

t r a n s l a t i o n

from understanding to misreading and back again

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Foibles of the reconstruction: conveyance as pedagogy

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To document, disassemble, transport, relocate, rebuild, and reinvent an 1854 Gothic Revival church would be a challenge for most anyone. For a group of 2nd Year Architectural Design students and their instructor it has proved to be an opportunity to live, laugh, and learn as a community, and to question traditional pedagogical methodologies.

Traditionally, the sophomore students at the Rural Studio, a design-build program within the School of Architecture at Auburn University, are challenged to design and construct a “charity” house for someone living below the poverty line in West Alabama. These projects have achieved great success, and they have been a tradition that goes back to the very first projects as conceived by the founder, Samuel “Sambo” Mockbee. In the Fall of 2006, the Rural Studio was asked to take on a project that would expand the perceived capabilities of the 2nd year program.

The project was to document, disassemble, relocate, and rebuild an 1854 Gothic Revival church based on the designs of Richard Upjohn. Moved in 1872 to Martin’s Station, the students were to return the church back to its original home in the first capital of Alabama, Cahawaba, located 20 miles away from its current site.

The challenge would have been significant enough with one team of students completing the entire process. However, the plan was to have the first group of students begin the disassembly and documentation during the Fall of 2006. This set of instructions and the initial collection of precisely drawn, labeled, and removed pieces would then be given to a different group of second year students the following Spring 2007 semester to finish the disassembly of the structure, and to reassemble and reinterpret the original building at the “new” site miles away.

At the beginning of the semester, it was clear that there weren’t readily available “directions” available on how to do a project of this type, especially by students just at the beginning of their architectural design studies. So, the first project provided to the students was to create 1,001 questions that needed to be addressed in order to complete the project. Questions ranged from “How will we label all of the thousands of pieces?” to “How do we create a budget and manage the funds?” to “Can we really do this?”. It was a great lesson for us all in understanding just how much there really was to learn from the project, and how little we currently understood.

Of course, the next step was to begin to find the answers to the questions we had identified, and as we began to fill in some of the blanks, the students were quick to realize that we needed to continue to add to our question list. They became attuned to the notion that the more you learn, the more you realize how

much you still do not know. This list became a catalyst for the next step of the project.

As the students began to self-select the issues they were most interested in, they decided to divide up into teams to understand the scope of various areas, and created “teams” to divide up and conquer the tasks at hand. Soon there were teams that were dealing with the documentation process, the deconstruction process, the budgeting and ordering of the necessary equipment and materials, the study of the best orientation of the building on the site, etc.

Of course, an additional challenge for me as an instructor was keeping the students equipped with the skills they needed to actually be able to do the tasks necessary to complete the various steps required to accomplish the project. I taught extra workshops on the weekends on the basics of computer aided design software, how to setup cost-estimating documents and macros, material assessment, site safety, etc. This element proved to be frustrating for both the students and myself as we struggled to learn about the “basics” while working at a very advanced level of pace and expectations of quality.

One of the issues that proved to be frustration for the students was the amount of work that needed to be complete before they could start to “bring the church down.” Most of the group had expected to be able to begin disassembly in the second or third week of the semester, and were naïve of the amount of preparation necessary to do the work properly. It was well into the 10th week before a single board was able to be tagged, removed and stored. It was a lesson for the students to realize the amount of work that goes into a project at the beginning of the process. Fortunately, the Fall group of students were able to create and implement the entire system that would be used in the disassembly and reassembly of the church, although they were unable to complete it by themselves.

By the beginning of the next semester, the church was approximately 20-25% disassembled and stored. The new group was able to benefit from the work of the previous group and continue the process of deconstructing the building. Again, the students divided up into various “site”, “office”, and “window restoration” teams to accomplish the remainder of the removal of the building. Although the students did relocate all of the “pieces” of the church to the new site, we found ourselves only three weeks away from the end of the semester. After much discussion, it was decided that rather than putting up a minute amount of the church that would be exposed to the elements and potentially damaged over the summer, the best use of the remaining time would be creating a very detailed set of “instructions” that could be given over to the new students in the fall.

This process involved dividing up the reassembly of the church into 34 distinct steps, with each step clearly broken down into the necessary order of construction, a list of the tagged pieces needed, and how it relates to the steps that both precede and come afterwards. In addition, every member of the church was placed in steel-strapped bundles numbered 1-34 to correspond to each step. Furthermore, these bundles were stored with a forklift in storage shelters built by

the students, and placed in the order in which they will be needed in the reconstruction phase.

Traditionally, students learn about construction through courses such as “Materials and Methods of Construction”, or more rarely, through actual hands-on building opportunities in their design studios. This project provided a means of learning about architecture and building materials and methods through a process I term “reverse architecturing” - a system of creating the design development and construction documents while dismantling an existing historic structure. This is akin to reverse engineering, a method often used in the manufacturing industries, whereby one disassembles a competitor's product to understand how it is conceived and assembled. In addition, an interesting additional reversal was the process in which the students created the construction documents. In the usual design process, construction documents are created, and the building is built according to these detailed drawings and specifications. In this project, the construction documents were created as the building was being deconstructed. An additional set of as-built drawings will be created as the building is rebuilt to record any variance from the construction drawings.

During the course of the project, a lot of questions have arisen regarding the pedagogical methods implemented. An obvious one is how appropriate was this project for beginning design students. With the success we have enjoyed so far, it is clear that the students were able to rise to the challenge and have even exceeded the expectations that were placed before them. I think that there were interesting insights derived from this project. One was the issue of how to balance the amount of oversight I provided with opportunities for student leadership and problem solving development.

With the first group, I wanted to be on the project site with the students at all times, not just to be available for consultation as needed, but to be an example by working hard myself at all times, and specifically what would be seen as the most banal work, i.e. digging, loading wheelbarrows of debris, moving scaffolding, etc. The goal was two-fold: one, to show that there was no job that was not integral to the operation, and two, to show by example that I was willing to do whatever was necessary to complete the job. I hoped this attitude would be picked up on by the students, and it was to a large degree.

Unfortunately, a side effect of spending all of this time at the site every day was that the students began to expect me to be there at all times, and would be hesitant to work if I was not there with them. As a result, I tried to adjust this a bit in the next semester with the new group. I wanted to develop more leadership and self-motivation in the group while still being available as needed. The strategy I employed was creating teams again, but with an additional requirement that each team elected a “leader” or “representative” to help organize the activities and work for each week. Every Monday morning all of the class would meet first thing in the morning, and each team leader would hand out a list of goals for the upcoming week, and an update on the progress of the previous week. This accomplished two key solutions. First, the students were responsible for deciding what to do on a day-by-day basis, and how to best distribute the

workload. This alleviated some of the pressure of the previous semester where I would have to help direct the work of each of the 17 individuals on a sometime hour by hour basis, which could be quite exhausting for the students as well as myself. Secondly, it meant that I could be treated more as a consultant than an overseer, so the students were given more room to grow. In addition, I built in one day a week that was a workday for the students, but one where I would not be present. This was a key improvement, because this created a situation where the students were forced to make decisions on their own, as well as be self-motivated, and forced them to improve their communication and conflict-resolution skills.

Overall, the project taught the students a great deal about themselves, and about the peripheral skills needed to be successful in any group project. While the students naturally learned a great deal about clients, budgets, construction, responsibility and teamwork, they learned a great deal more about each other, and more importantly their own strengths and areas for improvement. Many conversations were had about how to act decisively in the face of uncertainty, how to deal with negative attitudes, and how to deal with unexpected obstacles, from bad weather to working with real clients with real idiosyncrasies and real deadlines and budgets. Finally, it took the students from the mindset of being afraid of appearing foolish or incompetent and therefore not trying something new, and transforming them into lifelong learners who realize that they can learn anything they desire to if they just commit themselves to it fully.

As a teacher, I have realized the importance of giving the students plenty of room to both develop their leadership skills, and to occasionally make mistakes, so that they have opportunities to grow and learn from them. This independence I instilled in the students was manifest when the students began to increase the length and number of their workdays in order to accomplish the goals they had set for themselves.

Another issue for the work that we are doing is how to deal with the informality created in this studio. Typically, teachers spend 12-15 hours per week with their students in a normal architectural design studio. This project required 30-40 hours per week of studio contact time with the students. In addition, due to the isolated location of the studio location in rural west Alabama, many times much more time is spent at the same social events, restaurants, etc. typical of a town of a few hundred residents, which is the location for both where the students live and study for the term. While this informality is something that I do embrace, a question remains regarding how to still maintain the proper authority in the teacher-student relationship to promote effective learning.

Finally, a question that remains is how one can assess individual students for their contribution to the studio and the project as a whole. As teams were scattered across two counties, it was impossible for me to be able to monitor a great deal of the individual student's daily contribution. Even if I had been able to be multiple places at once, how could I assign a grade value to the various roles that needed to be completed? Like the world outside of academia, there are a lot of unglamorous jobs that need to be completed daily. Some people were naturally more comfortable operating the front loaders, etc. but that does not

mean that task is any more “Excellent” or “Good” than what may be a more “Average” task, like removing nails from 100 year old planks of cypress, or loading dumpsters with refuse, or calling to arrange the delivery of a crane.

This is in great contrast to the typical architectural design studio where all of the students are given a design project by the instructor, and are all evaluated on similar criteria, required drawings, models, etc. In addition, the typical process for students is to go through reviews with guest critics to get feedback about the work they are doing. With the St. Luke’s project, this type of immediate feedback criticism was difficult, if not impossible, to implement. There is little room for diatribes regarding how to best move and empty a wheelbarrow. Cost estimating spreadsheets aren’t typically the realm of the academic review. Perhaps it is the nature of a project like this to assess students on more of a Pass/Fail basis, because ultimately the measure of the success for the students for me is not in how the church succeeds in being built, but in how the students succeed in the years to come.