California State Polytechnic University, San Luis Obispo
Senior Design Thesis Prospectus • 2009 - 2010 Academic Year
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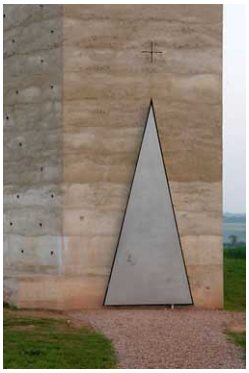
Thinking Architecture… *"I believe that architecture today needs to reflect on the tasks and possibilities which are inherently its own. Architecture is not a vehicle or a symbol for things that do not belong to its essence. In a society that celebrates the inessential, architecture can put up a resistance, counteract the waste of forms and meanings, and speak its own language. I believe that the language of architecture is not a question of a specific style. Every building is built for a specific use in a specific place and for a specific society. My buildings try to answer the questions that emerge from these simple facts as precisely and critically as they can."* — Peter Zumthor


Peter Zumthor's Brother Claus Field Chapel: The chapel is entered through a pivoted triangular lead door. The floor is poured lead. The farmers poured a layer of concrete over a teepee of timber every day for 24 days, leaving a texture similar to that of rammed earth - Zumthor called it "rammed concrete." The timber was then burnt out by colliers, using the same process as making charcoal and leaving a charred inside. An oculus at the top is open to the sky, letting in rain and light. Filtered light also enters through holes in the walls.

Architecture

For us to be able to develop a meaningful architecture we need to come to an understanding of what architecture is. Architecture has many components. The importance or hierarchy of these is often problem specific.

When we experience a great work of architecture we are not only enjoying something that provides a visual delight, but generally all of our senses are being stimulated. Great works need not be monumental; in fact some of the best are small and intimate, reacting to circumstances in such a way as to delight. The light, acoustical quality, spatial appropriateness, finishes, etc. have all been resolved with utmost care. Under careful scrutiny one often will see that the designer carried a concept without compromise from initiation of spatial definition to construction detail.

Vitruvius said it best: "*Architecture is Commodity, Firmness and Delight*."

I have found that for most students and practitioners alike, it is easier to understand commodity and firmness, and end up with a design that reflects only this understanding. Perhaps it is because they are more quantitative than qualitative. Delight on the other hand, is purely qualitative making it more difficult to truly grasp the level of success or failure. It needs to be experienced to be appreciated.


The Salk Institute – Kahn


The Alhambra, Spain – Unknown


Church of Light – T. Ando


St. Ignatious – S. Holl

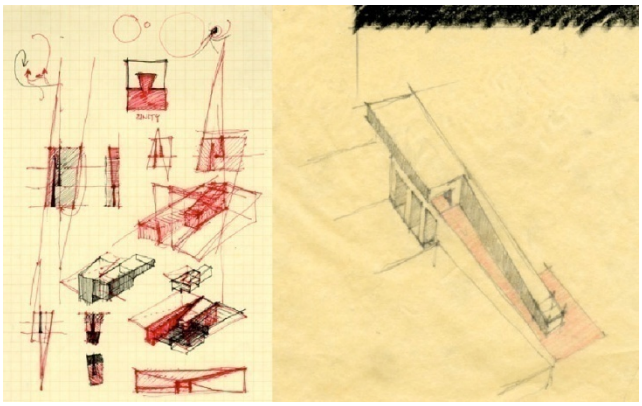
Above are examples of great success in achieving delight in a complete and holistic way.

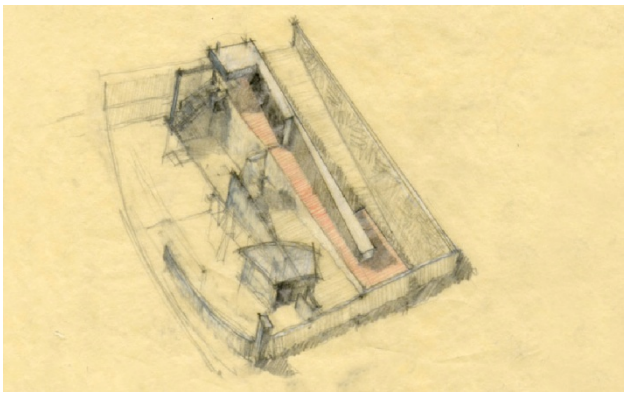
The Course

This one-year thesis course will focus on "housing urban needs." This may be literal, as in housing for people to live-in, or it may be more abstract, as in housing certain functions in a way that brings performance of those functions to the highest level. Each student will develop strategies for solving this complex question. *The premise of the studio is that the housing of people, or functions, cannot and should not be isolated. It must be woven into the fabric of the urban context it resides in.* We will be examining the social, environmental and cultural aspects of the city and its inhabitants, and focusing on how your interventions weave successfully to improve these areas.

Committing to the Creative Process

The creative process in architecture is about careful research. It is about identifying the parts, and then creating a hierarchy of importance. It is about a commitment to the process that invites experimentation in the face of possible failure. It is about rigor. It is about having strong intentions. It is about believing in oneself.





Aidlin Darling Architects – Initial concepts for the Museum of Life Commission, from initial parti to development of a concept.

The Universal Traveler, by Koberg & Bagnall, one of the foremost books on Creative Problem Solving through a definitive process, identifies the first stage in Creative Problem Solving as "Acceptance." This means identifying what you are going to bring to the project, or in this case, what you are going to bring to the whole year. This year is the culmination of your undergraduate studies in a very complex and demanding field. How do you want the finale to come out? Given all else that you have to do in your 5th year how much are you willing to commit to the design sequence?

Creativity

Architects must balance the art and the science, the creative and functional. We must be willing to explore and create the new, while being able to explain how it still fits within the rules. Architectural education provides students with a unique opportunity for experimentation - an opportunity to create architecture without all of the parameters and restrictions that are faced in the profession of architecture.

Sene: In the Catalan region of Spain, centering on Barcelona, the term "Sene" means to have your head in the clouds but your feet on the ground. Certainly this philosophy can be seen in the work of some of those we know from the region; Gaudi, Dali, Miro, Bofil and even Sert.

"When the intellectual realm, the realm of ideas, is in balance with the experiential realm, the realm of phenomena, form is animated with meaning. In this balance, architecture has both intellectual and physical intensity, with the potential to touch mind, eye, and soul." — Steven Holl, *Phenomena and Idea*

Complexity and Interconnectedness

Architecture is about housing activities. Architecture is about an understanding of the context where these activities will be housed. Architecture is about realizing the full complexities of the problem inherent in this task.

Nothing is as dangerous in architecture as dealing with separated problems. If we split life into separated problems we split the possibilities to make good building art. — Alvar Aalto

***The Journey* will include analysis and synthesis of the following precepts:**

Location

Although Architects rarely get to pick the sites for their projects, this will be one of the first tasks you will be asked to do.

As soon as a revised or new use is made on a piece of property, a ripple effect extends to the community it belongs to. Therefore we must always consider the community when making our proposals. What social, cultural, environmental and economic value does a project bring to the community?

"This small-scale Part model allowed me to make bold gestures on the site. In conjunction with the quick section sketches I was able to experiment with level of changes, materiality and the contextual relationships between the building elements and the surrounding." **– Linsey Tella, Williams Studio 08**

Nature

Nature is probably the best source of insight into problem-solving. Throughout the year, you will be looking at nature whether it is in relationship to structure, organizational hierarchy, or pattern and texture.

"Look deep, deep into nature, and then you will understand everything better." — Albert Einstein

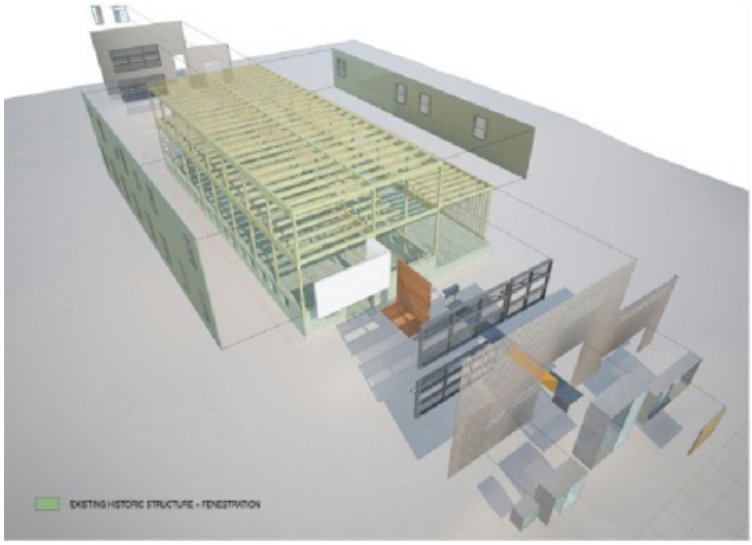
"We do not seek to imitate nature, but rather to find the principles she uses." — Buckminister Fuller

"Don't create an object, create a site when you are working… the site will not remain the same, for your design will create a new site and a new landscape." — Mikko Heikkinen

Sustainable Design

Sustainability is a word that has been tossed around and battered for the last several years. For the past 5 years (+/-) you could hardly pick-up a periodical that did not have the word sustainable or green somewhere on the cover. Architecture and the making of it consumes more fossil fuels that any other industry, including transportation. It is our responsibility to be conscientiously aware and alert to the opportunities we have to make our earth a better place. I believe that the integration of sustainable design is a natural part of the decision-making process and should never be contrived or even celebrated; it should be a matter of fact.

This mixed-use commercial building is a sustainably-designed renovation of an historic industrial structure and intended to achieve LEED GOLD status. A new performative skin of perforated metal unifies functional, perceptual, and historic criteria. This diaphanous zinc scrim creates a dynamic facade of shifting and dissolving boundaries, referencing the original building's corrugated siding during the day and unveiling its reclaimed interior at night.



Typology: (ty·pol·o·gy)

- study or analysis of classification based on types or categories

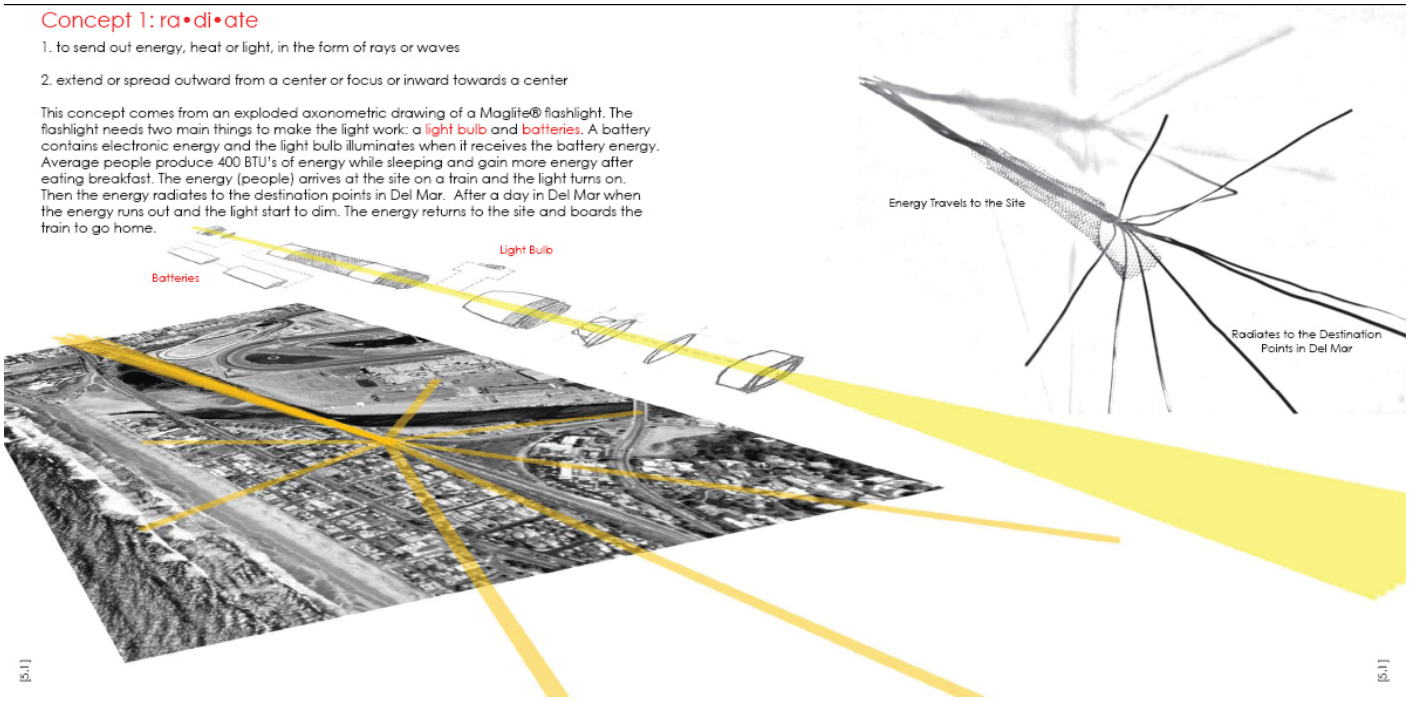
As designers we are often drawn to a specific typology of structure. Housing has demands that are different from transportation nodes, which are different from hospitals, which are different from museums. This does not mean that these functions can't or shouldn't coexist; they should. The question is how to allow their coexistence and at the same time their identity. These demands create requirements specific to use and thus space and spatial organization that in turn make demands on the structure, skin, interior, and mechanical systems resulting in different building forms.

Typology in architecture involves specific classification of characteristics common to groups of buildings including shape, organization of parts; construction, symbolic meaning, and use. However, with new means and methods of construction, as well as changes in societal and cultural systems, standard boundaries may be broken. For example, traditionally a civic building in an urban area would be classical in its design with the first floor raised from the street (one must rise up to go to the halls of justice). Today the Federal Building in San Francisco uses a completely different model. Several needs have changed in our society recently which have in turn, changed the norm of this typology; security, natural human comfort that is sustainable, and even creating building that is a good neighbor.

Concept

1. **General idea derived or inferred from specific instances or occurrences.**
2. **Something formed in the mind; a thought or notion. A scheme; a plan.**
3. **A broad abstract idea or a guiding principle, such as one that determines how a person or culture behaves, or how nature, reality, or events are perceived.**

The concept the architect brings to the problem organizes the answer in a way that is unique. It is what makes the architecture.



Context

1. **The situation** within which something exists or happens, and that can help explain it
2. **The circumstances** of events that form the environment within which something exists or takes place

"All an architect does is make spaces. It is the quiet and thoughtful arrangement of these spaces that makes houses, neighborhoods, streets and environments. Good architecture never shouts. It is like a well-mannered lady that is polite to its neighbors. The order and progression of the street is more important than the individual buildings" — Hugh Newell Jacobsen

Light

1. **Energy producing brightness:** *the energy producing a sensation of brightness that makes seeing possible*
2. **Quality of light:** *a particular kind or quality of brightness*
3. **Daylight**: *the condition of brightness created by the rays of the sun during the day*

"Architecture is the masterly, correct and magnificent play of masses brought together in light. Our eyes are made to see forms in light; light and shade reveal forms: cubes, cones, spheres cylinders, or pyramids are the great primary forms which light reveals to advantage." — Le Corbusier

Tectonics, the Skin & Bones: *Giving Form to Concept*

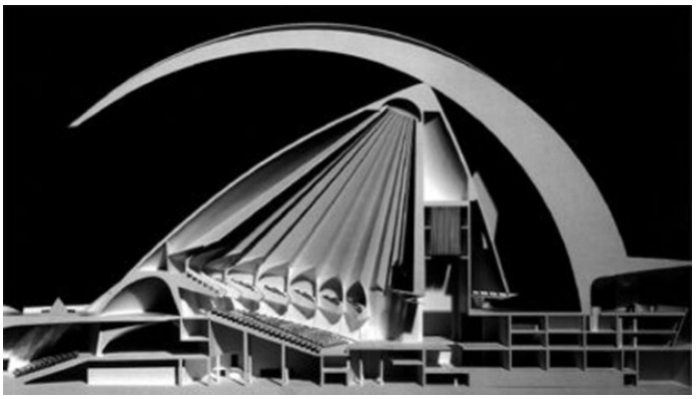
The ***skin and bones*** of all animate objects are a direct response to a specific set of phenomena that the organism must overcome through time to stay viable. Whether we are talking about a jackrabbit or an oak tree, the structure, skin, and other support systems form themselves and adapt to the circumstances that they will normally encounter. Architecture should be no different. In fact, we can and should take our cues from nature.

The structure is designed from exposed steel, because real architecture displays the materials as they should be expressed. Many buildings have layers of structure, hidden behind drywall or other envelope materials, and denies the end user any understanding of what the building is made from. I do not understand, and though I have fallen victim to it in my own designs, why one would choose to hide what makes a building a building. Kansai has taken all the tectonic elements of structure, envelope, interior, and mechanical, choosing to have them exposed in a beautiful mixture of architecture and art. The roof is made to be retractable, as Oxnard is one of the most moderate sub-tropical climates, the building literally opens up to allow a connection between the interior and exterior elements. Also, as the auditorium changes into an indoor basketball arena, this allows the interior to be exposed to the outside. The white mesh is a sun screen.

"The eloquence in the language of architecture is measured by how a building is put together. The joining of materials in a manner that retains the integrity of each part, while assigning a function compatible and advantageous to its nature, has always been a measure of 'seriousness' in architecture." — Hugh Newell Jacobsen

Structure

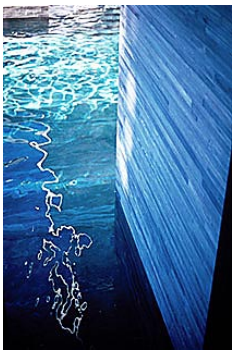
1. **Something built or erected:** *a building, bridge, framework, or other object that has been put together from many different parts*
2. **Orderly system of parts:** *a system or organization made up of interrelated parts functioning as an orderly whole*
3. **Way that parts link or function:** *the way in which the different parts of something link or work together, or the fact of being linked together*



"*In understanding the world of architecture, the language of geometry is as important as the language of structure. Both are significant sources of inspiration for me, along with the properties of materials and the world of nature."* — Santiago Calatrava

Materiality

1. **The substance used to make things**
2. **Relating to or consisting of solid physical matter**



The Pritzker jury praised Mr. Zumthor's use of materials, *"In Zumthor's skillful hands, like those of the consummate craftsman, materials from cedar shingles to sandblasted glass are used in a way that celebrates their own unique qualities, all in the service of an architecture of permanence,"* the citation said, adding, *"In paring down architecture to its barest yet most sumptuous essentials, he has reaffirmed architecture's indispensable place in a fragile world."*

The Journey

Collaboration

Architectural practice is a collaboration among many people; different experts, clients, advisory groups, stakeholders, etc. In this course there will be a strong emphasis on performing as a group. You all have interests and expertise that you can bring to the group. In turn, you all have needs that others can help you with. The studio is collaborative. I am the organizer but you are all the participants. There are many exercises and activities that require full participation. There is no room for non-participants.

"I am convinced that a more embracive and ultimately more effective way to nurture individuality is the establishment of design studios that operate, paradoxically, on the basis of collaboration. I am not thinking of the sort of corporate collaboration where everyone's effort is blended anonymously into one result, but, rather, a type of collaboration where each individual work is still clearly legible within the collaborative whole, even while contributing to a collective effort, a common end result." - Lebbus Woods

Dialogue

1. **Formal discussion:** *a formal discussion or negotiation, especially between opposing*
2. **Conversation:** *talk of any kind between two or more people*

During the year, students will be expected to initiate and participate in both formal and informal architectural conversations.

Field Trips

Throughout the year, there will be class fieldtrips to the larger urban areas in California, in particular Los Angeles, San Francisco, and San Diego. Generally a longer trip to another urban area in the U.S. (i.e., NYC, Chicago, or Seattle) is also encouraged. The intent of the field trip will be to visit important architectural sites and interesting architectural offices.

Visiting Lloyd Russel's studio/house, San Diego

Chicago Field Trip Winter '09

LA Arts School

Journaling

Each student will keep a journal of his/her journey throughout the year. The class will spend time together working on sketching and note-taking techniques. We will explore sketchbooks of famous architects, writer and artists.

Site Sketches by Sarah Louie 2008

Barry L. Williams
Practicing Architect, 5th year architecture professor, builder