

SHOOTING THEATRE, DANCE, MUSIC

Intro to photographing plays/musicals/dance/opera/concerts,
with particular focus on plays, musicals, and dance.

Chris Dzombak

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Alternative title: “SHOOTING THINGS THAT MOVE FAST IN THE DARK”

This is basically everything I know about theatre photography.

This is a difficult type of photo because there is often a lot happening on stage, it moves quickly, there are interesting composition challenges, and the lighting is a challenge. Fun!

For those who don't know me, I'm Chris.

A NOTE

A video of this talk, presented to the Michigan Daily photostaff,
is online at <https://vimeo.com/39599542>.

These slides and the accompanying notes have been tweaked
since then, but you should watch the video too.

I cover some tips and tricks in the video that I didn't write in
these notes.

GOALS

You'll be confident shooting plays, musicals, etc.

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at the end of this presentation...



FIRST, TECHNICAL STUFF

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This is kind of boring, but necessary. This applies to all the stuff we're talking about shooting today.

After, we'll move on to specific notes about shooting each subject.

COLOR AND WHITE BALANCE

You want to accurately represent what's on stage.

This is hard.

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This is hard.

- * No real “white” reference like sun or lights; all light is colored
- * lighting designers have complete control, so they can toy with your perception
- * Certain types of lights (LEDs, dichroic filters in some color-changing lights) emit very narrow color spectrum
- * that fools cameras’ WB sensors and metering, so you have to help them out
- * and these mess substantially with a scene’s perceived white balance

COLOR AND WHITE BALANCE

Some colors require you to set a warmer WB
(greens and purples, especially)



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This photo accurately reflects the color my eyes saw on stage.

Its WB is a fairly extreme 7050 K.

COLOR AND WHITE BALANCE

Some colors require you to set a cooler WB
(blues, especially, and “normal” warm colors)



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This photo is a fairly typical 3800 K

COLOR AND WHITE BALANCE

Set it manually.

Typically start at 3800K, then move up or down.

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I usually start around 3700 K, maybe 4000 K, and move around to find a good overall white balance for the scene.

If lighting/colors are changing quickly, you just have to find a decent overall setting and roll with it. Adjust in post if you have to.

If they're changing slowly, you can usually adjust as you go.

(Ask me afterward if you don't know how to manually set WB on the Daily's cameras)

You'll see fast changes during musical numbers in musicals, at concerts, and during some dance pieces.

Slow changes during most opera, some dance, and plays.

EXPOSURE

Manual exposure

Spot metering

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You need to use manual exposure.

Usually use spot metering. With “normal” metering, camera looks at the whole scene; with spot metering, it looks under the selected AF point *only*.

We’ll deal with focus and AF points later.

EXPOSURE

Expose for highlights (faces) with spot metering.

Add about 2/3 stop.

Check continually.
Adjust/guess as necessary.
Gut feelings are good.

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So you use spot metering to get a reading off a highlight. This is usually someone's face, except in some concert and dance situations.

You typically want to add maybe 1/2 or a full stop to that. It's okay if the very extremes of the highlights are overexposed, and we want to get some shadows in there.

Obviously, this is a rule of thumb. Basically, you just don't want to blow anything out very much, but you want to be close to having blown highlights.

You want to be paying attention continually, especially if the lighting is changing. You'll develop your light senses to be able to sense even small changes in lighting.

(paying constant attention applies to all settings)

After a while, you can just look and guess and get close enough. You'll be able to just go with your gut feelings.

EXPOSURE

Shutter speed: “fast enough”.

To avoid vibration, a little faster than $1/(focal\ length)$.
[so a 50mm lens requires a little faster than 1/50th second]

Faster if there’s a lot of motion.

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You need your shutter speed fast enough to avoid blurring due to vibration. The rule of thumb there is $1/focal\ length$.

You don’t need to go much faster than that. 50mm lens, 1/100th second is great.

At plays I am typically shooting 1/100–1/400.

Concerts and especially dance (and some plays and musicals, especially during musical numbers) will need faster speeds because of motion.

EXPOSURE

Aperture: probably f/2.8.

Depth of field vs. light.

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Aperture is a fight between more depth of field (which is usually good) and the amount of light.

In dark places, amount of light wins, though later we'll talk about one case where that's not true.

So 99% of the time I am shooting at 2.8. If I really need a fast shutter speed and I'm using a fast lens, *maybe* f/2.

But you don't want to lose too much depth of field.

Especially because, remember, longer lenses give you less depth of field. So you're already sacrificing that there.

EXPOSURE

Wide vs. Telephoto

Wide lenses have more depth of field (yay!)
Tele lenses have less (yay!)

Wide shots should typically be more exposed



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So in a little while we'll talk about things you might shoot with wide vs. telephoto lenses.
But since we were talking about aperture, let's note that a 24mm lens gives a ton more depth of field than a 200mm lens.
Since we'd be shooting the whole stage with a wide lens, but one person with a 200mm lens, this is a win on both ends.
And since we were talking about exposure, I will note that I usually overexpose my wide shots by 2/3 a stop or so compared to telephoto ones.

(Why? I think tele shots have much larger highlight areas, so we don't want to blow them out, but wide shots are mostly shadow, so if we lose a few pixels of highlights here or there in exchange for much more shadow detail, who cares.)

For example, the tele photo on the left here is at 1/400 second, and the wider photo is 1/250 second.
notice how we're much closer to losing highlights in the wide photo.

EXPOSURE

ISO: use whatever you need, up to...

D300: ~ 2500

D300s: ~3200

D7000: ~3200

D700: 4000+

Canon: I don't know.
5D Mk II up to 4000+

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good news: noise on modern cameras isn't that big an issue.
Set aperture to 2.8 and choose an ISO that lets you consistently
get comfortably fast shutter speeds.

EXPOSURE

Let's walk through a few photos and the white balance and exposure settings I used...

EXPOSURE



ISO 2500, f/2.8, 1/50 sec, WB 3550 K, 155 mm

EXPOSURE



ISO 2500, f/2.8, 1/320 sec, WB 3700 K, 145 mm



EXPOSURE

ISO 1600

f/2.8

1/250 sec

WB 4550 K

165 mm

WB + EXPOSURE

Finally:

WB and exposure play with each other.

Depending on white balance, you can blow out one color channel (usually red) but not the others.

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This is what is usually happening when you get dark reddish photos, but if you make them brighter they're just washed-out orange.

You need to use a cooler white balance!!! That means there'll be less red (and more blue), so the red isn't blown out any more.

next slide is an example

[PAUSE FOR QUESTIONS, and make sure everyone is clear on this]

WB + EXPOSURE



Top left: properly exposed; WB too warm

Bottom left: underexposed; WB too warm

Bottom right: properly exposed; WB correct



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I had some trouble finding a good example, but this will do.

The top left is this photo, properly exposed. But the white balance is too warm, so it has that ugly blown-out orange look.

The bottom left is the same photo, exposed so as not to blow out the reds with the same white balance. It's way too dark.

The bottom right has the same correct exposure as the top left, but with a better white balance.

SHOOT RAW

This is how I get good results.

But it takes practice!! and time!!

For Daily's fast turnaround, try and get everything right in-camera and shoot JPEG.

Otherwise, shoot RAW.

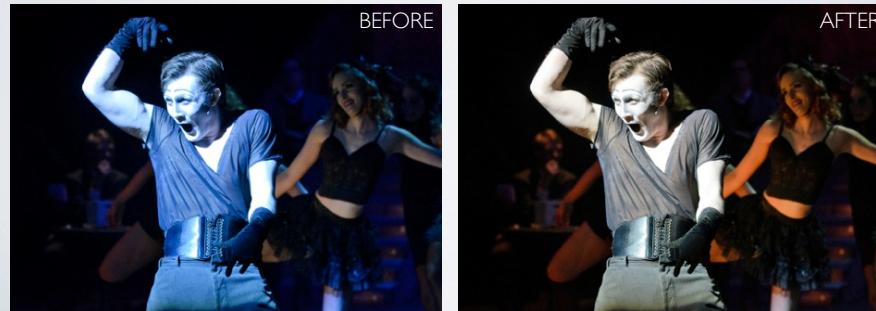
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It takes more time to process RAW photos than making minor edits to JPGs, but it's usually worth it.

And it takes practice to be good at RAW processing, but after a while you'll be able to make a huge impact on the quality of your work. It's worth the investment. And in the next few slides, I provide some tips on the most common adjustments I make.

SHOOT RAW

Adjust white balance!

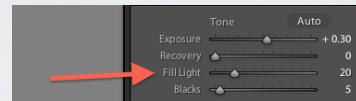


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This is also an example of white balance affecting exposure. the left, with bad white balance, is blowing out the blue channel. The right, with the same exposure but proper WB, has nothing blown out!

SHOOT RAW

Adjust fill light!

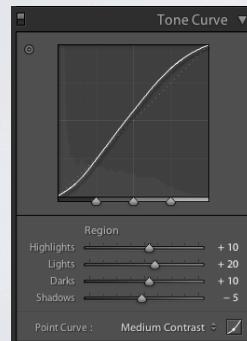


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This is my magic slider. This is 90% of my secret to this stuff. Properly exposed for highlights (very important!), dial in 10–40 fill light, and shadows magically fill in with detail.

SHOOT RAW

Adjust curves!

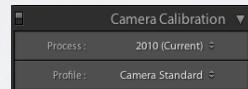


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Here, we adjust the contrast to match what our eyes saw.
We want nice bright almost-blown highlights, but the very darkest
shadows should be basically black.

SHOOT RAW

Adjust camera profiles :(
(set and forget)



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This is a sad side effect of shooting RAW. We need to tell Photoshop/Lightroom how to interpret the raw color data from the camera. Set this to Camera Standard and forget about it. Otherwise, you'll occasionally see unusual behavior in your colors.

Fun side note: when shooting RAW, the picture controls you set on camera have no effect on the image. They affect the preview shown on camera, but not the RAW image file. You get to recreate that stuff manually.

FOCUS

Focus is especially important at wide apertures.

You should do it.

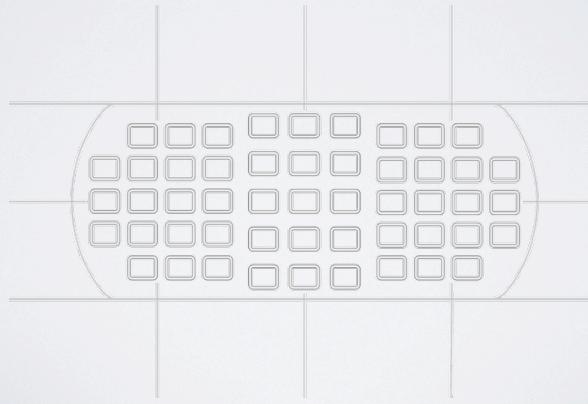
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remember that at wide apertures with long lenses you have very little depth of field

FOCUS

Move AF point around as necessary

Center AF point is the strongest



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If you want, to make life and composition easier, you should move the AF point around in the viewfinder.

This changes where you're focusing *and* where your spot metering is metering.

But of course it's not that simple. The center AF point is the strongest, which is important in low light.

So if the others aren't working well, go back to the center one.

FOCUS

Using a dedicated AF-ON button works really well.

The Daily cameras are all set like this.

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And where to focus? Let's talk about composition...



COMPOSITION

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We're going to take a side track here and talk about stuff that's not Daily specific, because you will eventually shoot something for someone else.

Who you're shooting for makes a huge difference. You will compose very different photos for different purposes.

Side note: I trust that you all have good compositional skills; I'm not going to cover the very basics here.

COMPOSITION

Scenic designer	whole stage including proscenium arch
Lighting designer	whole stage
Costume designer	whole person or two head-to-toe
Actors	focus on one person, maybe just face/upper body (or) two people interacting
Press/Promo Daily	same as actors or groups of people
Directors	some of each focus on closer photos

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- * scenic and lighting designers basically overlap, scenic designers have more of a desire to see their set in the context of the space
- * actors – basically, something good for their portfolio that shows their skill clearly
- * press/promo/daily – something compelling, which usually means closer photos

No hard rules.

This is why, if you see me shoot something, I'm carrying a body with a wide lens (28-70 or 17-35 depending on the space) and a second body with an 80-200. 90% of the time these days, I'm shooting for everyone.

COMPOSITION

Scenic & lighting designers



COMPOSITION

Costume designers



COMPOSITION

Actors



COMPOSITION

Press/Promo, Daily



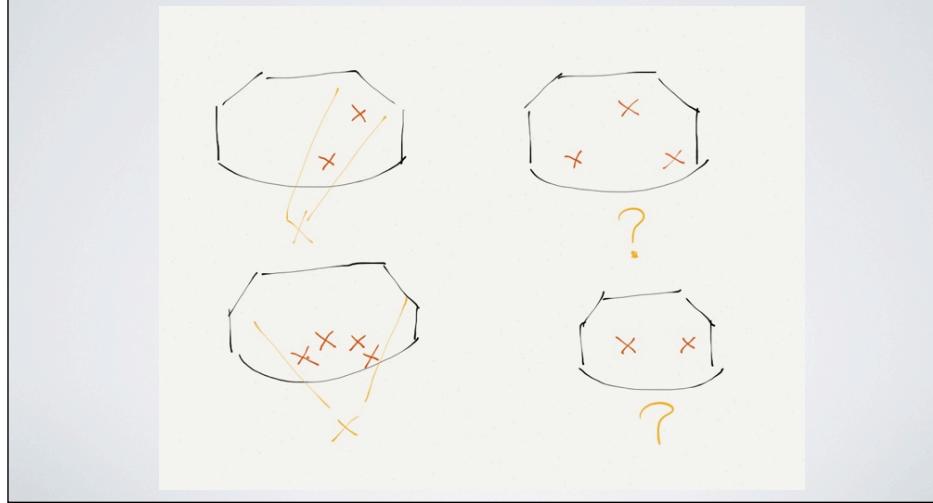
COMPOSITION

Press/Promo, Daily



COMPOSITION

Make things interesting.



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The way that directors typically stage things is great for presenting to a large audience on stage, but is not usually conducive to compelling photos shot from straight on.

A few notable exceptions: dance can usually (certainly not always) be shot from almost straight on, or a little to the sides. Big musical numbers are usually best shot from straight on, but they're really hard anyway.

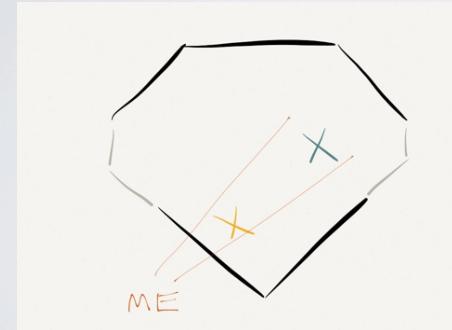
Actors don't stand right next to each other when conversing like we do in real life. That would make the stage look boring all the time. So you have to find compositions to make things look interesting.

Eventually, you'll be able to see what's going on on stage and predict where actors will move next, etc. That's really helpful.

We'll talk about moving around to find compositions later. First, let's go over some of the tools we can use...

COMPOSITION

Long lenses compress.



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We use long lenses to compress distance between two objects (people).

Often, you'll have two people (or groups of people) interacting on stage, but they're far from each other (because from a staging perspective, that makes sense & looks good). But that distance would look ridiculous in a normal or wide photo.

This is a really important tool that I use all the time.

COMPOSITION

Wide lenses exaggerate.



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Wide lenses exaggerate distance between things close to the camera and things wide away.

Most of the time, in theatre, we don't want to exaggerate distance since everything is already pretty far apart.

Conclusion: wide lenses used more rarely, more judiciously. Certainly we use them for photos of the set, etc. but not usually for much else.

You might use them in concerts more, especially in small venues, which is what this example is.

(I used a wide lens here because it was in Studio 1 and I had to in order to include everything I wanted and still maintain a good composition. I couldn't move any further away from the stage.)

COMPOSITION

Compelling poses and moments.



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(this concert photo was shot with a wide lens; the play photo was shot with a telephoto lens)

Obviously, getting photos of compelling, memorable moments is desirable.

You're looking for nice poses and emotional moments.

Use compression with long lenses and all your other compositional techniques to create a good composition. (Depending on who you're shooting for.)

It helps if you know the show (or music) or if you've seen this production before.

DANCE

There is a right time to photograph almost every movement (a leap, a pose, a turn) in dance.

Pointed fingers, toes
Spotting

And groups of dancers are especially interesting.

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Side track: let's talk about dance for a moment.

Deciding exactly when to click the shutter is more important here than in anything else.

There's a perfect moment to photograph almost every movement a dancer makes. Every pose, leap, etc has a "highest height", and if a dancer is spinning she'll be spotting the audience much of the time (so you just need to get her when the rest of her body is in line).

This takes some practice, but you'll get a feeling for it eventually. (And some things – leaps for example – are obvious.)

There are hints. (Most of my experience is with more traditional and modern dance, so take this with a grain of salt when shooting hip hop dance [for example]).

You want to photograph a dancer when her fingers or toes are pointed. That's important. Unless it's not happening with some certain choreography.

In a leap, shoot her just as she hits the top, before her hair starts going crazy because she's in freefall.

Shooting groups of dancers is particularly interesting if they're not perfect. Even if it looks like everyone is together, they might be slightly "out of sync" from each other. That means that, when you take a photo of a specific instant, you might notice some dancers' hands are pointed while others aren't. (Unless the group is perfect.) Additionally, it's often difficult to create compelling compositions of groups of dancers.

DANCE



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good things in these photos:

- * pointed fingers, toes
- * we can see her face and she's looking toward us
- * her hair is okay (better in the photo on the right)
- * excellent form in the spin on the right
- * her skirt is flowing nicely on the right

These couldn't get much better.

DANCE

BAD PHOTO



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Literally everything is wrong with this photo

- * fingers not pointed
- * her face is blocked
- * she's not facing us

Poor timing on the photographer's part (my fault).

COMPOSITION

“If you see it through the viewfinder, you missed it.”

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This is one of my favorite sayings.

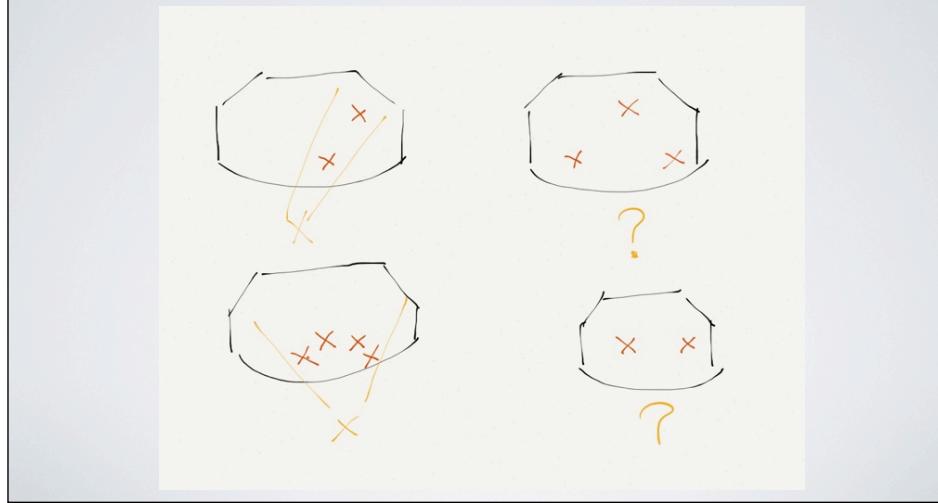
With SLRs, the light comes in the lens and is reflected off a mirror to the viewfinder, except when you’re taking a photo. The mirror flips up and lets the light go to the film, and the viewfinder blacks out for a little while.

So if you see a moment in the viewfinder, the light was not going to the film, and you missed it.

I get really excited when there’s something like a kiss on stage and I don’t see it in the viewfinder. That means it’s safely on my memory card.

COMPOSITION

Where do you shoot from?



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Move around the house as you see fit.

(We talked about exceptions like big musical numbers earlier. The final moment of any big musical number should almost always be shot from the front, pretty close to the stage.)
The challenge is for us to move around to find an interesting composition. That's hard, too, because actors are constantly moving (especially in musicals and concerts).

You want to create interesting compositions, using tools we've discussed, of compelling moments.

It helps if you know the show, have seen the production before, have worked with this director before, or have just shot a ton of this stuff before. You will be able to predict what will happen, who will move where on stage, etc. That's really helpful.

THINGS ARE HARD

example: The Who's "Tommy"



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Since I've mentioned big musical numbers so much in the last few slides, let's talk for a second.

I recently shot a production of Tommy and it was really hard.

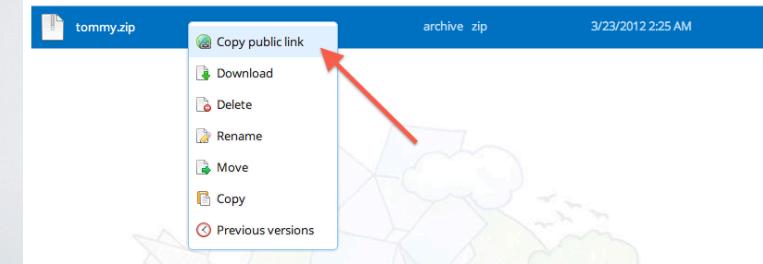
Musicals in general are hard; let's go over some reasons why.

- * they can move fast, especially Tommy.
- * You have to be constantly alert to new things happening all over the stage very quickly.
- * Especially to things leads are doing.
- * You have to shoot them with decent compositions and without running around too much.
- * Lighting is often changing quickly (so set a decent WB and just change exposure with your gut as necessary)
- * It's easy to get "tunnel vision" – be paying so much attention to shooting one thing that you don't even notice some other important thing happening
- * Big musical numbers are hard. I have no great composition tips, up until the very end.
- * Same goes dance numbers with many dancers on stage :)
- * Always be looking for signs it is time to move somewhere else for a new composition, or to pay attention to someone else who's doing something interesting.
 - * like actors reacting to something/someone

DISTRIBUTING PHOTOS

Get email addresses before you shoot

Archive photos in a .zip file
Distribute through Dropbox



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okay, we're going to move on to some more practical and useful tips I have. Just a few more slides...

If you're shooting for someone other than the Daily, you'll need to get photos to them somehow.

(You should note before you shoot who to send the photos to -- get an email address for whoever asked you to shoot and for whoever else needs the photos -- directors, etc.)

I usually add them all to an archive, then put that in my Dropbox's Public folder. You can then send out a public link to download from there.

WHO TO TALK TO

Check with whoever asked you to shoot...

What style shots do you need? (lighting designer? press?)
Have you cleared this with the director?

And when you arrive...

Make friends with any other photogs there.
Maybe make friends with the director.

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You want to make sure you know what you need to do ahead of time.

You really, really, want to make sure the director is okay with you being there. (This applies for the Daily, too – before you show up, make sure someone has cleared it with the director.)

You probably want to make friends with other photographers, and be cooperative in terms of staying out of each other's way.

(Peter Smith is the photographer who shoots all the University productions stuff, and he's a really friendly guy.)

Depending on the circumstance, you might want to introduce yourself (or have the person you're shooting for) introduce you to the director.

If you're shooting a Musket show, introduce yourself to the producers.

“WE’LL RUN THIS AGAIN”

Doesn’t mean they will.

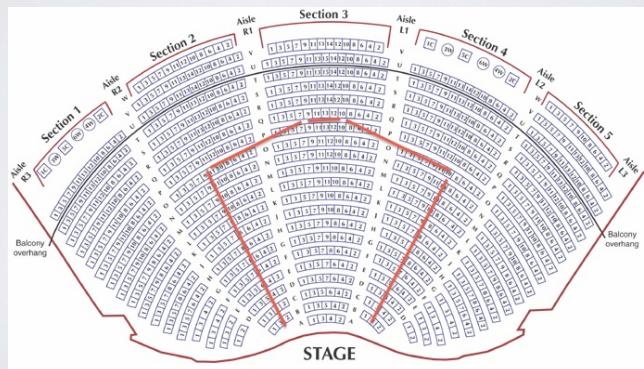
“We won’t run this again” doesn’t mean they won’t.

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Schedules change during dress rehearsals. very quickly.
So except for some rare circumstances, regardless of what they tell you, assume you have one chance to get everything right.

THE POWER CENTER

Move around the house
Usually at most halfway back
Shoot from center and aisles



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8 more slides! I have a few tips about shooting in the various theatres around campus.

The Power Center is a nice, big space where a lot of musicals happen.

Usually shoot from near center. Close to stage with wide lens for big musical numbers; further away with long lens most other times.
Shoot from the center section of seats; sometimes along the sides.

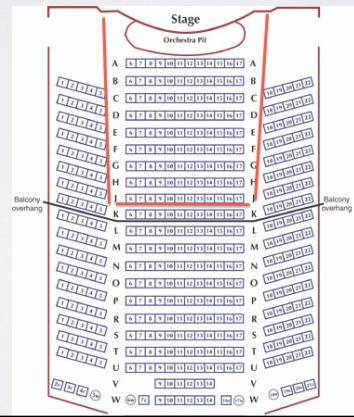
You have plenty of room to move around.

The Power Center's spotlights suck. They're some weird type of light that looks bright and white to your eye, but if you shoot ten photos under the spotlights the color and exposure will appear different in each one. Often they come out way darker or brighter than they should, and the color is often weirdly cool or green.

Best advice: shoot a lot, shoot raw, and choose the best photos and make them work after the fact.

THE MENDELSSOHN

Move around the house
No more than halfway back
Stay in center section



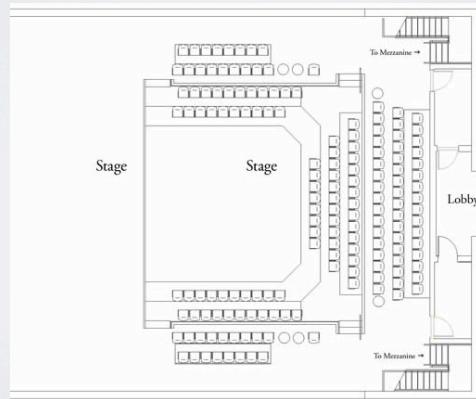
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Mendelssohn is tucked away in the League

THE ARTHUR MILLER

Can be a “thrust” stage (or traditional)

For thrust, move around lower level for telephoto shots
Go to mezzanine for wide photos



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Arthur Miller theatre is in the Walgreen Drama Center on North Campus

THE ARTHUR MILLER

"Thrust" stage configuration

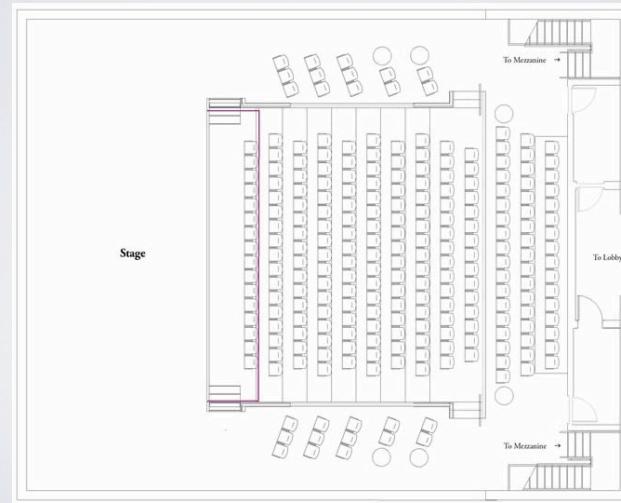


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normal stage area, plus thrust playing space, surrounded on 3 sides by seats

THE ARTHUR MILLER

Otherwise, move around lower level for all photos



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In this configuration, it becomes just like any other basic theatre (in terms of photography).

STUDIO I

This space is a challenge.

Very little room to move around in front of stage.
Steep seating means you can't move back far.
Lighting is not usually great.

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I HATE EVERYTHING.

Unfortunately, Basement Arts uses this space so you'll probably shoot there a lot.

- * you don't have much room to move in front of the seating
- * I have been known just to walk into the light on stage to shoot if I need to
- * but if you do that, be aware of what's happening. get your photo and get off stage.
- * seating is steeply angled, so you can't move more than one or two rows back before you're shooting way down at the stage
- * there are some problems with the way the space is designed that make lighting it well very hard (it's possible but very hard)



FINALLY, SOME ADVICE

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It doesn't help to be constantly comparing yourself to other photographers.

There are photogs who are better than you.

But you know your work and your skills, and you know what you need to improve.

Telling yourself at every turn that Photog X is so much better than you doesn't help anything.

Also, remember: everything is probably better than it seems.
In retrospect, it'll all be fine.

NOT EVERY FRAME
WILL BE PERFECT



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I shoot a ton of bad photos. Here are some.

Deal with it and only use the good ones.

THE END

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Questions?
Concerns?
Comments?

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Feel free to contact me for

- * critiques
- * advice
- * questions
- * shadowing

and does anyone have any questions?