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Projecting for *Macbeth*, Theatre Software, and a Thank You to Figure53

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Abstract
In 2015, Northwestern College's Theatre Department staged William Shakespeare's *Macbeth*. Theatre faculty Drew Schmidt and student Caroline M. Trewet designed and prepared floor projections for the production. In this hybrid piece for the *Northwestern Review*, Schmidt provides an introductory primer text and then Schmidt and Trewet provide a thank you video explaining to Figure53, a company that creates theatre software, and all viewers how they utilized the program and equipment.

About the Author
Drew Schmidt earned a Master of Fine Arts degree in lighting and sound design from Illinois State University after graduating from Northwestern with majors in both theatre and computer science. He taught introductory courses in lighting and sound design at Illinois State, as well as Introduction to Sound Design at NWC while also serving as Northwestern's audiovisual technician.

Schmidt served as the sound designer for productions at the Minnesota Fringe Festival, the School House Theatre Company, Illinois State and Northwestern. He was the assistant lighting designer for the Illinois Shakespeare Festival's 2009 and 2007 seasons, and the lighting designer for plays, musicals and dance concerts at Illinois State, Northwestern, and the Orange City Tulip Festival.

Caroline M. Trewet is a graduate of Northwestern College.

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by Drew Schmidt with Caroline M. Trewet

Theatre by nature is a collaborative art. Often the artists involved have to lay down their boldest ideas at the altar of the whole. And we’re happy to do so. If we cared more about our singular expression than the overall production, if I were more concerned about my process than the audience’s experience, we would have gone into a different line of work. Our artistry lives and breathes inside the coalesced, doing what is right and best for the whole.

However…

Occasionally a show comes along where the boldest and loudest choices are the ones that serve the story. In those moments, we get to stretch our artistic muscles, explore, and experiment. Northwestern’s 2015 production of *Macbeth* was exactly that, a show begging for a visually rich landscape, one that lived in emotion rather than reality.

I’d like to share with you a video articulating our exploration and experimentation. The video was created in response to a grant we received from a company (Figure53) that creates software for the theatre. Because the primary audience is very familiar with both the art and tools of the theatre, the language leans towards the technical; for everyone else, here’s a quick primer.

**Projectors**

If you’ve gone to a movie or sat in a classroom, you’ve seen a projector. It’s a light source that displays digital content on a screen. In the theatre we’ve begun reimagining how
projectors can be used to serve our art. In *Macbeth*, instead of the projection surface being the screen at the front of the classroom, we used the floor. Instead of projecting content for a lecture, we projected videos of paints swirling together, ink dropping in water, smoke rising in the air.

![](image)

*Images that inspired the projections for the show *Macbeth*. Images from the author.*

**Lighting**

If you’ve sat in that classroom with a lecture on the screen, you know that the worst enemy of any image or photo is the sun. The light streaming in through the windows washes out any color or vibrancy. In the theatre we don’t have any windows! As a “techie” I like sitting in dark rooms turning on and off lights and playing sound effects. Of course the problem here is that those very lights that I turn on to light the actors play the same role as the sun (and actually, they’re even worse). This could create a hurdle for our art, or it could simply create a fence to help define our vision. In this production, we allowed it to do the later, inspiring us to design high contrast, deeply evocative stage pictures. Here are some images that we used as inspiration:
In the video you’ll hear us discuss the usage of “dance booms,” which are lights that come from very low angles, just a few feet off the ground (imagine standing in front of a car’s headlights in the middle of the night). This is a common technique used in dance, one that lights the line of the body of a dancer rather than the face of an actor. Because of the style of this particular production, the moments that warranted projections also called for stylized lighting. We now could light the actor without washing out our projection surface, the stage floor.
Finally, we’ll discuss software commonly utilized in our field. I want to make sure you’re familiar with the names and functions:

**QLab** is a playback control software created for live performances and environments. Using audio, video, lighting, and show control cues, you can carefully craft an experience that is repeatable from performance to performance. When we tell videos to play in a certain way and at a certain time, we know that they’ll work exactly as we expected again and again.

**After Effects** is an Adobe product used to create the content that is played in QLab. If you’ve watched any commercial that has text or graphics that move across the screen, you’ve seen the work of After Effects. If you’ve watched any movie with an explosion or magical sparks from a wand, you’ve seen the work of After Effects.
MadMapper warps video. It takes a two-dimensional, rectangular projector and wraps the content around a three-dimensional, oddly shaped surface.

These tools are prevalent outside the theatre. Disney uses similar programs in their night show “Happily Ever After” as they project on the Magic Kingdom castle.

Now please watch the video where you can better see how our ideas manifested themselves on the stage, plus see the technical side of the tools and processes we used.