

Learning to Render

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In my opinion, rendering scenery in an artistically satisfying manner that still conveys information is one of the hardest things to learn in the scenic design business. Here I am going to outline what I learned from my school rendering classes, how that education actually was useful and how I apply that education in the real world.

Generally speaking, a rendering of scenery is usually in watercolor and shows the set on stage. Paintings of individual pieces of scenery are paint elevations.

I took two semesters worth of undergraduate rendering classes and technically two in grad school, although it felt like more than that in grad school because each class was divided between two teachers who taught on different days and gave different assignments. Undergrad Rendering Lessons

In my first undergraduate rendering class, we did projects based on learning basic techniques and the basics of color theory. They were generally fun projects and I learned a lot. I learned how to use masking mediums with watercolors to create foliage effect and to keep clean edges against washes and fades. I learned how to fade between colors using both wet blending techniques and layering techniques. I learned to work with the lightest colors first and darker colors later, and that background to foreground doesn't necessarily mean that you can just paint the background and add a foreground later, because watercolors are translucent, and you might not be able to hide that background later. You do need to have the entire composition in mind the whole time.

A lot of our projects were individualized in nature. We would get a broad kind of project parameter, like render a set consisting of mostly foliage, and we would get to decide exactly what that looked like, which made it even more fun as a design student even if it was the rendering technique and not the design being graded. The teacher would talk to each of us about our goals for the rendering and help us decide which steps to use and talk us through the method. It was up to us to do it, and we were graded on execution. If he felt there was a technique I needed practice on, he would guide me toward things that would cause me to use that technique.

We also did a lot of drawing and sketching exercises to simply improve the hand coordination for putting the line where your eye knows it should be. I learned that, when learning to render, draw and paint, there is no substitution for practice, and that sketching in margins in boring classes is a great way to practice.

My rendering teacher, Gary Eckhart, was an incredible teacher. He had the ability to inspire a desire for excellence and pass on bits knowledge that he wasn't necessarily covering in the class. One bit of knowledge that he passed on was that, in the days before a Xerox machine, he used to do picture related research by going to the library with a tracing pad and a sketch pad. While there he would either trace or sketch architectural elements of interest from books to refer to later when designing. He shared that he thought this research technique had greatly affected his ability to sketch architectural elements quickly and accurately from various periods, without having to reference materials every time. It gave him a better feel for the lines used in different periods of time, and how, at the very core of the line, they varied from each other. He thought this was missing in modern education. While I didn't use this knowledge immediately, I did file it in the back of my mind.

Since then, when I'm having trouble with inspiration for a design, I will take pictures of architecture from the appropriate period or with the feel that I'm wanting to create, and trace or sketch from the books. By copying these lines, my hand gets a feel for the style, and my brain gains subtle points of inspiration. Grad School and Paint Chips

Grad school rendering classes were a lot more painful. It all began with a paint chip project from hell that was half of my first rendering class. I painted 480 perfectly cut chips that completed a color wheel, an 11 step 24 color desat chart, a 10 step 24 color complimentary blend and some other stuff. They were all done with translucent watercolors, and the surface of each chip needed to be completely smooth... and the edges of the chip (you know, the thickness of the paper) also needed to be painted. The teacher was nuts and mean and really enjoyed destroying and insulting non perfect paint chips. At the end of the semester, these all had to be mounted perfectly as to the instructions with rubber cement and only rubber cement.

Venting about this project years later still feels good, but to be honest (and I say this grudgingly) this project did greatly increase my control when painting, as well as my ability to mix a color perfectly every time with minimal time commitment. These assets are especially helpful to my scenic painting skills. The charts are also very pretty, so I laminated them and keep them handy when rendering for reference.

Grad School and Copy Work

The bulk of the rest of my grad school rendering class experience involved copy projects. The teacher would give us a picture, painting, or rendering and our assignment would be to copy it exactly at 2x the original size. While I found this project mildly beneficial the first couple times, there was only so much I could learn from it, so 30 or so copy projects later, it just felt old. I learned, again, control and color mixing. I also learned how to use the grid technique and blow stuff up. These things have helped me immensely in my scenic painting abilities, but not so much in my rendering abilities. Other Grad School Rendering Education

Where I actually learned the most about rendering in grad school was my scene design class. The teacher, Daniel Boylen, approached design and much of theater from a much different angle than my undergrad had. That made him a very good teacher for me to have in this setting, as he challenged me to grow different directions than my undergraduate education had. Oddly, he was one of the rendering teachers who had required so many copy projects, and I hadn't necessarily thought he was good at teaching the rendering classes I had him for. In the scenery design class, however, I found him to be great at teaching both the design and rendering aspects.

In terms of scenery design, he forced me to think continually in terms of how light would affect objects. In rendering scenery for this class, he wanted me to think, not in terms of what the objects looked like, but in terms of what the light hitting the objects looked like. This completely revolutionized my rendering process. I was then able to put all those techniques and skills to use in a way that I found satisfying. How I Use Rendering Now

Some designers do a beautiful detailed rendering of every set they design. They often pair this with a white model, or a suggestive model, but the details of the design are in the rendering. I can work this way, but I find it frustrating because directors change their minds, and when they do, renderings must be done from scratch. If a director likes the overall design of my model, but wishes the door were in a different location, it's relatively easy to fix that on a model. Also, I've found directors understand models better than they understand renderings.

I prefer to do a very detailed model, and suggestive renderings. Because my details are communicated to the director in the model, the renderings don't need to contain every detail of every set piece. I often do what I call thumbnail rendering.

I make a series of renderings that show the different lighting effects I imagine being used on my scenery. I usually have a specific moment in mind for each scene I render. While, obviously, the lighting design is in someone else's hands, the suggestive thumbnails give the lighting designer an idea of what colors I think would look good on my finished product, what kinds of shadows I imagine my scenery casting, and what kind of variation in lighting I believe my set design can handle. They can agree or disagree with these suggestions, but it gives them a starting point that puts them on the same page as myself. If we have had different ideas of where the end product is going, the red flags go up at this point instead of during tech week. The process of doing these thumbnails also causes me to think about places the LD may want to place lights, and helps me design in such a way that masking is where it is needed, and there is space to put lights everywhere they want to go. Overall, this improves my communication level with many people on the team.