In the Spirit of the Texas Rangers

“But we see their greatness… We must look to it for continuity; to transmit to future generations.” Bernhard Hoesli speaking as self-appointed transmitter of the legacy of modernism — the generation of Corbusier, Mies, and Wright.

In the years between 1951 and 1956 at the University of Texas at Austin a group of young architects, later termed the “Texas Rangers”— Bernhard Hoesli, Colin Rowe, John Hejduk, Robert Slutzky, Lee Hodgden, John Shaw, and Werner Seligmann, set out to restructure architectural curricula. The new curricula emphasized space, embraced history with the use of precedent, and included urban regionalism. This was radically different from the prevailing attitudes that were devoid of history, regionalism and phenomenology. The program was short lived and within a few years of its initiation the original members of the group left The University of Texas at Austin (UT/Austin).

As the original members of the Texas Rangers dispersed, they disseminated their new ideas and their pedagogies were adopted and adapted by other schools. Bernhard Hoesli went to Eidgenössische Technische Hochschule (ETH) in Zurich, John Hejduk to Cooper Union, and Colin Rowe to Cornell. The impact of this curricula reverberates years later both in the U.S. and Europe where generations of students have been impacted in meaningful ways.

The intent of this paper is to touch on the original pedagogy initiated by the Texas Rangers and compare it to present design curricula at both UT/Austin and ETH. The overview is not meant to be complete, but rather will look at the origins of the Texas Rangers’ legacy (particularly Bernhard Hoesli’s vision) and consider its evolution.
The University of Texas at Austin 1951-1956

The University of Texas at Austin in the 1950s seems an improbable place for the burst of energy in architecture pedagogy that emanated from its campus. Prior to 1950, the School of Architecture was part of the School of Engineering. The university faculty in 1951 was described as “overwhelmingly male and middle class, mildly liberal, mildly conservative.” The university’s administration was considered to be unsympathetic to progressive academic freedom.1

In this milieu Harwell Hamilton Harris was appointed dean of the School of Architecture in 1951, even though he had not held an academic or administrative post previously. Harris was a well-established architect from Los Angeles known both nationally and internationally. Although Harris was a protégé of Richard Neutra and Rudolf Schindler, his work was more reflective of FL Wright, Greene and Greene, and Maybeck. This could be seen in his sensitive use of materials and regionalist approach. Dean Harris had the responsibility for selection of new faculty and, through coincidence, invitation, and recommendation, he brought together a very young and dynamic group of faculty members with primarily European and East Coast backgrounds.2

The first to arrive in 1951 was Bern ard Hoesli, a young Swiss architect who was educated at ETH in Zurich. Hoesli had worked with Le Corbusier as project architect for Unite d’Habitation and briefly in the studio of Fernand Leger. Hoesli brought the ideals and enthusiasm of modernism via Le Corbusier and an interest in painting (cubism in particular) and its relationship to architecture. Dean Harris gave Hoesli the crucial task of restructuring the school’s design studios in 1953.3

Colin Rowe, a British architect and already an accomplished writer and critic, arrived in 1954. His sentiments matched Hoesli’s and they set about working together to recruit new faculty members. Rowe studied at Warburg Institute under Rudolph Wittkower and was introduced to history through a Gestalt lens in which phenomenology and meaning were important components of one’s analysis of architecture.4

1954 saw the hiring of other new faculty members: John Hejduk, Robert Slutzky, and Lee Hirsche. When John Hejduk, a native New Yorker and colleague of Hoesli, became available, he was quickly recruited. John Hejduk had studied at Harvard’s Graduate School of Design. He brought a Bauhaus influenced Harvard education along with his own European experience as a Fulbright scholar in Italy.5 Slutzky and Hirsche
were both students of Joseph Albers at Yale and were recruited with the approval of Harris and Rowe who both had connections with Yale. Slutzky held a deep interest in the relationship between architecture and painting. Rowe and Slutzky began collaborating in 1955 on a series of essays later to be published in *Perspecta* (1963 and 1971) as “Transparency: Literal and Phenomenal”. Slutzky and Hirsche together melded the influence of cubist painting, Gestalt perception and psychology into the school’s first year drawing studios.

**Overview of the Texas Rangers faculty and background influences:**

It is worth noting that the diverse background and experiences of the new faculty that shaped the Texas Rangers’ curriculum: Hoesli with his Euro-modernism, painting and cubism (Le Corbusier and Leger); Rowe who held a phenomenological view of architectural history (Wittkower); Slutzky and Hirsche, introducing transparency phenomenon, (Joseph Albers, Yale); and Hejduk with his Bauhaus-like education (Harvard Graduate School of Design) and Italian experience (Fulbright scholar).

As this activity was unfolding in the 1950s there were two other broad models for architectural education. One model incorporated remnants of Beaux Arts traditions rooted in the 19th century as a stripped down classicism. The newer model looked to Harvard’s Graduate School of Design (GSD), heavily influenced by the Bauhaus. Deeply rooted in Modernism under Walter Gropius’ guidance, the Bauhaus/GSD view rejected history and emphasized functionalism and form.

**The University of Texas Curriculum, 1954**

In 1954, Hoesli and Rowe set about creating a new design curriculum for the School of Architecture. The new curriculum emphasized space rather than form. Students visualized space using phenomenology and transparency through use of both two-dimensional and three-dimensional exercises. Students re-discovered history using precedents as idea generators. Context became an important architectural consideration; regionalism was seen as a force impacting design. Design process was emphasized. Studios carefully orchestrated a number of design transformations to facilitate design solutions. Theory based lectures augmented design studios. Hoesli presented his “Form as a Result of Design Process” lecture. Both exercises and lectures would “feed the mind and imagination”. Drawing studios and color theory were instrumental in teaching students to “see”.

From this studio environment, John Hejduk devised and introduced his Nine Square Grid Exercise, first given in 1954. The exercise became very important as a means of introducing basic design as a kit of parts exercise. It was based on a composition of nine squares forming a framework for design investigations. This exercise was followed by a series of studies by Hejduk (1954-63) called the Texas Houses project, all based on a nine square grid. Hejduk further explored the nine square grid exercise as a first year study at Cooper Union. These exercises became a Museum of Modern Art exhibit titled, *The Education of an Architect: A Point of View* (documenting Cooper Union student work from 1964-71). Over the years many schools of architecture have adopted the exercise in some form and used it as a point of departure in design studios.

**Present — The University of Texas at Austin:**

The present pedagogy for the foundation years at The University of Texas at Austin still has its roots in the Texas Rangers. There are at several threads connecting the present pedagogy with the Texas Rangers legacy. First, the point, line, plane exercises used in the 1950s are in use today as well as the genesis pedagogy derived from Theo van Doesburg’s space - time construction, and Gestalt psychology. Second, the use of precedent as a means to inform design is another derivative of the Texas Rangers period. Modernism is no longer separate from history, it has become a continuation of it. Critical to this was Colin Rowe’s essay, “Mathematics of the Ideal Villa” (1947) where Palladio’s Villa Malcontente was as contemporary as Le Corbusier’s Villa Stein in his analyses. Third, context and regionalism are equally important as idea generators. In 1957 Rowe wrote an article in *Architectural Forum*, titled “Lockhart, Texas”, comparing the landscape west of Austin to that of Tuscany and southern France. Their critical assessment of nearby towns, such as Lockhart and Lampasas, became the context for studio projects. Fourth is the act of embracing art in all its components (painting, cinematography, photography) as part of the architectural dialogue. Slutzky and Hirsch merged painting and architecture in the design studios. As students of Josef Albers, they brought an added dimension to envisioning space. Transparency and Gestalt theory became important means by which architectural space was studied. Hoesli emphasized concepts of “transparency and continuous space”.

**UT/Austin Design I Studio, Fall Semester.**

Design I introduces the student to the basic elements of architecture. Employing two and three-dimensional techniques of composition, it aims, through the construction and discussion of formal studies, to build a refined language of spatial definition, organization, and occupation. The work of the semester begins with studies of two-dimensional compositions as organizational systems, which then leads to three-dimensional studies of form, space, light, and occupation. The process requires of each student, careful first-hand observation and a disciplined approach toward the act of making. Each project or exercise builds upon the previous one, requiring the students to work through a series of progressive physical studies toward the development of an architectural idea. The projects and exercises explored in Design I are intended to provide the student with foundations in the conceptual, perceptual, and tectonic skills necessary for subsequent design work in architecture/interior design. Sequentially linked projects are used to introduce a formal language of architecture, concluding with the more performative fundamentals of scale, light, and gravity. Design studios and visual communications are taught as complements, side by side. Visual communication studios reinforce the design studio by teaching students how to visualize.

**Design I Fall Semester Chart, UT/Austin**

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**UT/Austin Design II Studio Spring Semester**

The second semester’s studies are titled Analysis + Context + Production. In this semester students begin to apply an understanding of design within the context of the built environment. Point, line, and plane are now understood as column, beam or wall, for example—or place, path and threshold—and are also engaged within the context of time
and space, through climate, materiality, perception, and precedent. Students consider the implications of context within and between different scales, including the intimate scale of the detail and of the body, and the larger scales of building, landscape, and urban environments. To do this, students must first understand the various components of the built environment and the relationships between them (architectonics). This is achieved through analysis as a process of investigation by taking things apart, physically and conceptually at different scales and through different mediums. Students then practice putting things together through production, as a process of weaving – of folding – of multiple considerations through the process.

Design II Spring Semester Chart, UT/Austin

**ETH - Zurich**

Hoesli left The University of Texas at Austin in 1957 and eventually returned to Zurich. He began teaching at ETH in 1959. Later, Hoesli became chairman of the architecture program in 1969. In the 1960s the curriculum at ETH was a clear derivation of Hoesli’s Texas Rangers experience. The program continued the emphasis on space, which Hoesli referred to as “the continuity of space”. In the 1970s the studios’ focus shifted from form as means to process as form. Hoesli took upon himself the role of transmitter of modernism through the work of the modernist masters, Corbusier, Mies, Wright, and the legacy of the Texas Rangers. Speaking of his mission, Hoesli said, “I took it for granted that the what and why of (modern) architecture could, without saying, be assumed and that in my lessons the main thing was to teach how one can design.”
ETH’s first year Fall semester, as shown in the chart, is divided into three segments: Space, Program, Technology. Each segment contains four weekly exercises for a total of twelve during the semester.

The first segment, Space, is derived from Hoesli and his UT/Austin pedagogy. “Seeing” space is enabled through figure/ground phenomena exercises. What is different in the structure of the exercises is the attention given to method – the how. If Hoesli’s earlier pedagogy could be seen as a means to an established end, the current modified method is to open the exercise up to constant negotiation and redefinition. Hoesli’s focus on space has been modified, even replaced in instances, by a concentrated commitment to process. Hoesli’s original “form as means” exercises are reconstructed as “process as form”. The new design process is geared to continually inform and modify its original hypothesis and objective. Rather than a formulaic approach, this method is meant to provide disciplining that will provoke and incite. Architecture is seen as not the product of a building, material, or space, but as a practice proceeding by reasoning and argument – not intuition.13

The four exercises in the Space segment are built to follow a logical progression: the first exercise involves ideation (imagination); the second is empirical (observation);
the third is analytical (analysis of precedent); the fourth involves spatial assemblage (using the previous three for space-making).¹⁴

ETH's second segment, Program, has its origins in London's Architectural Association (AA) curriculum of the early 1970s. Particularly influential is the work of Robin Evans, Bernard Tschumi, and Rem Koolhaas.¹⁵ Michel Foucault's influence can be seen in the application of Foucault’s concepts of structuralism and power to the exercises.

Each of the four exercises in this segment involves themes of diagramming, cross programming, and circulation. If the Hoesli vision was one of geometry and visual representation, the inverse is the AA process which concentrates on a discipline of the operational or performative.¹⁶ Power as suggested by Foucault is not a thing, but is relationships. Power is productive, strategic, and present at every level of the social body. The mechanisms of power produce various types of knowledge that collate information on people's activities and existence.

ETH suggests that the Program segment indicates a shift from fascination with the representational (geometry) inherent in the Hoesli pedagogy to the Foucault notion of the performative (power). The exercises develop scenarios regarding new or alternative tools to register how social patterns could be imagined or how architectural plans might engender social and political effects.¹⁷

The third section, Technology, is based on Gottfried Semper’s teachings (1803-1879) and reinforces ETH’s technical nature. As a reformer, Semper was an originator of the concept of integrating practical and theoretical studies in a studio environment — the norm for schools of architecture. Exercises develop around the elements of structure and skin. Whereas structure and envelope were once inseparable, later to become separate elements in modern construction methods, this segment promotes a third possibility where they merge.¹⁸
ETH’s Spring semester is defined by Context and Form while the subtext contains topics from the Fall semester: Space, Program and Technology. Context pertains to urban form and Form implies architectural form. In this fashion the second semester is the implementation of lessons learned in the first semester’s exercises.

**Studio Exercise Examples: UT/Austin and ETH**

**Folding Exercise UT/Austin**

A sheet of paper 8.5 x 11 inches becomes the subject of actions described by words like fold, crease, cut and pleat. This generative process allows for transformation from two-dimensional paper that assumes three-dimensional properties, as it becomes volumes and potential spaces. The folding construct becomes a diagram, a parti through which the inhabitation can take place as an additional filter for the program. The act of folding has the potential to become structural pattern; as spatial sequence it allows for the introduction of program and context.

**Casting Exercise, UT/Austin**

After paper transformations, students are asked to explore the existing conditions of a site, both physical and experientially, with models cast of soap, adding color dye and other materials. In creating the castings students are directed to consider the following
terms: light-dark, solid-void, transparent-translucent, movement-pause, aperture-frame. With a pair of words selected as a theme, students cast a diagrammatic model in two different methods: addition and subtraction. The addition model starts from an empty condition, or void, adding elements. The subtraction model starts from a full condition, or solid, carving elements away. This process creates a number of spatial characteristics and unfolds new possibilities.

Folding Exercise, UT/Austin

Casting Exercise, UT/Austin

Folding/Casting Exercise - The Tango Project, ETH

The Tango Project is a variation of the folding and casting exercise. Students observe a tango dance performance and take note of the space between the two dancers. The negative space between is read as a solid, constantly changing with the movement of the dancers. Sketches and analyses by students are translated into forms and molds from which castings are made of the space between. The process is not meant to be linear as students are required to backtrack from previous assumptions. The exercise moves from the 2-dimensional plane to 3-dimensional framing for the casting molds. Movement implies a 4th dimension of time.19
Precendent Exercises: UT/Austin and ETH

Precendent as invention UT/Austin

In precedent analysis students are assigned canonic buildings to be examined conceptually, theoretically, tectonically, and experientially. From case studies students select a particular moment that through transformations becomes an organizational construct for the program. From the canonic case studies students select a compelling moment in the project with three-dimensional qualities. That moment may be captured at any scale. It is drawn first as an axonometric, and then built as a three-dimensional model. Through a number of iterations, a three-dimensional construct emerges that becomes the schemata through which the program and the site/context are realized. The moment is brought to the site and it becomes a parti, a filter through which the site/context and the program are tested. Instead of inventing a particular formal relationship, the students appropriate the construct/schemata, creating a parti.
Open Text Exercise – Analysis of Precedent ETH

The Open Text exercise deals with the study of a canonical precedent in architecture and the generative effect possible through analysis. The goal is to create an understanding where all architecture is seen as an open text rather than a closed work; an understanding that all architecture is constituted from other architecture. Also the exercise emphasizes the importance of patterns, structure, and syntax over symbolism. Students are asked to suggest transformations of a plan in accordance with an assigned reading (in this case Rowe and Slutzky’s essay on “Transparency: Literal and Phenomenal”). A targeted result is the student’s realization that practice cannot be subordinated to theory.20

Open Text – Precedent Exercise, ETH

Afterword

The pedagogy of the Texas Rangers continues at both UT/Austin and ETH-Zurich. Both institutions use aspects of Hoesli’s didactic method as starting points and points of departure. Exercises are still structured to create an interactive heuristic approach to problem solving. Process is no longer a means to an established end. The heroic aspects of Hoesli’s original vision are muted. A broad synopsis of Hoesli’s vision begins with the emphasis on space rather than form in the 1950s at UT/Austin. In the 1960s, at ETH, the emphasis became the continuity of space. The 1970s saw a shift from form as means to process as form. At present (particularly at ETH), priority is given to the purposeful dematerialization of form through machinic processes. In the ETH model, process becomes disciplining — a discursive practice using reasoning and argument, not intuition. Diagramming is a significant component of the ETH process/discipline. This is both machinic and recursive in nature, branching into new alternatives. Perhaps because
of its technical nature, ETH uses a more compressed timeline than UT/Austin to permit student assimilation of the complexities of design processes.

UT/Austin still uses first semester point, line, plane to 3-D studies of form, space, light and occupation—very much in the manner of Hoesli and the Texas Rangers. ETH on the other hand, uses Hoesli’s notion of space in a smaller role in the Fall semester. UT/Austin’s Spring semester is comparable to ETH by implementing exercises in analysis, context and production. ETH (like UT/Austin) also assigns notions of Context as urban form and Form as architectural project. Differences are apparent in ETH’s considerable emphasis on technology in these early semesters, far beyond UT/Austin’s curriculum at present. Analysis of precedent occurs in both schools, although UT/Austin presents it in the second semester. Both schools emphasize this analysis as a point of manipulation to move away from the original canonic building studied.

The current state of architectural practice is specialized, fragmented by sub-disciplines, where new technology, digital tools and sustainability concerns provide a different framework for filtering design considerations. The architectural quest now, both at The University of Texas and ETH, concerns space viewed from multiple points simultaneously in new materials and digital settings. The proliferation of digital tools and new material possibilities are adding a new dimension to how space is conceived. This fragmentation may provoke a desire to return to a more general unified theory of space, more in accordance with Hoesli’s initial pedagogy.

Despite these current factors and influences, the study of the nature of space remains a central focus of the foundations years in an architect’s education. The basic exercises, derived from the Texas Rangers, though over 50 years old, are still relevant as pedagogy.
Endnotes


3 Caragonne, 7.

4 Ibid, 8.

5 Germany, 143.

6 Caragonne, 11.

7 Ibid, 154-173.

8 Ibid, 88-89.


10 Ibid, 249-254.

11 Ibid, 164-173.


14 Ibid, 15.

15 Ibid, 16.

16 Ibid.

17 Ibid, 16-17.

18 Ibid, 18.

19 Angelil, 53.

20 Somol, 15.