



Christopher Lobas Registered Architect and Teacher

Licensed Architect: NCARB, TX, FL, NY, CO, OH, UT, LEED AP

ARCHITECTURAL DESIGN, HISTORY, AND THEORY

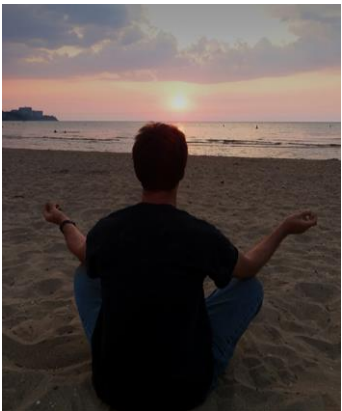
TEACHING PHILOSOPHY QUESTION:

What is your current perception of architecture, the larger cultural environment (place), and how should education best respond / lead?

“What separates us from the animals?” is the question asked most often when we want to better understand our humanity. “What separates us from our machines?” is the next big question.



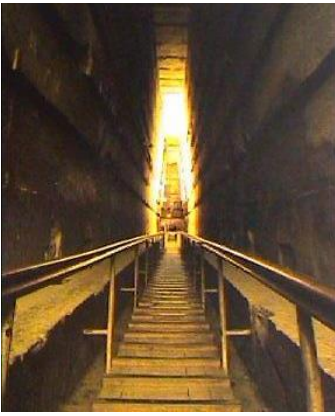
What has happened lately is that through our business ventures, our analytical techniques, our methods of communication, we have become nearly surgically bound to our silicon. A laptop or tablet or smart phone won't help you feel and describe the quality of light on the stucco of the south face of your building at dusk. It won't lift your legs to climb 135 stairs to the top of an ancient earthwork hill to see the path of the Rocky River below. It won't compose any poetry. Architecture wed to the tools of the office can be divorced from the experience. For some firms, the process of making architecture even takes exception to ever visiting the site. A personal reconnaissance and site analysis ought to be a requirement, an eleventh commandment carved in granite somewhere.



Philosophers from the Buddha to Descartes to Kant to David Gelernter have argued about the human body and mind. Gelernter, an expert in artificial intelligence, has posited the seat of consciousness in the body as a whole, rather than in a single organ or gland. Athletes speak of body memory, and for a major league pitcher or a professional golfer this rings true, and this goes unquestioned, as obvious. The same methodology applies to architecture, and learning it. These stories need to be told, that the experience of architecture in its entirety is an event of the body, a sensing of where one might be in space, and the feeling of the surroundings, more than what could ever be replicated on a screen or with any software. A real experience preempts a virtual any experience. (Me, at Lake Erie).



Here are a few such real experiences. First. I arrived at the North Rim of the Grand Canyon in my pickup, my four-wheel drive home for the entire summer. I was refreshed, having climbed Long's Peak just a few weeks before, and had rested thoroughly before leaving Colorado. The day before was spent reading, overlooking the glory of the rocks, and talking with fellow travelers. A girl working as a waitress at the lodge made me a huge granola cake to power my descent, and I started hiking downwards at 11:00 PM. My pace was brisk, at a full sprint for nearly all thirteen miles. Halfway down I nearly trampled over a group camped directly on the trail. Exhausted, I slept at the base, and awoke at dawn, in what the Havasupai called “The House of Stone and Light.” The light shimmered on the river. The ascent that morning was admittedly slower....



Second. Surprised by the dearth of supervision at Giza, I made my way solo around each major pyramid, each temple remnant, and the sphinx. The closer one gets to the Great Pyramid, the less sophisticated its crumbling stones appear. Bereft of the limestone casing, it is just a pile of rocks. But once through the unspectacularly imprecise entry, and past the first passage, the corbelled vault of the grand gallery looms powerfully above, and the stairs lead one to a low, narrow tunnel, through which one can only crawl. I stood in the dry, dimly lit king's chamber, lacking any furnishing save a damaged sarcophagus, and stayed for an hour or two, talking with other visitors, holding the sense of place in my mind's eye, for I may not visit again in this life.



Third. Archaeologists and anthropologists alike have stated "Göbekli Tepe changes everything." The findings at the site question the fundamental assumption that the agricultural revolution was a necessary precursor to the construction of monumental architecture. Yes, hunter-gatherers may have moved and shaped these massive stones. When I visited the site in central Anatolia, I was the only architect on the tour, and after the introduction, made my way to the circles. I walked around and amidst the T-shaped pillars on scaffolding, at that time sheltered by a temporary wood and tin structure, striving to get as close as possible to study the layout of the circles, and the inscriptions on each pillar, powerful animals of the hunt carved in bas relief.



Fourth. Cat Island, in The Bahamas, is named after Arthur Catt, a pirate who frequented it. The former large population of feral cats on the island is purely coincidental. The island is accessible by mail boat and two small airports. A few resorts are present on the sparsely populated island, but aside from the shoreline, the entire place alternates between dense woods or farmland. The highest point on the island, and all The Bahamas, is Mount Alvernia, and a short climb to the top reveals the legacy of Father Jerome, who built his own Hermitage and Chapel of The Holy Spirit here. The stone is local, rough, and rustic, and appears somewhat Romanesque, but more authentic in spirit than any revival. Inside Father Jerome's sparse quarters is his altar, shown here with a Bible and chalice.

What architects and their students can do for the expansion of their powers is to mine the environment more deeply, to seek out the sublime experiences in life, and to learn the new myths to communicate them. Students can benefit from this exposure, and these adventures. The fact of the matter is, the more real experiences one has, in one's own body rather than on a screen, the more one can reference these in making architecture. I believe that students who rely on a rich reservoir of personal experiences can envision creating places, not creating designs.

Making places is key. One note in passing: Creating designs in architecture isolated from real places can result in substantial gaps between architects and the consumers of their wares. Great architecture generally need not be accompanied with instruction manuals so it could be understood intellectually. It may be novel to encrypt the human genome in the façade of a new Medical Mart, but this may not be widely appreciated in a Blue-Collar industrial steel town. Architecture is experienced viscerally; it is not just an intellectual exercise for the architect. Architects best lead by designing fulfilling experiences, and expressing how individuals actually encounter them.



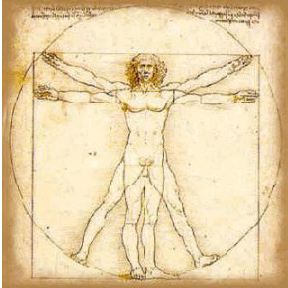
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STATEMENT OF TEACHING PHILOSOPHY

Architectural Design: Theory, Strategies, and Practical Implementation

Architectural History: An Understanding for the Practitioner



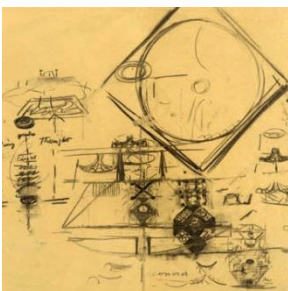
DESIGN - THEORY:

In "De Architectura," Vitruvius' dictum concerns the three principles of quality in architecture: UTILITAS (Firmness), VESTAS (Commodity), and VENUSTAS (Delight). Polish Architect Jerzy Staniszkis (Warszawa Politechnika and University of Detroit), gave an interpretation of this dictum in his 1975 publication "Chalk Talks." His is an approach to architectural design that strives for a tripart balance between:

- **Technology (for Firmness)** in the advancement of modern construction, structural techniques, and a natural approach to sustainability.
- **Sciences (for Commodity)** in the perfection of function in the design and organization of spaces with proper relation to users and the environment.
- **the Arts (for Delight)** in the development of appropriate form. Buildings indeed must be beautiful to the senses.

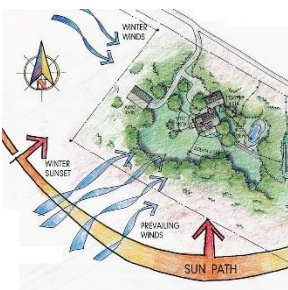


When these three elements are in harmony, truly superior designs result. I impart this thinking to my students via their rubrics so they stress each element in their designs. The result: building designs that are constructible, with logical and well-organized overall aesthetics.



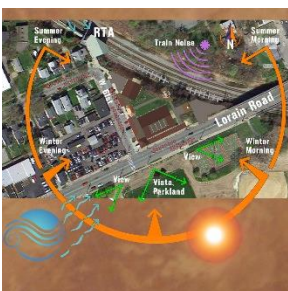
PRE-DESIGN - STRATEGIES:

Students often tend to jump into "form first" without considering design problems in full depth. This mode of "proposing an answer before first composing a question" is widespread in the profession also. This often results in imaginative design, but design that adheres to an abstract, fixed, arranged concept instead of a real, organic human need. Developing an understanding of project and site needs results in appropriate designs. I guide students through numerous steps in design, as follows:



SITE: Visiting the site is mandatory. Students learn kinesthetically from walking over the site, moving about it, observing it.

ANALYSIS: Again, this is made directly. Students produce diagrams of the site in two, three, and four dimensions (documenting the site over time). SUN, WIND, LIGHT are all documented, as well as access, the natural and man-made environs, and views. Students all the while produce images depicting the haecceity of site (its distinct nature and sense of place) and the phenomenal, sensory, and temporal experience of the site. To respond deeply, the response must be direct, personal, visceral, and from the gut.



RESEARCH: This should be individual, per student interest. First additive, open with minimal structure. Then subtractive, in discerning which information is most relevant.

PROGRAMMING: Creative programming, emphasizing character of spaces as well as size. Part of programming includes diagramming shapes and volumes. Diagrams, sketches, and loose impromptu character studies all aid "seeking the problem." We strive to make programming qualitative as well as quantitative.



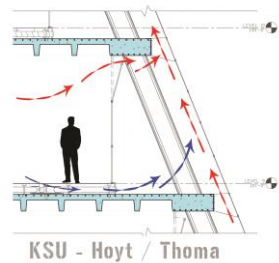
DESIGN - IMPLEMENTATION:

The basis for thoughtful design is in the application of Stanizski's tri-part approach with careful steps towards *integrated design*, as outlined in Leonard Bachman's text on Integrated Buildings: The Systems Basis of Architecture. The interdisciplinary process of integrated design calls for cooperation between architects and consultants early in the process, and stresses sustainable design and high performance buildings.



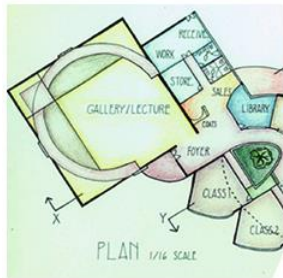
This approach is utilized at the university level, specifically for capstone projects. Some studios organize the program in the form of a competition, such as Kent State, which requires students produce full sets of design development drawings along with models and presentation boards.

Students proceed through the tri-part approach, with each step an integration into a holistic solution.



- **Technology** – Firmness is imparted via the design of appropriate building systems and structure, with applied research. Emphasis is first on proper site placement and orientation, and next on systems that simply use less energy to run. Experimental approaches are also encouraged; after all, there is no material cost for a theoretical project. Green technologies are integrated as a rule, not the exception.

- **Sciences** – Commodity is imparted via utilization of bubble diagrams first to establish relationships and placements, then block diagrams to establish orientations, sizes, and to begin strategizing volume.



- **the Arts** – Delight is ensured through a wide array of artistic activity. In a recent fall term, all students completed conceptual sketches in watercolor, and decided to compose all final presentation drawings in the same medium. Modeling three-dimensionally by hand is fruitful for both rough sketch models, and finished design models. Artistic motifs can instill proportion in the design, and can be carried throughout the multiple scales of a building, from the level of the entire site, to the broad strokes of the building form and outline, to the human scale, to the details of the building. Details should be provided at three points: Connections, Intersections, and Terminations. From these junctures, the entire building can be described.

DESIGN - PRESENTATION: Students are encouraged to use all the tools at their disposal, from the crudest charcoal sketch to the most sophisticated parametric modeler. Architects should be exposed to and versed in the full array of presentation techniques used throughout the history of their profession, all until the present day.





ARCHITECTURAL HISTORY – An Understanding for the Practitioner

WHEN ONE walks through monumental sites of the past, gathers them in with all the senses, and feels the sweat on the brow and the earth, clay, and stone trodden below, at this time one is ready to impart the experience. So my philosophy has been to set forth a straightforward course of travels, from the beginnings of architecture onwards. Then I bring these back to the classroom. I engage the students, and invite a discourse and exchange of ideas with each.



These are some crucial points worth imparting to future design practitioners:

- Peoples: The individuals and cultures responsible for the creation of the monuments.
- Planning: How the designs were conceived, communicated, drawn.
- Construction: How the monuments were erected, and the materials and methodologies used.
- Context: How do these works impact the context in the arc of history? What critical points of advancement are made in this continuum?
- Rationale: The underlying reasons for the creation of these buildings.



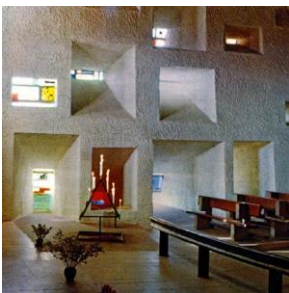
Also, of particular interest to me, and my students:

- Architects and works that illustrate the progression of our profession, from the first division of labor in Paleolithic times, to the master masons, to the current state of the profession in the modern day. M.S. Briggs and Spiro Kostof and others have each assembled great texts on this. This is an ideal starting point for divining what direction our profession will take in future years and epochs, and worth our intellectual powers to deeply consider.



- Discussions with students about the crescendos and declines of entire civilizations, as seen through the lens of architectural history. These are pivotal arguments, and points of reference when examining the value of current, contemporary architecture in light of great works of old.

Student assignments are most often kinesthetic, and involve learning local landmarks firsthand and comparing these in words and diagrams with projects of the past from the current chapters. Students grapple with ancient or old projects much more readily when they can compare some aspect with a familiar building in their neighborhood.



The most successful assignment, developed across several institutions, is an analysis report comparing a local work with one of the past through writing, drawings, and diagrams. Writings include a history of each building and a formal comparison, as well as specific points in common in plan, structure, and detailing. Diagrams are based, in part, on the book **Precedents in Architecture** by Clark and Pause.



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STATEMENT OF TEACHING GOALS:

FIRST: Who are we teaching? Individuals come to our profession by their acumen, but more crucially by their own personal **interests**. The Strong-Campbell interest survey states that certain individuals, like me, share **these interest areas** and thus feel at home in Architecture:

R – Realistic: Enjoy the outdoors; the workings of the physical, tangible, real world; concrete problems; ingenuity and mechanical ability; and common sense.

I – Investigative: Enjoy analysis, abstract reasoning, independent research and writing.

A – Artistic: Take pleasure in creative, innovative, imaginative self-expression.

First Goal: Appeal to the REAL

Architecture students must meet and embrace the **tangible**.

First, the site must exist. They must venture to the site the very first day of class, shift the sands, scan the horizon, move through every adjacent building and space, and thrust themselves into the history of the place.

As soon as possible young architects need to start tearing into physical materials from cardboard to wood to metal, and make scrap models to express their ideas. The grit of charcoal on the fingers while making large drawings with arm fully extended, these motions bespeak the pure physicality of the endeavor, and are too often forgotten when digital methods are undertaken immediately. Using a computer is crucial beyond measure, but architecture is for the human body, experienced by the body, so it must first be taught through the body.

Second Goal: Establish the MIND

Architecture students must process complexity into **unity**.

Information of the natural and human made landscape abounds, and needs to be uncovered, gathered, sifted, and ordered. All matters are researched: all those concerning the actual site, the needs of the community, the dreams of the culture, the requirements of the owner, the limitations of material economics, and the assemblies of the materials of construction.

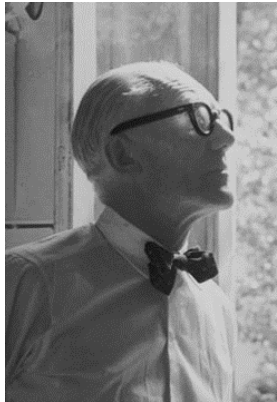
That last point is of special merit, as the integration of envelope, building services, structural system, interior spaces, and the site makes for a task that begins as abstraction, but culminates in a built physical system. As Kahn states, the Architecture begins with the unmeasurable, goes through measurable means when being designed, and in the end must be unmeasurable.

Third Goal: Free the SOUL

Architecture students can design in a spirit of adventure, freedom, and **fun**.

Ultimately, this is why we are endeared to the profession. Communicating freely, all by playing with points, lines, planes, colors, and shapes in brand new ways. Taking risks, and making mistakes, overextending our limitations, and ending up with new and unexpected poems.

Architecture is important, responsible, and serious. But its heart is pure, creative joy.





ARCHITECTURAL HISTORY:

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STATEMENT OF RESEARCH INTERESTS:

The Valuation of Architectural Services: Professions providing services that are from a technical standpoint “measurable” are highly valued. A way architecture can assert its value may be in communicating what is *most difficult to measure, especially in design aesthetics*.

This discussion begins with a look to the beginnings of architecture, to see how the profession has progressed through history, and to see how far we’ve come.



Architect Status: DEIFIED

2600 BC – First Architect - Imhotep

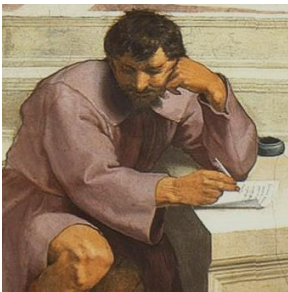
In ancient architecture, art was inextricably bound to the sacred, and there was no distinction between spiritual knowledge, technical knowledge, and aesthetics. As follows, the architectural works built during this time were repositories of knowledge of mathematics, astrology, and the natural world as well as spiritually numinous places of ritual and communication with the divine. Measurable and immeasurable were one.



Architect Status: SANCTIFIED

1100 AD – Medieval Master Builders

During this time, architects generally came up through the building trades, but their understanding of mathematics garnered the trust of secular and church leaders. The underlying geometry was imbued with both holiness and rational logic. This correct construction, with proper “ad quadratum” and “ad triangulum” formulae was bound to stand. Only master builders had this knowledge, ergo their value was assured.



Architect Status: MAGNIFIED

1300 AD – Renaissance Architects

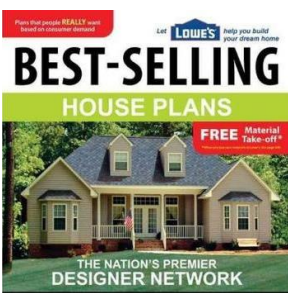
Certain key questions about the nature of the practice emerged. Was architecture an Art? A Trade? A Discipline? Should its practitioners be wise scholars? Or capable builders? Or noble theoreticians? This volatile era spawned the birth of architectural offices, construction documents, and the first professional architects. In this crucible, the design phase of construction was made relevant on its own, and architects elevated.



Architect Status: DIGNIFIED

20th Century – Modernist Architects

After the vital designs made during the eras of the Ecole des Beaux Arts and the Bauhaus, International Modernism emerged. Post-war clients seeking a new rational world may have admired the scientific underpinnings to modernist designs, their use of new materials and their stark, no-nonsense, no frills, no ornaments approach. Perhaps part of why they were so highly regarded is because so many of their design elements were measurable. But it was easy to replicate these designs superficially....



Architect Status: COMMODIFIED

21st Century – Today’s Architects

Architectural clientele often spend weeks to months poring over 101-House Magazines, seeking to learn in a short period what Architects spend their entire academic and professional lives learning. Good design is easy to replicate superficially, as discussed, but truly quality design depends on aspects difficult to measure. Of Firmness, Commodity, and Delight, the first two are readily quantified. The last one, the realm of the aesthetic, is a real quandary to convey.

COMMUNICATING GOOD DESIGN:



To state more explicitly, technical proficiency and space relationships can generally be communicated to the layman much more easily than the beauty of a design.

The aspect of “**Firmness**” is most direct. Most people understand the value of a well-established foundation that does not settle, a building envelope that keeps out inclement air elements and moisture, windows properly caulked, and a roof that doesn’t leak. Even in technical aspects, however, concepts such as embodied energy, or the utilization of straightforward green approaches to site and site orientation need to be expressed directly lest they miss the mark.



Advancing to “**Commodity**,” the layout and integration of space, you lose quite a number of individuals. In residential design, some will settle on the largest number of square feet imaginable, without thought of how the space could best be utilized. A sense of good organization and conservation of space is generally not as convincing unless accompanied by arguments of material conservation and cash savings. Applying a pattern language approach to space problems is veritable only if the concept of the pattern can be clearly communicated. Truly, in the course of designing a project, it is necessary at times to draw both the plan the client requests alongside a more efficient solution in order to make the point.

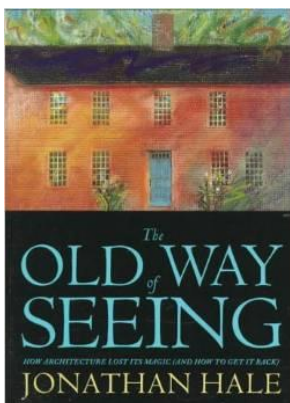


With “**Delight**,” one need not look far to discover which parts of structures in the built environment are best assembled, and which show the least amount of artistic care. The entire form is often the result of an economic equation that calculates directly into right angles and a flat roof. One-sided buildings are created in which the front façade is treated only, and the remaining sides are not addressed. Corners to these sides are often the most egregious detail in such an assembly, as they betray the nature of veneers and false fronts directly. All details, including changes in plane, or angle, or material, need to be well-considered.



Proportions are difficult, and some evolve over time, and some are cultural. Some have been prescribed by modular systems, or sacred geometries, and some are innate and cultural. But despite their genesis, all these ways of seeing are meaningful, albeit again difficult to measure. These, like many aesthetic matters, are often explained as matters of “taste” when there are clearly other forces at work, mostly governed by economic laws of least resistance.

A recent text by architect Jonathan Hale, entitled “The Old Way of Seeing,” advances the idea that architectural design went asunder sometime in the 1800s when form followed function too blandly, and architects forgot how to use proportions. His arguments are not convincing as they are densely packed, primarily subjective, and deal more with “feelings” of composition, and intuitive responses to design, all immeasurables. The surrounding context and the local vernacular would be a better place to start, because these can be better identified, explored, and verified empirically.



SO, the long way around, the research I am interested in undertaking would involve the valuation of architectural services from these three standpoints: Firmness, Commodity, and Delight. An architect brings value to a project with all three of these aspects. That said, the design aspect takes both talent and intelligence, and a real understanding of what’s good. Part of this work would of course consist of finding good examples of well-wrought design to use as exemplars. But an equal part of the project would consist in finding examples of what not to do in building design and construction. There is no shortage of these.

- Aside from the book cover to the left, all design projects and drawings on this page are by Christopher Lobas.