Digital Drafting

This is a scan of an early floor plan for the Whittemore. The space surrounding the actual auditorium has changed from this early vision, but it was all I had to work with short of taking a tape measure out into the building and measuring and making brand new blueprints to insert into SketchUp. It seemed to me that the auditorium was the important part anyway and that the points outside it were rather moot. I drew them in but have not raised outside walls, largely for visibility's sake. Originally, I was attempting to take measurements from this drawing and insert them into SketchUp. Unfortunately, this is an awkward space, apparently not particularly designed with the concept of rectangles strong in mind. Predictably, this proved to be difficult to try to insert into SketchUp, which is a program that I have found to be rather fond of rectangles and standard architectural choices about degrees, such as in increments of 15.

My first attempt at constructing a model of the Whittemore involved attempting to create the space from rectangles. I drew a rectangle the same width and breadth of the house and stage and laid out guide lines in an attempt to understand how the space fit together. As you can see, it doesn't much match the stage. The dotted guide lines you see were drawn with the Protractor tool, the others with the Draw Line tool, placed with help from the Tape Measure. I ended up giving up on this tactic in frustration after several restarts. This is what a SketchUp model often starts as, though – the outline of a floor, up from which you build your building, like a foundation.

After a great deal of arguing with the program, Jim and I attempted to utilize the Photo Match tool. Photo Match allows you to copy a photograph of a three dimensional space, largely by dint of drawing over it. Unfortunately, that did not come even close to working in this instance. The "Photo" was a floor plan, not three dimensional and while I attempted to draw on a the x-plane, I discovered that no such thing had happened and I didn't have anything at all useful. For one thing, changing the camera angle to Top made the photo I was trying to match disappear. I didn't take a snapshot of that incident. Instead we discovered that under the Window list there was an option called style. One can edit the style and insert a watermark, which remains visible regardless of the angle at which you view your model. As illustrated here, you can see that I simply started tracing the shapes, one line at a time; while this was not what I would call easy, due to SketchUp's inclination to help draw lines whether or not you want it, it was significantly easier than anything else I had attempted. After this point, in fact, the piece fairly flew together. After establishing that it could be drawn, I switched to the Blueprint Style for the sake of aesthetics. For the sake of visibility I raised only the back wall of the theatre and the stage. The voms I built up for clarity's sake and because I intended to build the seating up, once I had it figured out. The seats have, of course, deviated from this original drawing, but I have chosen to ignore that in the name of concentrating on other, more theatrical details such as refining the playing space. The walls were raised by use of the Push/Pull tool and doorways inserted by drawing a rectangle on the face of a wall and then deleting it. While the resultant door does not have depth unless it is drawn in, one may at least see through where one would in reality see through. Following the construction of the theatre was the insertion of Set and Lights.

My first project, after figuring out the basic drawing tools of SketchUp via interaction with the tutorials inherent in the program, was to construct a simple theatre with an eye toward ramping

up to the above project. What came of it was the Actor's Guild Theatre in West Chesterfield, where I had previously worked as lighting designer. This was an exercise in building blocks and fitting them into a room-shaped set. Whereas the Whittemore was extremely reluctant to be constructed out of rectangles, the Actor's Guild Theatre was quite willing to cooperate. The grid was significantly more difficult. I created a grid with lines and drew pipes extending upward on each intersection. From there I rotated these pipes to lay on the grid. This was an exercise in properly using the rotate tool, more than anything. The Rectangle and Push/Pull tool were the primary tools used to raise this structure. Move allowed me to insert the grid, which I had composed elsewhere in another document, made into a group, or component, and imported into the document containing the theatre.

To the right is a shot of the *Catholic School Girls* set, which was constructed largely using components imported from the SketchUp warehouse, accessible under File in SketchUp. The cones leading up to the grid are designed to indicate a dominant light source. As you can see, I had some trouble convincing them not to blot out the squares of paint on the floor. Otherwise, I felt they fairly successfully indicated the primary source and direction of illumination. Unfortunately, in this model the lights are somewhat less than a clarifying element, so I present the set sans lights:

It is a slightly simplified version, lacking chairs, the flag, and the chalkboard that existed in reality, but it is enough to display the application of components. I have hidden two of the walls to take this shot and the guide lines I drew to paint the floor with are also hidden. Once the basic mechanical skills are acquired, most pieces fall into place via simple experimentation.

Herein displayed is an example of applying texture to a room. Note that the wood all points in the same direction. I suppose if I had painted the boxes while they were all pointed the same direction and *then* rearranged them on the stage, this might not have occurred.