



# In Spite of Pragmatics: The Pursuit of Both/And for Integrated Architectural Solutions

 Hans C. Herrmann, AIA, NCARB, LEED Green Assoc.  
Mississippi State University, School of Architecture

 Jacob A. Gines, AAIA  
Mississippi State University, School of Architecture

## Abstract

Architectural design studios that are tasked with the responsibility of addressing and demonstrating NAAB criteria for Integrated Architectural Solutions (IAS, formerly Comprehensive Design) can, by their very nature, become venues for promoting strict pragmatism. By its very definition pragmatism is primarily concerned with *relating to matters of fact or practical affairs often to the exclusion of intellectual or artistic endeavors* - thus setting up a preferential condition by which project proposals may be evaluated. Pursuits to such an end, although perhaps expressing a certain level of competency and technocratic ability, more often than not fall short of higher architectural aims. The challenge being that good/great design is difficult to define through a set of predetermined instructions, formalized processes, or applied systems. For example, utilizing a highly-sophisticated filtration and distribution system for capturing rainwater to be used in gray-water systems throughout a project does not automatically define the project as exceptional. On the contrary, the pursuit of the exceptional is one that is extremely difficult to define because it is often unspoken. For the Indian architect Balkrishna Doshi the architectural endeavor is:

*a search for the unknown which (is) not known, neither do I know how it will manifest. It begins somewhere, it ends somewhere, and in that process, I grow and the work grows. And we both grow*

*together.*<sup>1</sup>

Because of its elusiveness, the true value of a proposal is often only revealed at a much later time and in unexpected ways.

## Thesis

This paper aims to address the topic of achieving the condition of *Both/And* (technocrat/visionary) within a design studio attempting to meet the expectation of NAAB's Integrated Architectural Solutions. As a point of special focus, the paradox of achieving an Integrated Design (i.e. achieving *Both/And*) through a prescribed systematic reconciliation of contingent parameters will be interrogated. Our findings suggest that the realization of a truly integrated design is actually not through the accounting of every parameter of full integration but rather the ability for students to maintain the *And* component of any great work of design through a method of acknowledgement and accounting. In essence the architecture emerges/endures in spite of a perceived limiting host of contingencies. We argue an Integrated Design is fully manifest only when all contingencies are addressed and none require direct accounting for when the design is presented and critiqued. This position, while perhaps clear to practiced architects and educators may prove difficult to convey to the novice student. Peter Zumthor touched on this issue when he suggests:

*First of all, we [in speaking with students] must explain that the person standing in front of them is not someone who asks questions whose answers he already knows. Practicing architecture is asking oneself questions, finding one's own answers with the help of the teacher, whittling down, find solutions. Over and over again. The strength of a good design lies in ourselves and in our ability to perceive the world with both emotion and reason.<sup>2</sup>*

As such, the challenge of this work is to outline how one may mentor/coach/instruct/guide in order to ensure that the result of an integrative process/project is not a reckoning but rather an autodidactic undertaking that results in the acknowledgement of parts contingent to the whole and valuable to only that self-defined situational context. (Fig. 1)

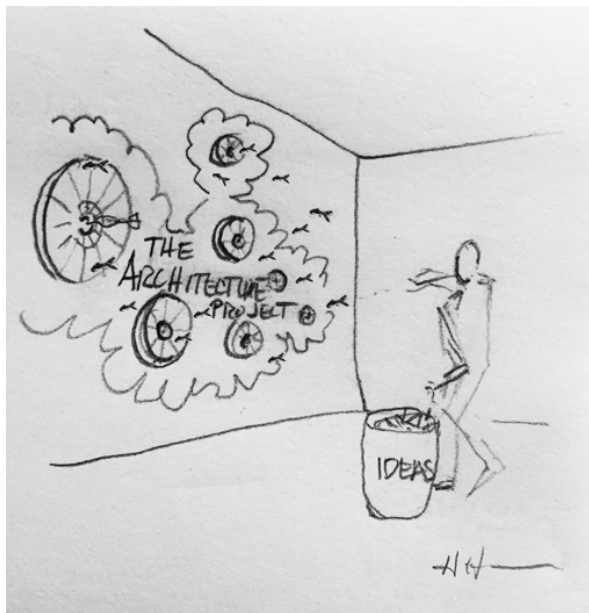


Figure 1: Types: Program(s), Setting(s), Material(s)

Integration is fundamentally an act of incorporation to the extent that individual elements no longer may be isolated as discrete, self-deterministic components within the larger whole. As the architect designs she or he must account for, and integrate environmental systems and

materials as their work, not as a part of their work. The buildings we strive to have students develop are made of these practical elements and not in spite of them. They are the ingredients used to witness and appreciate light, shadow, air, weight, tension, or escape. (Figs. 2,3,4) It is our contention that the atmosphere, experience, and memory of a work of architecture is manifest through neither technocrat or visionary means alone, it is the meaningful blend that forms a lasting work.

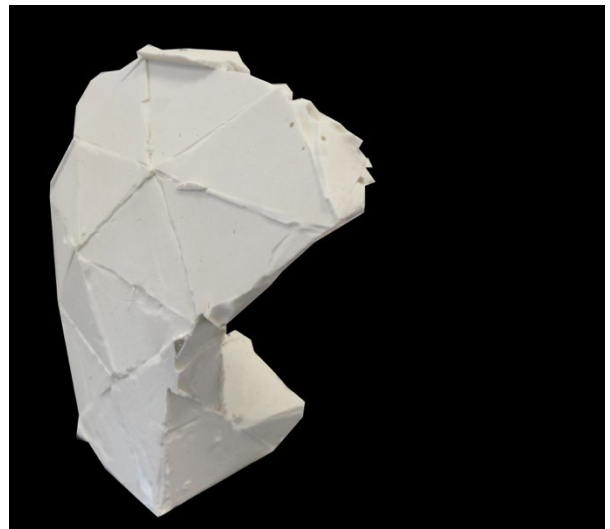


Figure 2: *Models in plaster that talk back*, by Ria Bennet

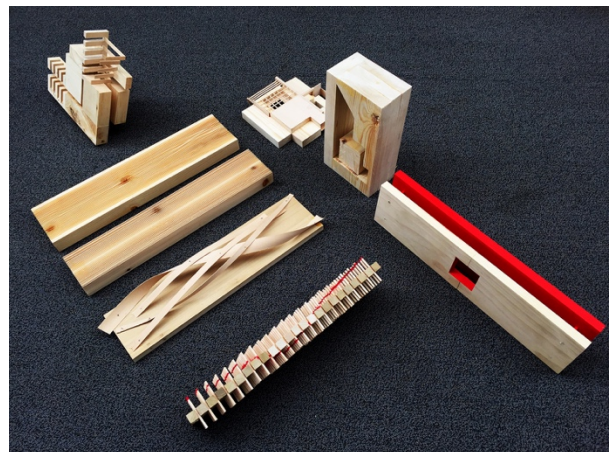


Figure 3: *Models of wood that talk back*, by various 4<sup>th</sup> year IAS studio students

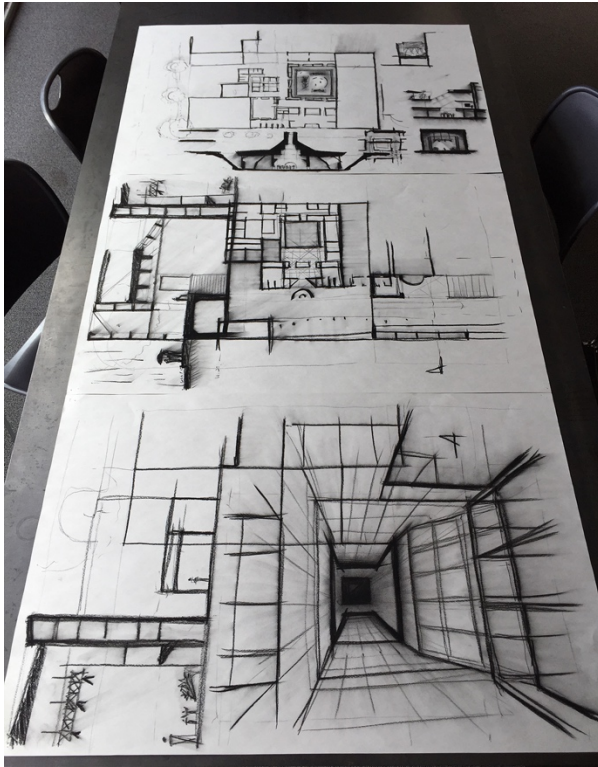


Figure 4: *Drawings that talk back*, by Robert Warlick

In our teaching, the *types* of topics and parameters we require students to consider are used to develop an appreciation of the value of integrated design thinking and not necessarily design specification. To initiate the novice student to integrated thinking one must consider carefully the potential result a program and project type may yield. Framing the context of the project, and critically defining the boundaries and limits, is essential to the student's probability of finishing the work with a level of completion and sophistication that is formative, productive, and above all, self-satisfying. We believe for the NAAB IAS to be a meaningful metric; the student must internalize the process to the extent that they value the result enough to willingly and independently repeat the process. To reference Peter Zumthor once more in his consideration of *Teaching Architecture, Learning Architecture*, we also insist that students design with materials at the forefront. As Zumthor suggests:

*All design work starts from the premise of this physical, objective, sensuousness of architecture, of its materials. To experience architecture in a concrete way means to touch, see, hear, and smell it. To discover and consciously work with these qualities-.*<sup>3</sup>

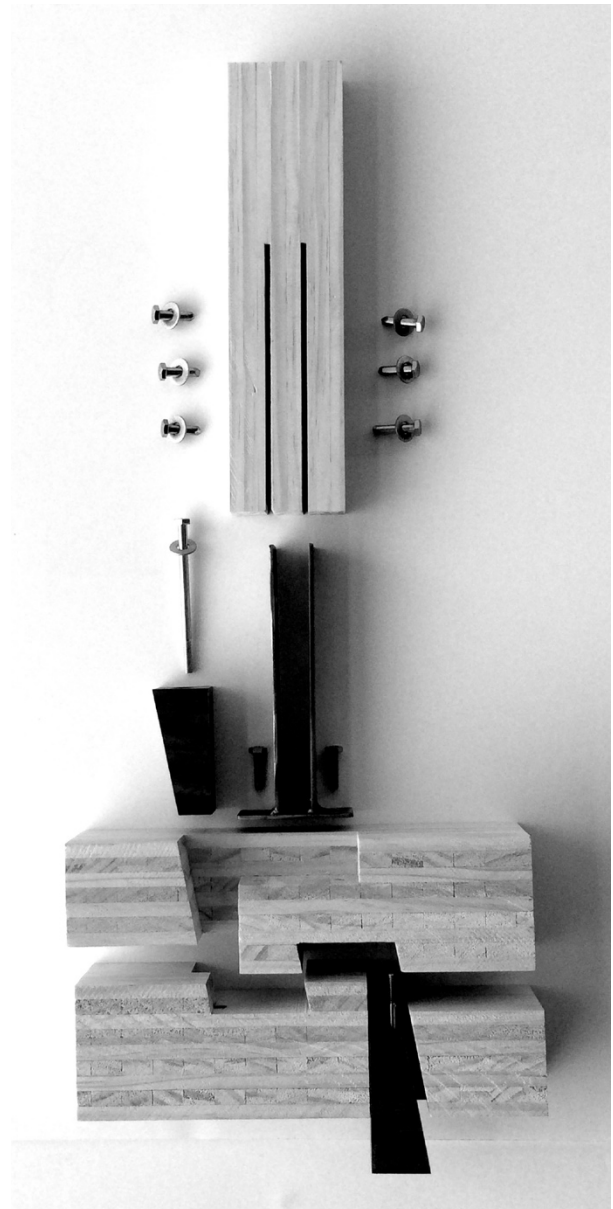


Figure 5: CLT column and floor assembly detail model, by Kirby Lockard

As a means of forcing the beginning, seemingly a necessity in the education of many students, a material

type is determined by the faculty at the offset. In some instances, concrete, sometimes brick, steel or as we are currently requiring, cross-laminated timber (CLT) serves as a jumping off point for students to begin learning the potential of a material. With that, a dialogue may be opened about the value, intent, appropriateness of that materials in the project. As the work progresses exception may be made but only if documentation is put forth as to why a material is insufficient. In this way students (and the School) acknowledge and account for one topic area within the cloud of topics that form the IAS learning outcome. (Fig. 5)

### Loose Lines & Hard Lines

With the understanding that students come to decisions based on pragmatic and visionary logics, often with a bias toward one or the other, pedagogical preparations are made to ensure that neither position be allowed to form the sole focus of the student's work. Over the past several years, students in our studio have been asked to respond to various questions about the building from both a practical and visionary point of view. Additionally, each project was required to be develop through a system of what we termed *catalyst inquiries*. Moving week to week, a critical issue would form the weeks' focus, i.e. Building Foundation, Site Response, Envelope, Active Systems, etc. Students were prompted to explore the theoretical implications of the issue and how that issue might be made manifest in physical terms. For instance, how might the building be a landscape? In this question, we explore what that might mean, why one may desire such an aesthetic, performative potential, spatial experience and so forth. The inquiries were fueled by required acts of analogue-based making - models, drawings, sketches, paintings, drafted works, sculpture, casts, etc. All of which had their place while contributing to the ultimate goal of the work and the students continued exposure to various procedural means. By requiring an artifact of the students thinking/consideration of the issue, the issue became known. As is clear, knowing something may be

done through many means but knowing a thing by making the thing, or trying to make the thing, allows for a feedback loop to form. (Fig. 6)

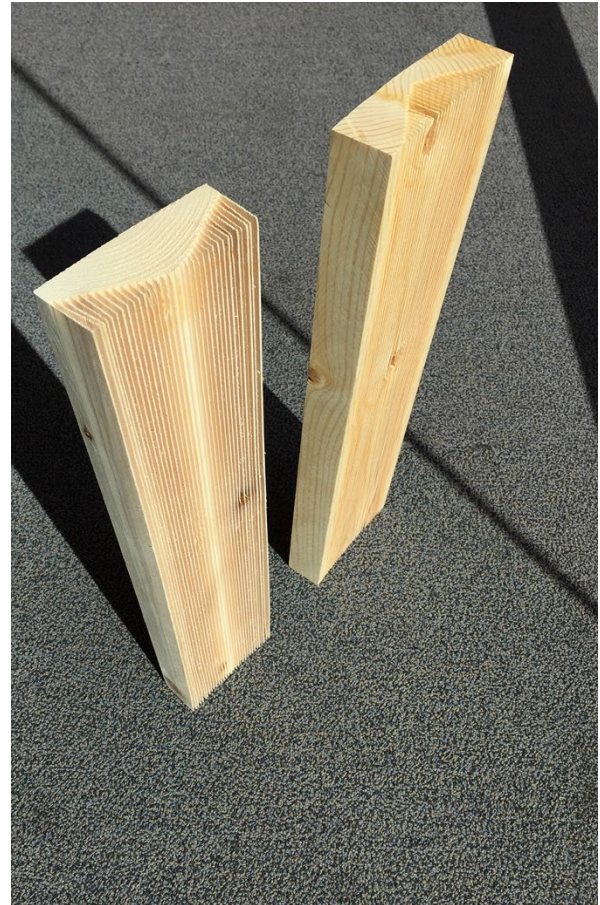


Figure 6: *Models of wood that talk back*, by Robert Warlick

This method of knowledge generation is not unlike that of numerous architects including Allied Works Architecture. In a 2016 interview for Co.Design regarding the exhibition titled "Case Work", which explored the design methodology of Allied Works Architecture, firm principal Brad Cloepfil explained the value of this form of design production/thinking as such:

*What I like and what I believe about those sketches and models is that they're distillations of ideas,"*

*“They could become art installations, or they could become buildings. They’re sort of hybrid pieces in the world of visual ideas before they become buildings—tools to understand the possibility of architecture, but things in and of themselves.”<sup>4</sup>*

In our studio, the process was repeated again and again as a way of testing what each of the topics the faculty selected as *central to achieving an integrated project*, meant to the student’s way of understanding their complete project, or what Ove N. Arup might have referred to as the *Total Architecture*. Arup, a legend in the field of concrete design and structural engineering, defines a *Total Architecture* as - the comprehensive integration of all processes associated with the completion of a building project. While Arup was focused on engineering, his ideas about design thinking resonate across multiple fields, particularly as we see an increased degree of collaborative design and Integrated Project Delivery in professional practice. Arup shared his beliefs about the importance of inclusive design widely, most clearly articulating his concept in 1970 in what is now referred to as his *Key Speech*.

*In our work as, structural engineers we... have to satisfy the criteria for a sound, lasting and economical structure. We add to that the claim that it should be pleasing aesthetically, for without that quality it doesn’t really give satisfaction to us or to others... We are led to seek overall quality, fitness for purpose, as well as satisfying or significant forms and economy of construction... We are then led to the ideal of ‘Total Architecture.’ ...This means expanding our field of activity into adjoining fields - architecture, planning, ground engineering, environmental engineering, computer programming, etc. ...The term ‘Total Architecture’ implies that all relevant design decisions have been considered together and have been integrated into a whole by a well-organized team empowered to fix priorities.”<sup>5</sup>*

Through this lens, the students were guided toward an understanding that while they cannot singularly know all there is to be known, they know enough to understand the potential value of each topic they were directed to consider. While some *catalyst inquires* became central in the students’ project others became faded but were nonetheless present and accounted for in the final project. (Fig. 7)

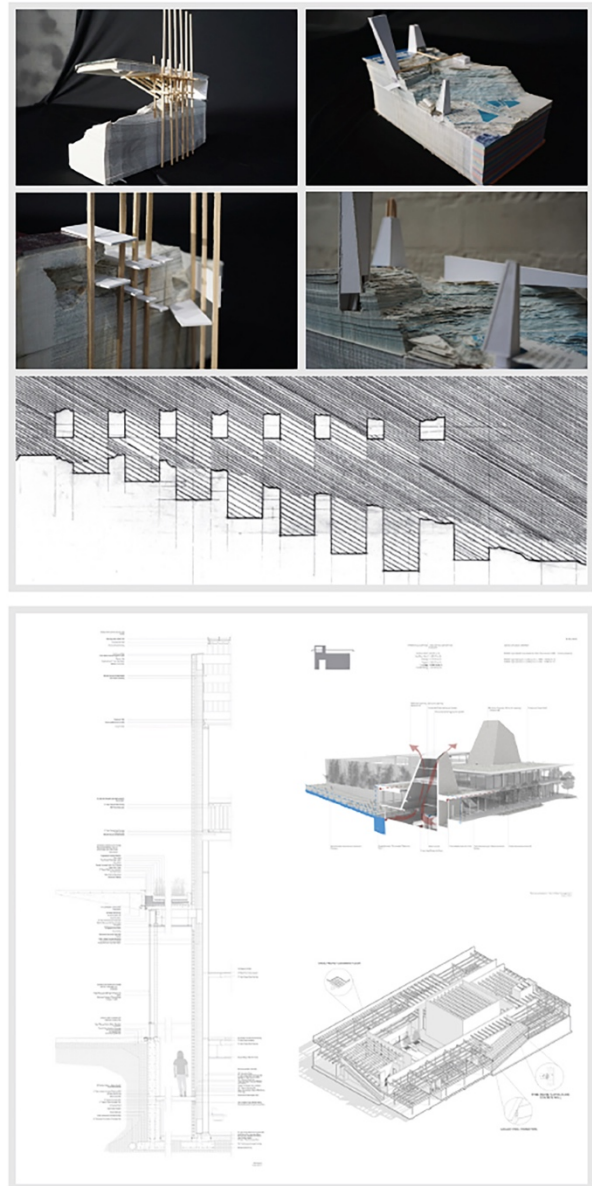


Figure 7: *VISIONARY* – Sample of Creative Process (abstraction, model making, speculation) *TECHNOCRAT* – Sample of Technical Documentation (envelope, materials, systems, structure) in a 4<sup>th</sup> year Integrated Design

Solutions Studio. By West Pierce and Ashton Aime

This emergent hierarchy rendered an understanding about the various topics that made it possible to discuss those topics as Both/And. While some leaned more to one side or the other they all presented as having both visionary and pragmatic potentials. The deliberate casting of either or both potentials became the point of critique as opposed to a literal accounting of the topic's inclusion regardless of the depth of consideration and integration.

### Finding Focus

The goal of this pedagogical exercise was not to drive focus but rather to find focus within the field of latent topics any work of design will inevitable intersect. By placing topics before the students and asking them to consider each from two points of view the question of who's priorities are we addressing becomes a little less predictable. As educators we have the advantage of experience. We also have the knowledge that experience is not something easily conveyed. The importance of trying for the sake of deciding is the purpose of this work. With the trying underway students inherently gravitated toward various topics as places of comfort and delight. By creating a field of opportunity, we hoped to see students congregate and embrace certain topics moving them from hurdles to be bounded to productive self-imposed obstructions that serve as guides to be sought after in the definition of their *Total Architecture* project. The variety of potential points of view became a powerful force in motivating the students. As is typical, the desire to be different drives many of the exceptional students. The pedagogy of the studio appreciates and celebrates the differences of student approaches and priorities when selecting from a field of options that all fall within the realm of "necessary issues" in a comprehensive project. Rather than far flung theoretical constructs or issues of material, planning, social engineering that often collect

the wandering students' eye, the topics remained central to the task of developing a holistic architectural project.

**Elephant for Breakfast, Lunch and Dinner:** Notes on delivering the project

We all know the reply to the question; *How do you eat and Elephant?* Or so we think we do, the value and necessity of pacing the novice student should not be underestimated in the pursuit of an integrated architectural solutions focused studio. Through experience we have come to understand how critical our task is as educators to guide, and when necessary require, students to address multiple issues in an effort to drive forward the total project. We posit the claim that a significant risk exists in the under-directed first attempt at an integrated project. The risk is one of a *drifting course* being adopted by the student wherein the work requires a level of self-direction that they are unprepared/unable to manage. In such a scenario, the student becomes lost and often gravitates toward "busy work" which is easily defined and discrete in nature. This scenario presents the risk of student work resulting in the antithesis of what we strive to achieve, a project in which topics of comprehensive design are plugged into, attached, overlaid and shoehorned into a schematic building form. We cannot claim this risk to be universally apparent however we do note a consistent emergence of this outcome when the pedagogy allows for too much uncoached time.

The key difference in our approach over the years has been to move away from assignments that result in a particular aesthetic language, material exploration, spatial development, etc. Instead we now work to facilitate a variety of considerations be made in an effort to be inclusive and thoughtful. The requirement to bring catalyst inquiries to a legible degree of completion seems to drive the students' appreciation of depth in design development. Without the paced delivery we find students are likely to wait and eventually fall back to a

position of shallow and superficial topical application. Waiting to start and restarting does little to develop depth thus we prefer complete missteps over incomplete ideas. 'Talk is cheap' and 'the work is the work' hold true in this approach. Both visionary and pragmatic topics of a project require rigorous development. Until an artifact is realized, it does not exist.

### Presenting the Architecture, NOT the building:

#### Critical Reflection Aided by Documentation

*When architects talk about their buildings, what they say is often at odds with the statements of the buildings themselves. This is probably connected with the fact that they tend to talk a good deal about the rational, thought-out aspects of their work and less about the secret passion that inspires it. The design process is based on a constant interplay of feeling and reason.<sup>6</sup>*

Peter Zumthor

The intent behind presentation and documentation is of no small importance and so we seek to outline our approach to this facet of the IAS focused studio very carefully. Over many years, the issue of formatted versus unformatted presentation artifacts has churned over and over but never been resolved. In our approach we ask that students deliver their work within a square panel format of 10"x10" up to 40"x40" increasing in 10" intervals as necessary per the student's discretion. (Fig. 8)

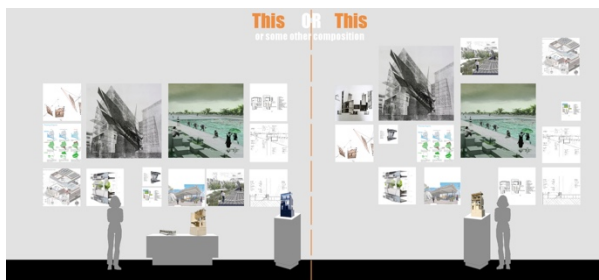


Figure 8: Panel layout strategies

The intent is for each student to assign a logic to each

artifact that relates to that artifact's overall importance to the project and that student's idiosyncratic design thinking. Small panels typically link to discrete issues of a practical sort which are easily understood and resolved in the greater project. However, this is not always the case and students are asked to make decisions for themselves about what size panel the various topic of inquiry might deserve. In so doing a visual hierarchy of importance emerges from the student's production. This approach helps also for students to see where they may be neglecting topics or focusing too much in one facet of the total project. The format is not about a limit it is about definition and delivery. It forces the question and reply about how much time was spent and how critical certain topics are in the over architectural inquiry. In a way, this exercise is an autodidactic exhibition of the students process and logic. The critique formed by this presentation parameter informs both the maker and reader providing feedback and definition.

### Conclusion:

As Integrated Design Solutions becomes a better understood student learning criterion, it may also become less infamously known for its potential to limit a student and more famously known as a means of motivating one. We have been seeking a way of replicating the experience of full-scope project delivery within a context and timeframe that will likely never allow this to happen. As a result, however, through the collective sharing of knowledge among students, faculty, institutions, we are gaining an awareness and capacity to better foster student learning and architectural creation that is not limited to a Technocratic or Visionary attitude. The *And* in our *Both/And* approach may only be achieved through the successful acknowledgement, attempt, merging, and management of both Technocratic and Visionary design thinking methodologies in service of a larger conception of the *Total Architectural Project*. We believe beginning with only one or the other often leads to finishing with only

one or the other, so why not begin with the *And* rather than the *Both*.

**Notes:**

1 Ramachandran, Premhit. *Doshi*. 2010; Hinterland Films, 2010. Vimeo.

2 Zumthor, Peter. "Teaching Architecture, Learning Architecture" " in *Thinking Architecture, Second Expanded Edition* Birkhäuser; Basel, Boston, Berlin. 2006. p 65-66.

3 Ibid., p 66.

4 Cloepfil, Brad. "How Allied Works is rebelling in the age of Vapid Architecture" Interview by Budds, Diana [www.fastcompany.com/Co-Design](http://www.fastcompany.com/Co-Design) 02.01.2006

5 Arup, Ove Nyquist. *Philosophy of Design – Essays (1942-1981)* Prestel; Munich, London, New York. 2012. P 161.

6 Zumthor, Peter. "Away of Looking at Things" " in *Thinking Architecture, Second Expanded Edition* Birkhäuser: Basel, Boston, Berlin. 2006. p 21.