon discovering a lack in understanding in the previous assignment in imaging how one lives, comfort helped orient the critique of each student's own house design.

Surprisingly, most students never cited the case study house they did when working on their own design. One student, for instance, did a thoughtful nine-square house plan even though his case study house was the Eames House. Another strong project was by the student who studied a house by Sverre Fehn, but ended up with a plan having the organic arrangement similar to Hugo Häring, an architect not even mentioned on the original list. The only student I had who intentionally brought lessons from his case study was the one who studied Glenn Murcutt's Williams House because he was interested in passive climate control responses, but the student's house design looked nothing like the Williams House. When reflecting on this a couple of successes can be noted regarding the use of case studies at the foundational studio level. First, students are inclined not to directly replicate a built project, thus fending off critics who are afraid they will become disciples of a specific architect. Second, students also have intuitive sensibilities shared by preceding architects, such as the one who was inclined to plan like Häring before having heard of him, and studio faculty need to be quick to recognize kindred spirits for each student's predilections.

Every student did a house and the program precedent is both vast and readily available in documents. In student discussions, one clear design consideration was the used of the open plan. There are, of course, multiple precedents to look at for the open plan with Frank Lloyd Wright being an obvious starting point. What is less discussed is that the open plan was an apparent phenomenon during Wright's formative years and that it was neither singular to him nor invented by him. Gustav Stickley's architects of Craftsman Houses during the nineteen-teens were also developing open plans (Esenwein 2016). Edward Bok (1920), editor of *The Ladies' Home Journal* at the time, favored houses like Wright's 1901 submission that had "lots of room" in them. The reason to mention these other cases is to point out that there was a general desire for the open plan in a house. In reading Stickley and Bok's critiques of the American house, it becomes clear that the argument for the open plan was to provide multiple social activities to happen in one space rather than designate specific activities to particular rooms, as

was often done in the late-nineteenth century. In this case, we can take an antecedent such as “house” and concentrate on more focused precedents such as planning a house, and even more focused a plan type for a house, which opens a discussion for students to ask why a particular house plan type represents a particular vision of comfortable living.

The discussion of the open plan also touches on Kahn’s observation of the antecedent in a house as well as the desire to make a house a home. Students had to draw furniture to illustrate a way of life as much as a demonstration that it needed to fit in the space. The project fell short though in recalling the antecedents of a house through the drawings. The drawings still focused on orthographical convention, admittedly my insistence, with limited use of perspectives. The reason was to prevent the urge to present the project through hyped-up renderings and obscuring the subtle design decisions found in many of the projects. Indeed, there was greater ability in weaving spaces together than I have observed in past years of this studio, but the trade-off was that the representation of daily life was only hinted in the best drawings. If one compares the drawings made by architects to those by my students, the student work falls short on inhabiting the space through drawing [Figs. 4 & 5].

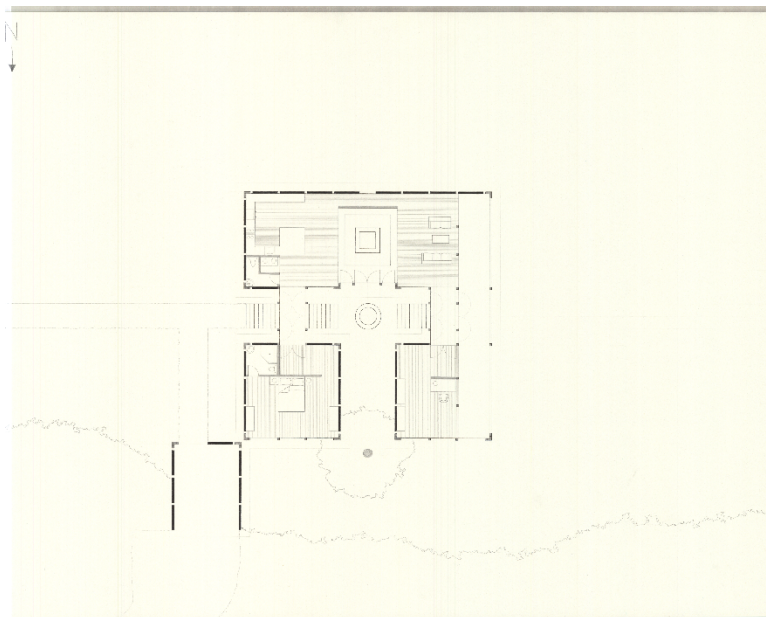


Figure 4: Matthew Hudgins, *Plan of a Single Family House*.

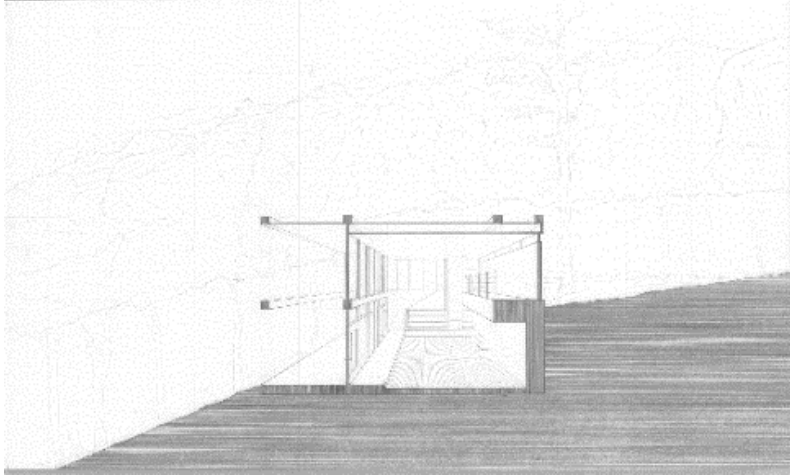


Figure 5: *Trey Box, Section-Perspective of a Single Family House.*

## Precedent as Fact and Antecedent as Myth

Throughout this presentation I have alluded to and danced around the theoretical project of Marco Frascari and his students whereby architectural drawing is an act of constructing and construing. According to the Frascari school, architects make plans and sections while narrating activities and events in the drawings (Frascari 1984). Frascari's purpose was to use history to find exemplars of this practice in architecture, which was evident in his mentor Carlo Scarpa as well as Renaissance architectural treatises. The practice thus had an antecedent, a desire to narrate living primarily through drawings that could be translated into actual buildings.

Thus there are two kinds of historical standards, one is based on material facts, such as actual buildings, and the other is based in a story we make to explain our fundamental needs for the purpose of a building. By now, it should be clear that precedent considers the former and antecedent considers the latter. Thus an equally important historical standard is the architectural myth behind an architect's design intentions. I shall then conclude by revisiting the two myths that began this paper, the first being Kahn's "house" and the second Vitruvius' "house with foundations." Kahn's "house" was an idea that had a seemingly archaic origin, the need for shelter for a good life. Vitruvius likewise described an archaic house that never actually existed but was nonetheless a permanent shelter with comfort. If we interpret historical standards as precedents, we will never archeologically uncover those two houses. If however we interpret historical standards as antecedents, then those two myths yield a myriad of possibilities that not only satisfies NAAB SPC A.6 history criteria, but brings interpretive historical imagination without historicism into architectural practice.

## Acknowledgment

The measuring standard assignment was based on one Scott Gartner at Virginia Tech described to me many years ago.



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