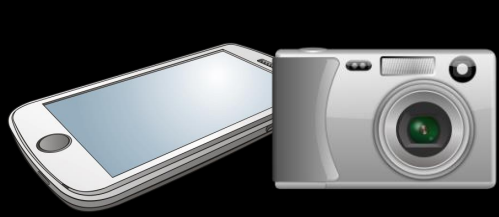


You will need



- Digital Camera
- Something to photograph
- Small, portable light
- Flat, bright sheet of something

If your batteries are low, start charging now!

Shooting Your Haunt

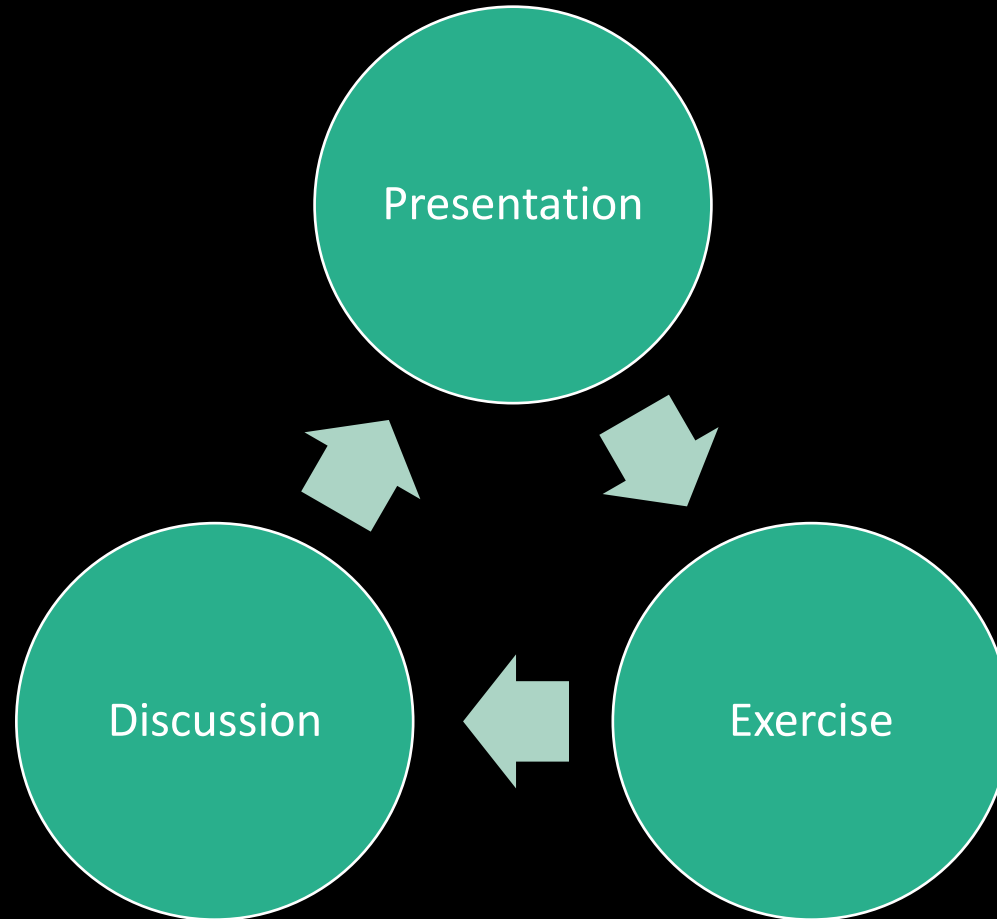
Adrian McCarthy

for NorCal Haunters Group

Updated March 2021

Originally presented January 2021

Format



Shoot Prolifically
Edit Ruthlessly

“I would have written a shorter letter, but I did not have the time.”

Blaise Pascal

Don't take a single shot



Take many shots



Take many shots



Take many shots



Take many shots



Throw away the bad ones



Throw away the bad ones



Throw away the bad ones



Choose your favorite from what's left



Choose your favorite from what's left



Edit (optional)



Edit (optional)



Show *only* your favorite



Don't rely on retouching

- There's nothing wrong with "shooping" a photo afterwards
- But don't rely on it
- Get your shot as good as you can in the camera
- It's easier to shoot a few more shots up front than to have to Photoshop a flawed picture
- Your haunt isn't permanent, so get all the shots you can while it's up

What other shots should I have taken?

What other shots should I have taken?

- Even closer or farther
- Add other light sources (e.g., candles)
- Move my pumpkin away from the others
- A group shot
- A portrait (vertical orientation) shot
- A weird angle
- A shot from inside the pumpkin
- ...

Boring!



Explore the possibilities



Shoot Prolifically & Edit Ruthlessly

- Give yourself lots of options then pick the best one
- If you take away only one thing from this meeting, let it be this
- Practice until it's a habit
- It may feel like a waste, it's not
- If you won't *delete* the rejects, *hide* them

Exercise

- First, take *at least* 10 different photos of your subject in 2 minutes
- Next, delete the ones that are obviously “bad”
- Finally, choose your favorite of the remaining shots

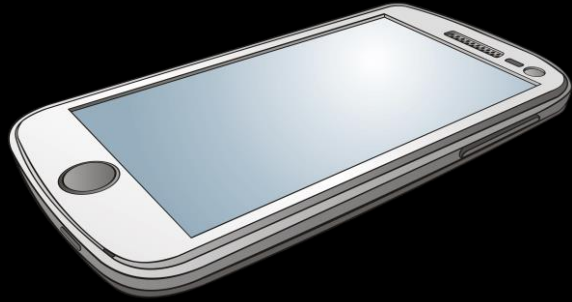
Discussion

- How many did you shoot?
- Did you run out of ideas?
- How many were “obviously bad”? (What made them bad?)
- Was it hard to choose a favorite?
- Was your favorite the first shot, the last shot, or something in the middle?

Coexist with Auto

(Auto is afraid of haunted houses)

Digital cameras are amazing



- Most use pattern recognition to identify the type of shot
- Many can detect faces; some can *identify* faces
- Active stabilization
- Automatic modes tuned for common situations
- Haunts are not common situations
- Haunts often confuse automatic modes

Coexisting with Auto

Auto mode is a bundle of features that adjust the camera settings for you: focus, exposure, and white balance.

Many photographers will tell you to switch to manual mode. That's fine if you love photography as a hobby.

Instead, I'm going to show how to work *with* automatic mode, even in situations where it might get confused.

Auto mode isn't perfect

The camera detected this was a scenic shot and set the focus to include near and far objects



The camera thought this was a closeup of the ropes and allowed farther objects to be blurry



Auto focus prefers the closer object



Auto focus prefers the closer object



Auto focus needs light

There was too little light for auto focus to lock in on the portrait



Auto focus had no problems with the much brighter ghost bride



Auto Exposure figures out how
to get the “right” amount of
light onto the sensor

Exposure tradeoffs

- Wide aperture = shallow depth of field
- Slow shutter speed = motion blur
- High sensitivity = lower picture quality (noise)

Depth of field



Depth of field



Motion blur



Motion blur

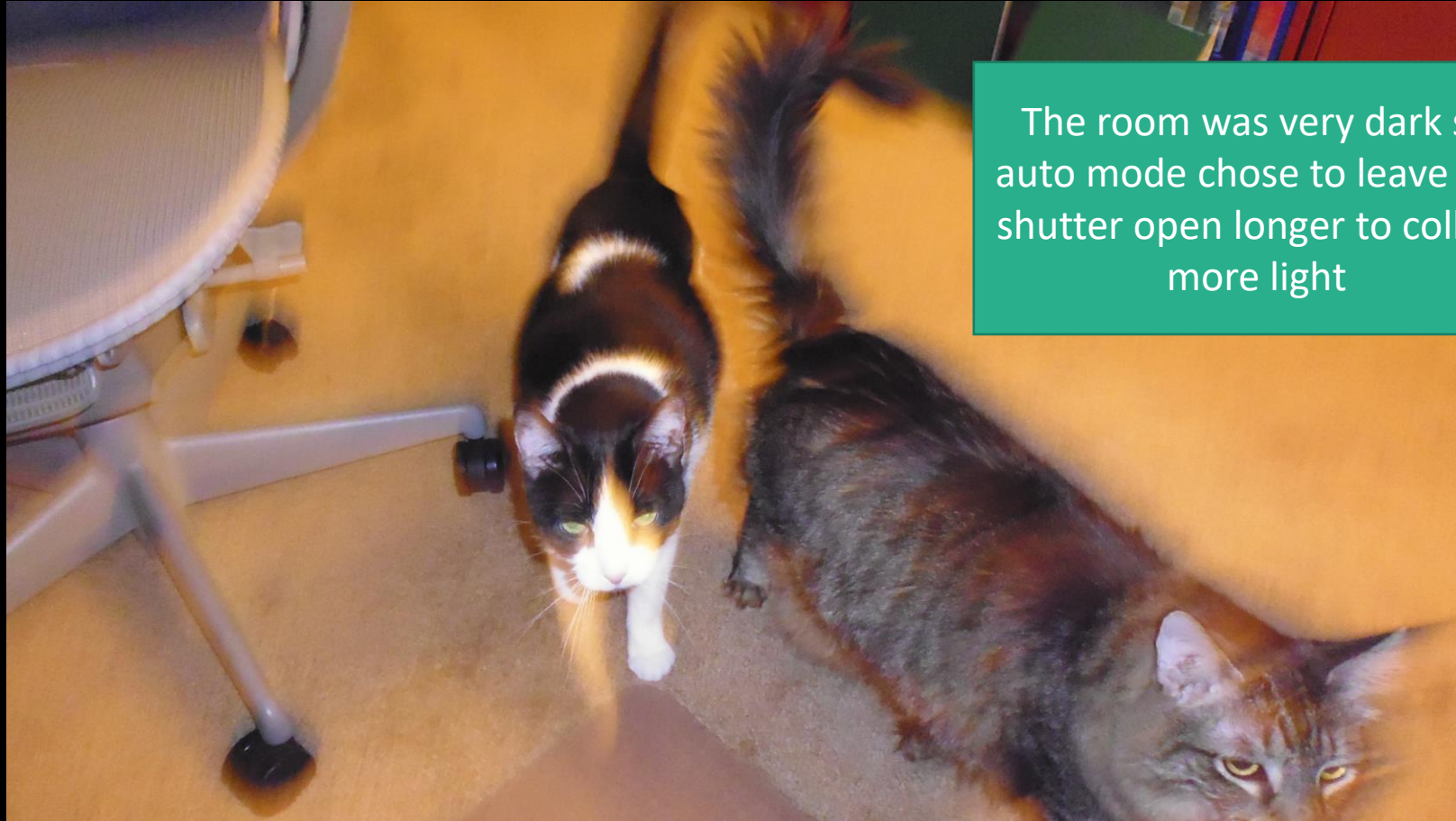


You can see how much the hammer moved while the shutter was open

Motion blur (camera shake)

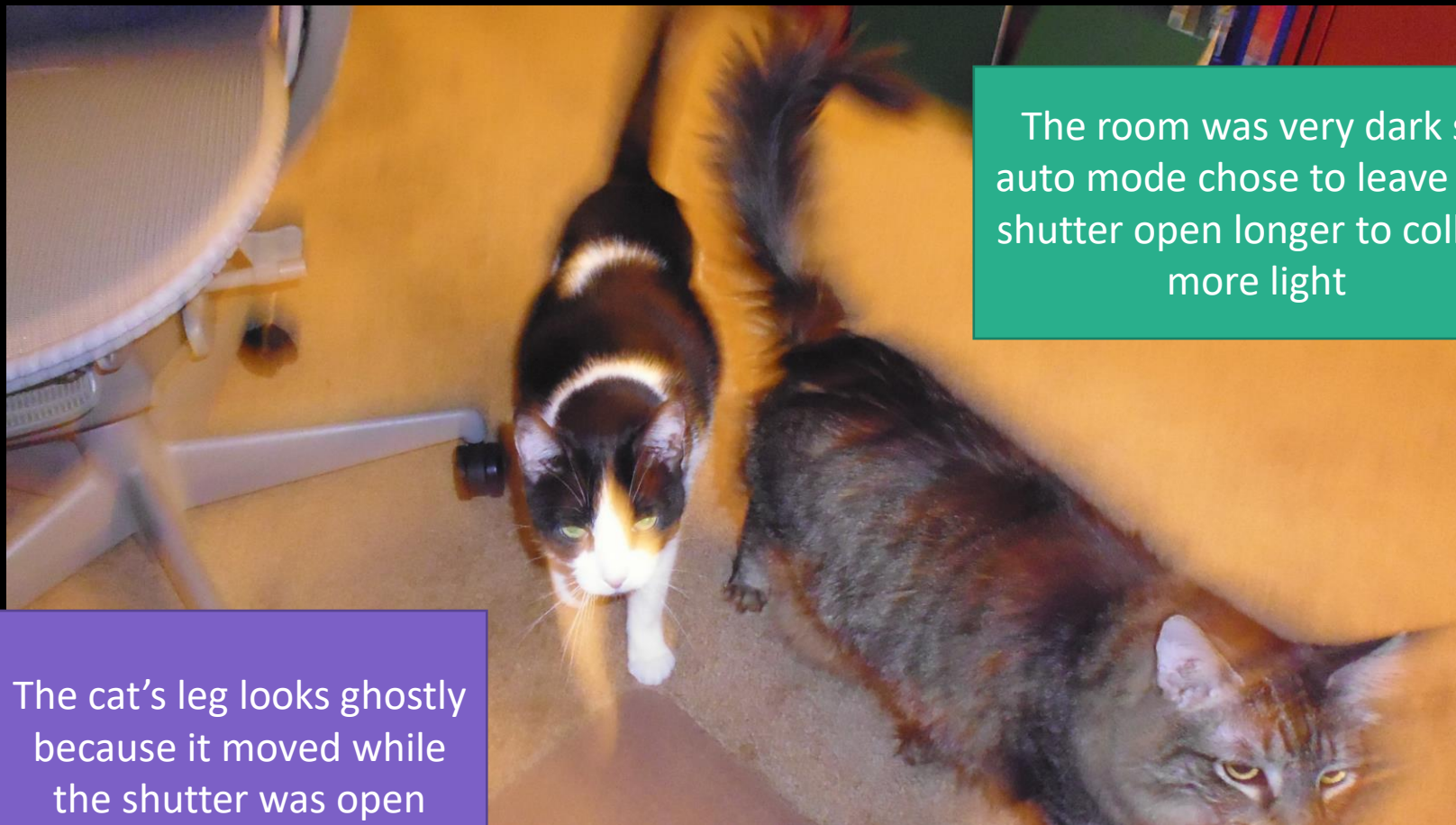


Motion blur (camera shake)



The room was very dark so auto mode chose to leave the shutter open longer to collect more light

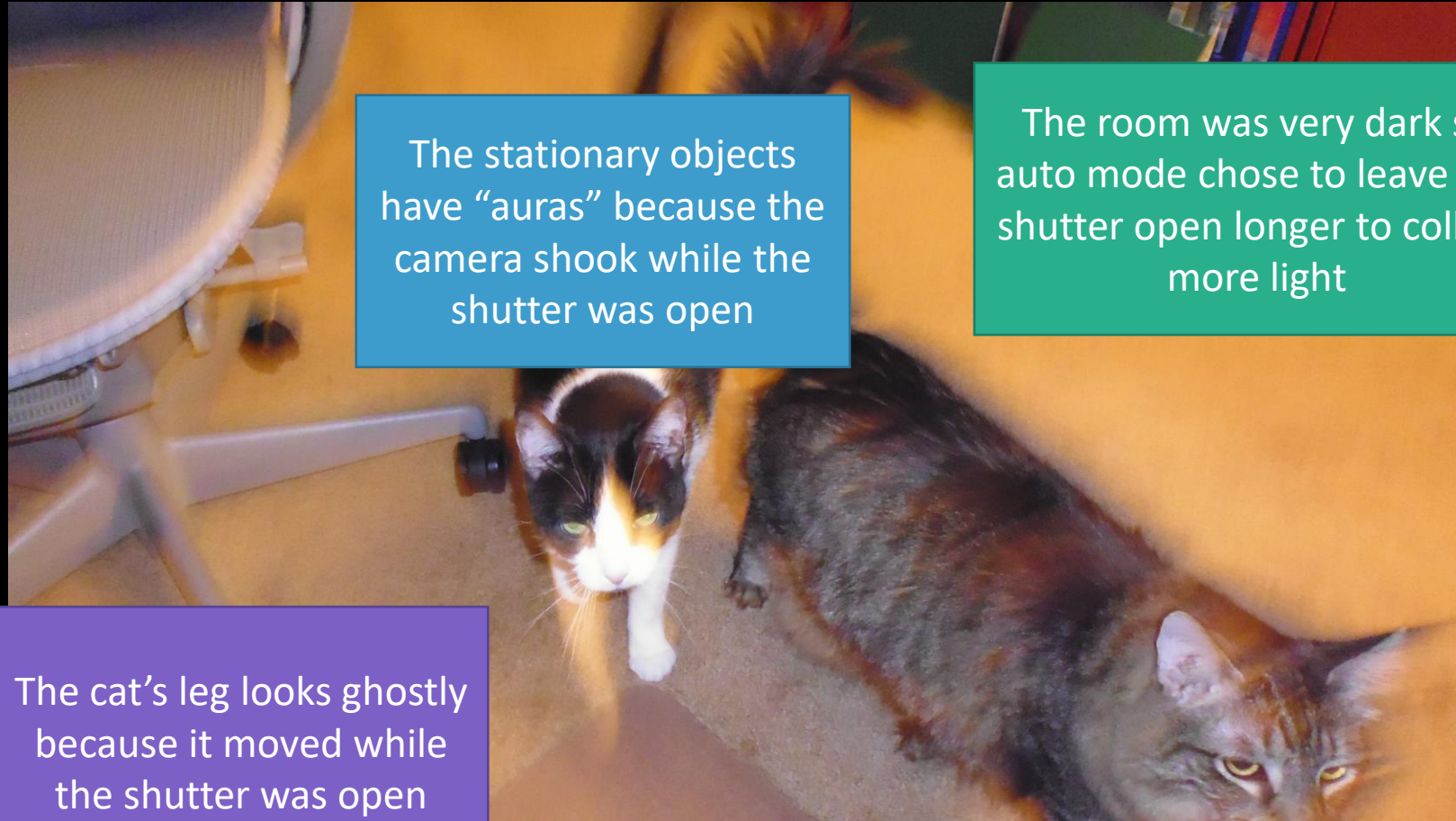
Motion blur (camera shake)



The room was very dark so auto mode chose to leave the shutter open longer to collect more light

The cat's leg looks ghostly because it moved while the shutter was open

Motion blur (camera shake)

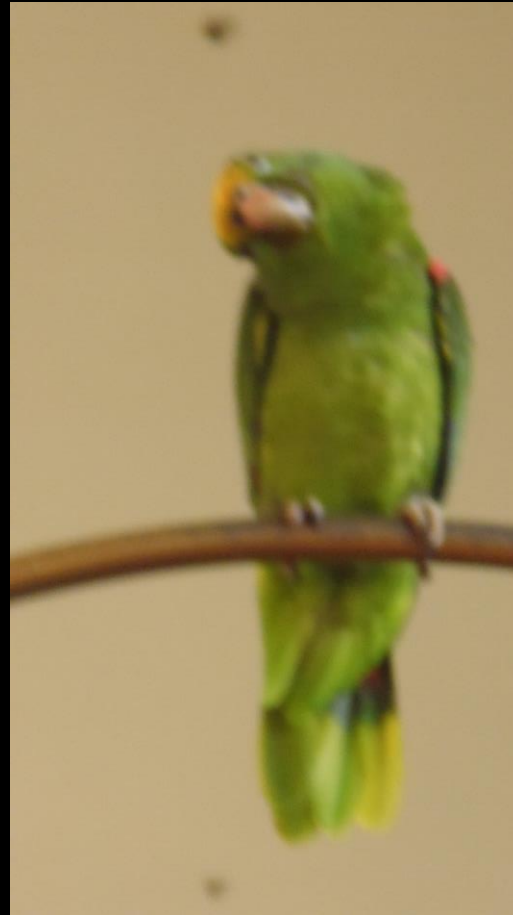


The stationary objects have “auras” because the camera shook while the shutter was open

The room was very dark so auto mode chose to leave the shutter open longer to collect more light

The cat’s leg looks ghostly because it moved while the shutter was open

Telephoto increases camera shake



Remember “static” on TV?



Noise: random fluctuations in the sensor



Noise: usually too small to be noticed



Boosting gain makes noise more noticeable



Backlighting



Backlighting

The sky acts like a light source, so much of the light in this shot comes from behind the subject



Backlighting

The sky acts like a light source, so much of the light in this shot comes from behind the subject



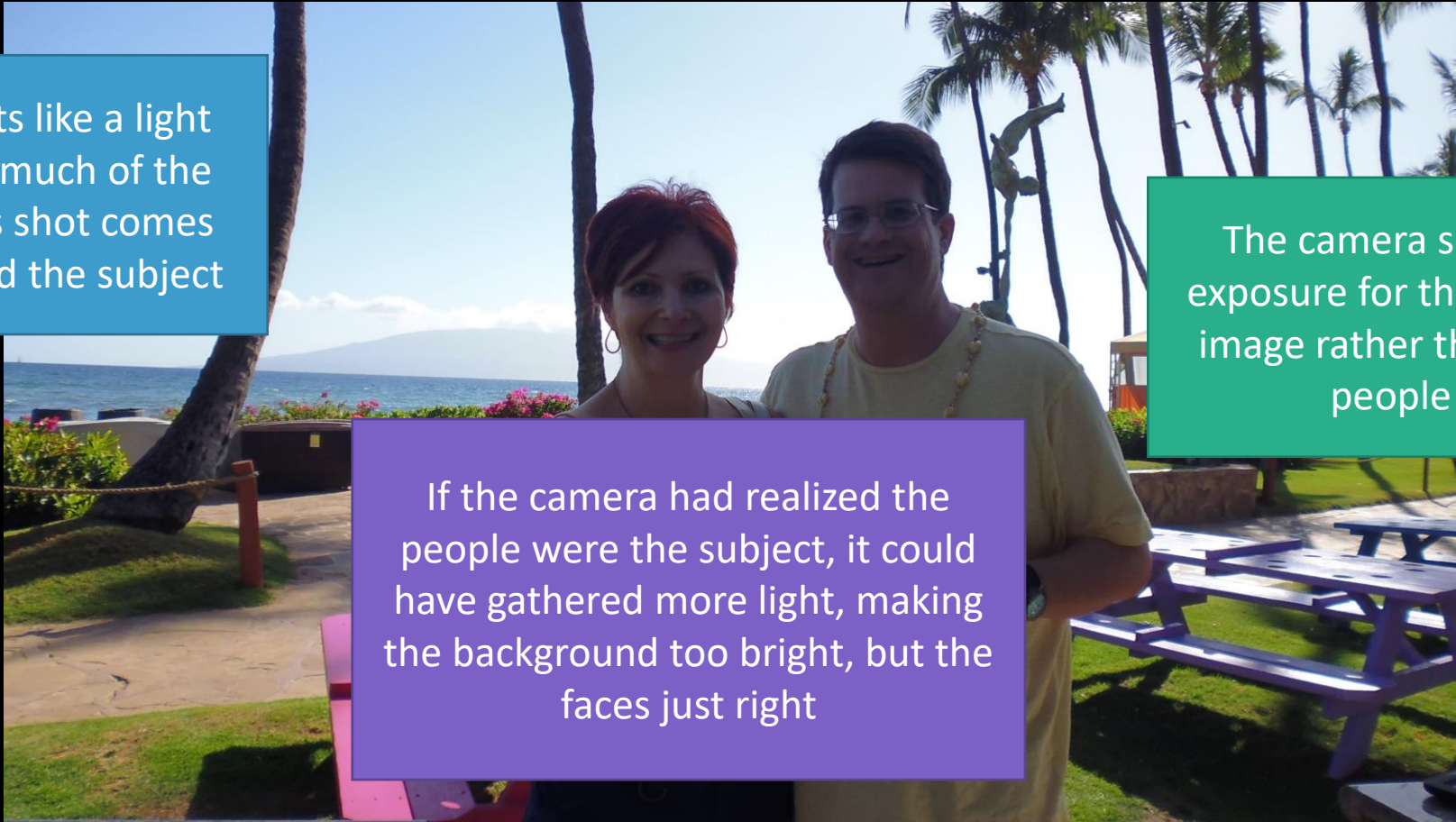
The camera set the exposure for the whole image rather than the people

Backlighting

The sky acts like a light source, so much of the light in this shot comes from behind the subject

The camera set the exposure for the whole image rather than the people

If the camera had realized the people were the subject, it could have gathered more light, making the background too bright, but the faces just right



Backlighting



But sometimes you
want the backlit
objects to be dark

Backlighting

It's difficult for auto mode to distinguish the intent between these cases—for now



But sometimes you *want* the backlit objects to be dark

Backlighting

It's difficult for auto mode to distinguish the intent between these cases—for now



Advances in machine learning will likely help auto mode in situations like these



But sometimes you *want* the backlit objects to be dark

Recap

- Auto mode has to figure out your intent, and set many parameters just right to get the optimal photo, all in a split second
- That's hard to do in low light, when things are moving, when there's backlighting, etc.
- Focus and exposure depend on each other

Now that we've seen many of the ways auto mode gets it wrong, let's see what we can do about it.

When auto gets it wrong—try again



When auto gets it wrong—try again

Sometimes auto mode will make different choices in almost identical circumstances



When auto gets it wrong—add light

Auto mode didn't stand a chance to balance the exposure between the face and the background



Adding flash helped, but there still wasn't enough light for auto focus to find the proper setting



Detour

Haunts are typically dark environments

So sometimes auto chooses a long exposure

Long exposures can lead to motion blur from camera shake

In these cases, auto isn't "wrong"

Adding light might not be feasible or desirable

It's up to you to steady the camera

Detour: Steady the camera

Instead of holding the camera ...

- Use a tripod
- Set the camera on a table or shelf
- Attach the camera to a post or railing with a “gorillapod”

I know we're haunters, but I do *not* recommend using zip ties to hold your expensive camera!

Detour: Steady the camera

Hold the camera, but also ...

- Use a monopod
- Hold it against a steady object, like a post or wall
- Make a pocket monopod:
 - Tie one end of a string (like kite string) to a large flat washer
 - Tie the other end to a 1/4-20 bolt
 - Screw the bolt into the tripod mount of your camera
 - Let the washer fall to the floor and step on it
 - Pull the camera up to keep the string taut as you take the picture

Detour: Steady *yourself*

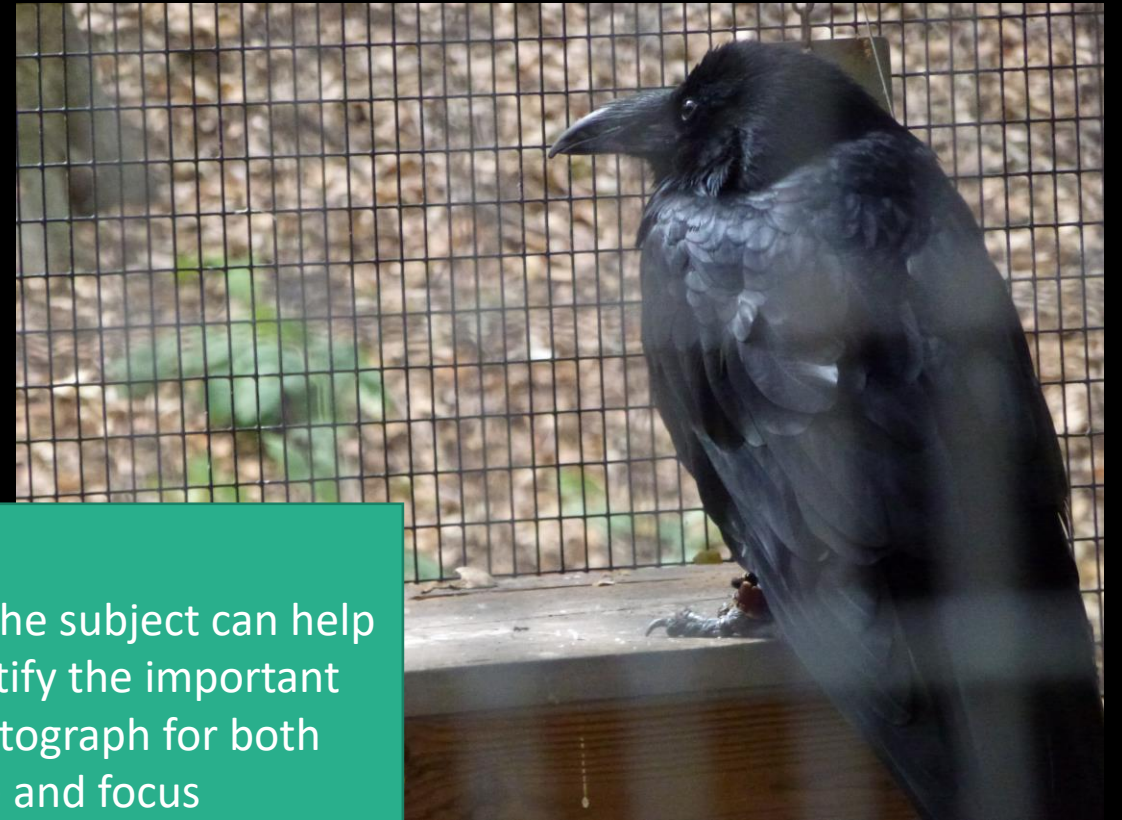
If you must freehand it ...

- Brace yourself by leaning against a wall or post
- Use two hands
- Keep your elbows close to your body
- Squeeze the button instead of pushing it
- Shoot as you exhale (normally, not a big sigh)
- Use the timer to delay the shot a few seconds
- Follow through—keep holding the framing for a second or two after the shutter

When auto gets it wrong—get closer



When auto gets it wrong—get closer



Getting closer to the subject can help auto mode identify the important part of the photograph for both exposure and focus

When auto gets it wrong—get closer

Projection on the bust is completely washed out for a variety of reasons



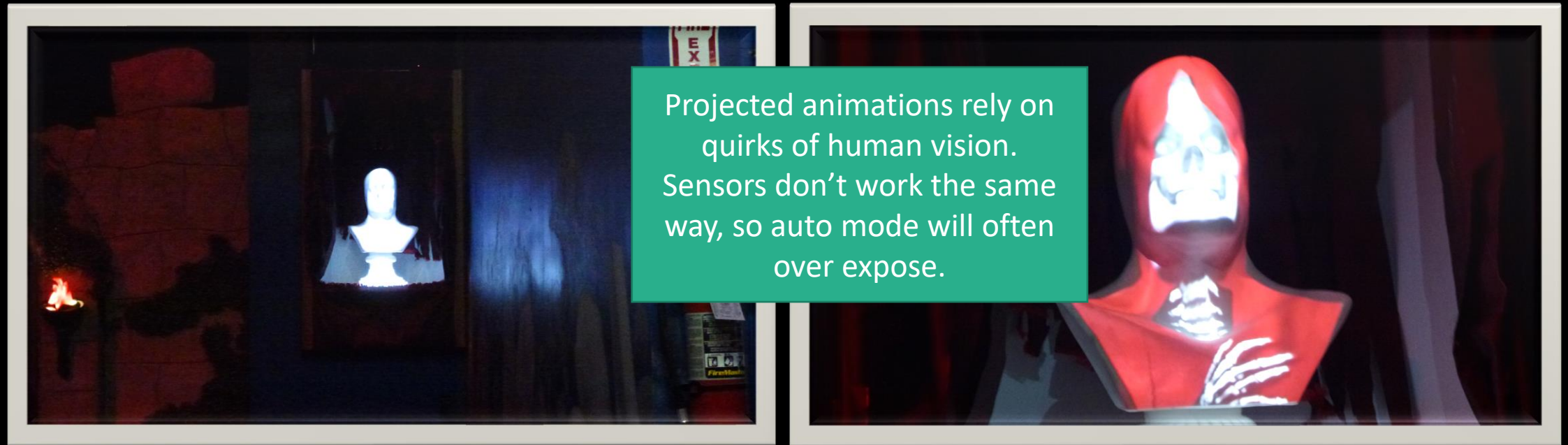
Getting closer helps (but it's not perfect)



When auto gets it wrong—get closer

Projection on the bust is completely washed out for a variety of reasons

Getting closer helps (but it's not perfect)

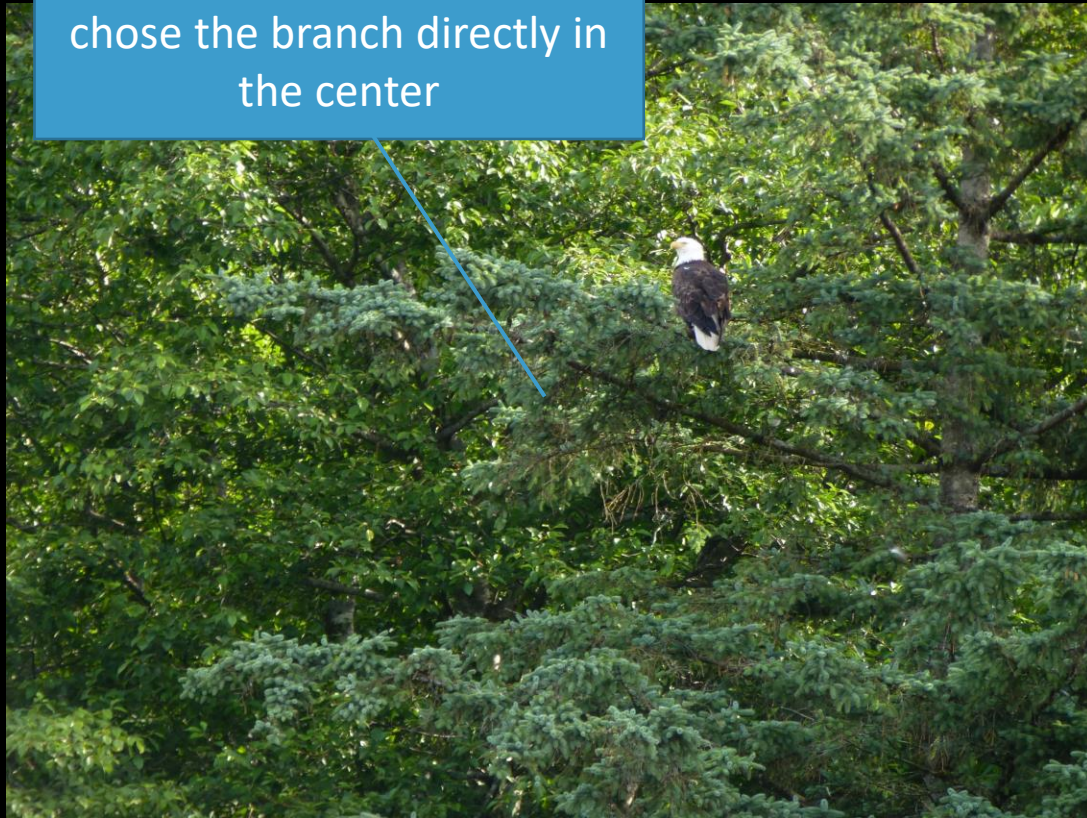


When auto gets it wrong—tell it the subject



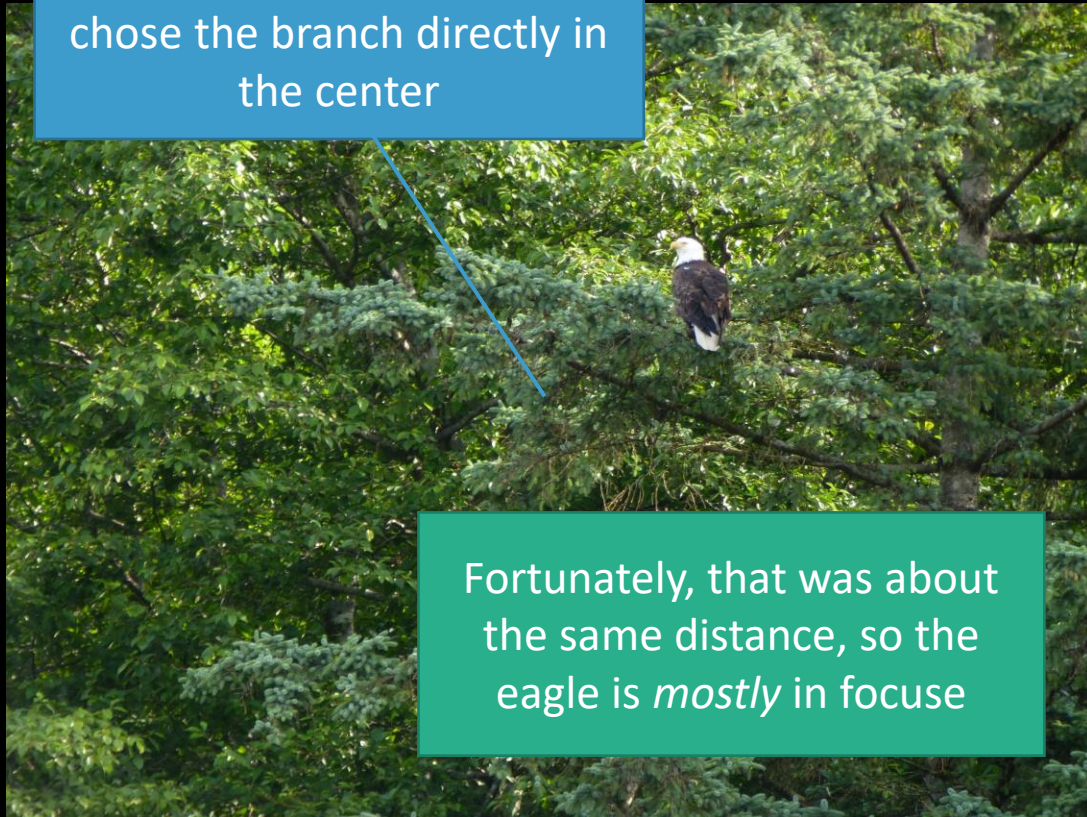
When auto gets it wrong—tell it the subject

Auto couldn't figure out the eagle was the subject, so it chose the branch directly in the center



When auto gets it wrong—tell it the subject

Auto couldn't figure out the eagle was the subject, so it chose the branch directly in the center

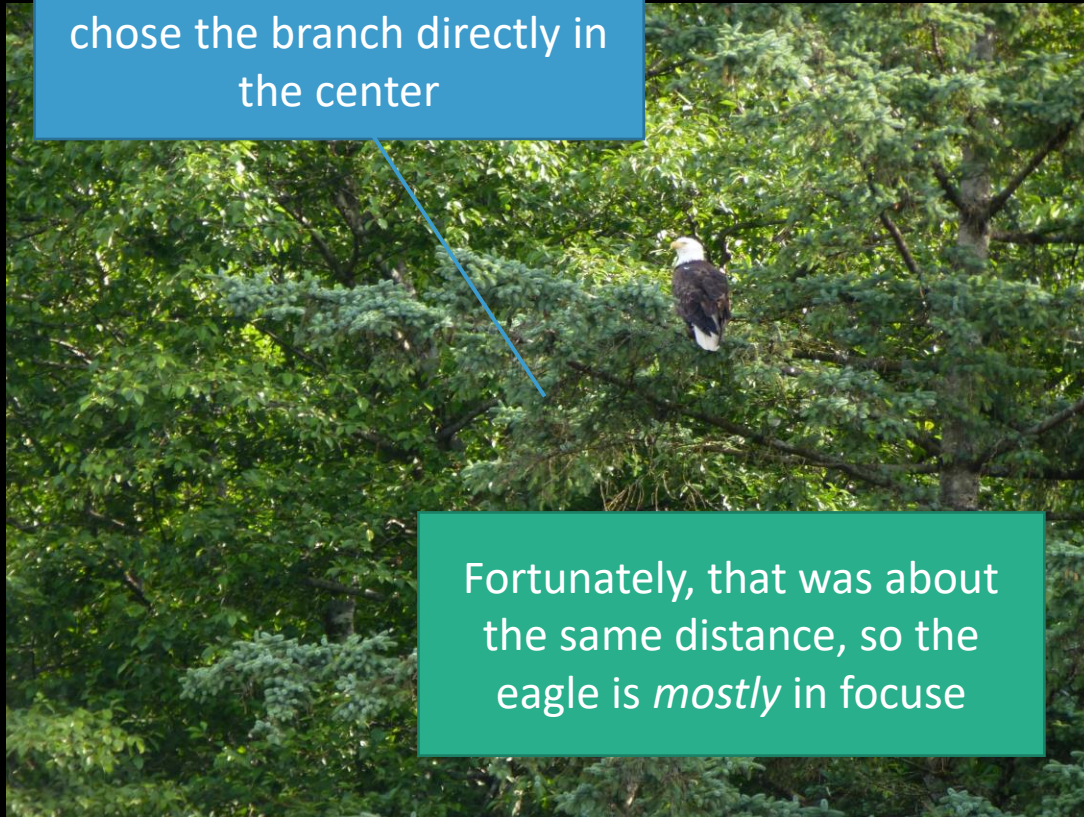


Fortunately, that was about the same distance, so the eagle is *mostly* in focus



When auto gets it wrong—tell it the subject

Auto couldn't figure out the eagle was the subject, so it chose the branch directly in the center



Fortunately, that was about the same distance, so the eagle is *mostly* in focus

In this shot, I “told” the camera that the eagle was the subject, so auto set the focus perfectly



When auto gets it wrong—tell it the subject

Smartphones:

Frame your shot and touch the subject on the live image

Cameras:

Center the subject, press the button halfway, holding the button, frame the shot, then press the button the rest of the way



In this shot, I “told” the camera that the eagle was the subject, so auto set the focus perfectly

When auto gets it wrong—scene mode

Auto didn't understand that this was a people-and-sunset picture



But it did fine when told to use the people-and-sunset scene mode



When auto gets it wrong—scene mode

Auto didn't understand that this was a people-and-sunset picture



But it did fine when told to use the people-and-sunset scene mode



Scene modes can be useful in haunts where they don't apply literally; people-and-sunset mode might be perfect for a shot of a prop lit from behind with a colorful light

When auto gets it wrong

- Try again—sometimes it just needs another chance to guess.
- Add light and/or stabilize the camera
- Make the subject more obvious
 - Get closer to make the subject appear larger
 - Reframe the shot to move the subject closer to the center
 - (Androids and some cams) Tap on the subject
 - (Most cams) Center-squeeze-reframe-shoot
- Choose an appropriate “scene mode”

Exercise

- Make your room as dark as practical
- Try to set up a shot where auto focus or auto exposure fails
- Then try one or more of the mitigation techniques
- If time, try again with a different setup

Hint: You may find the flashlight helpful to create or solve auto problems.

Discussion

- What kind of failures did you find (focus, exposure, both)?
- Were you able to solve it?
- Do you have questions about why auto failed in a particular setup?
- Do you have questions about why a mitigation did or didn't help?
- Do you have questions about your specific camera?

Make Every Detail Count

(Improve your composition)

Every detail in a photograph
should be there for a reason

Beware of distracting details



Beware of distracting details

How am I supposed
to compete with
that bucket?



Much better



Distracting details

- Hard to spot when you're taking the photo
- Hard to miss when you're viewing it afterwards

What we perceive is a composite



of distinct glances



What we see



Only a small part of the retina, the fovea, can see full color and detail

What we see

The rest of the retina sees subdued color and much less detail



Only a small part of the retina, the fovea, can see full color and detail

What we see

The rest of the retina sees subdued color and much less detail



Only a small part of the retina, the fovea, can see full color and detail

Saccades



Our eyes make quick movements, called saccades, to briefly focus on different details

Saccades

Our brains combine the individual glances into a mental picture



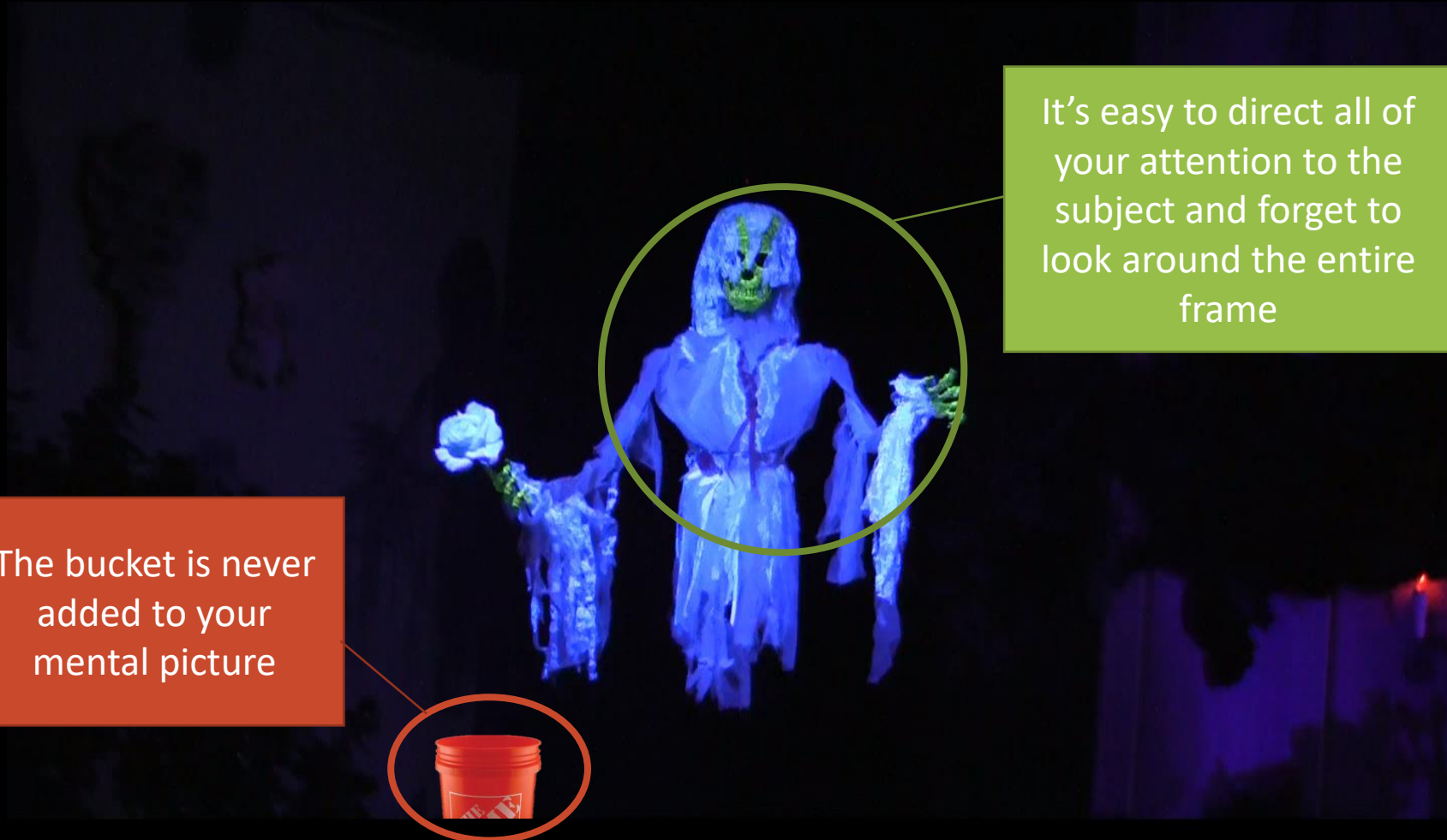
Our eyes make quick movements, called saccades, to briefly focus on different details

As the photographer



It's easy to direct all of your attention to the subject and forget to look around the entire frame

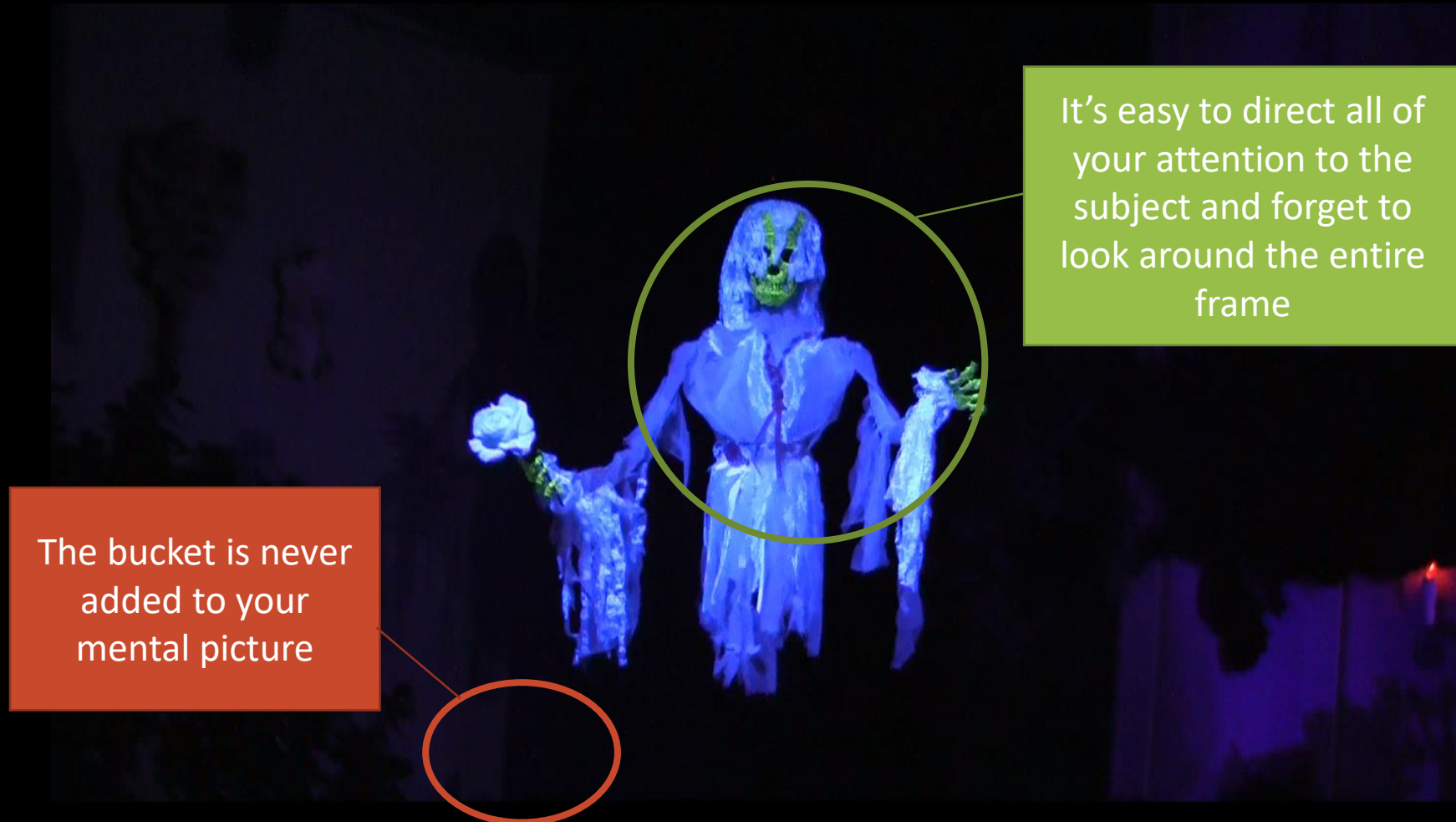
As the photographer



It's easy to direct all of your attention to the subject and forget to look around the entire frame

The bucket is never added to your mental picture

What bucket?



It's easy to direct all of your attention to the subject and forget to look around the entire frame

The bucket is never added to your mental picture

As the viewer



You search the photo for
points of interest

As the viewer



You search the photo for
points of interest

As the viewer



Your eyes will be drawn to faces

As the viewer



Your eyes will be drawn to areas of contrast

As the viewer



Your eyes will be drawn to
texture

As the viewer



Your eyes will be drawn to
pops of color

As the viewer



Your eyes will be drawn to pops of color and text

As the viewer



Your eyes will be drawn to pops of color and text

Systematically check the image as you shoot

- All four corners of the frame
- All four edges of the frame
- The perimeter of the subject(s)

Practice until it becomes a habit

Check the background



Check the background



OK, the bear licking my head was intentional

Check the background



Check the background

Pro photographer annoyed the we're taking our own pix



Check the background

Pro photographer annoyed the we're taking our own pix

Kim growing a second head



Check the background

Pro photographer annoyed the we're taking our own pix

Kim growing a second head

Human awkwardly bisected by the edge of the frame



Get closer



Get closer

More bisected humans



Get closer

More bisected humans



Text!

Move away from the crowd



Move away from the crowd



Corner and right edge washed out

Move away from the crowd

Corner and right edge washed out

Background is still a mess



Bingo!



There's much more to composition

You can learn about composition *principles* (the rule of thirds, negative space, leading lines, triangles, depth cues and perspective, depth of field, ...) from zillions of places.

But these *practices* will go a long way to helping you use your intuitive sense of composition:

- Shoot prolifically and edit ruthlessly
- Get closer (using your feet before zoom)
- Beware of distracting details

Exercise (last one!)

- Take at least 10 pictures in 2 minutes
- For each one, before you press the button, check the corners, frame, subject, and background—just repeat the process to make it a habit
- Review each photo and see if there are details you missed when you took it
- For each unwanted detail, think about how you might have eliminated it

Discussion

- Did systematically scanning the frame help you discover unwanted details you might have otherwise missed?
- Is it difficult to scan the frame?
- Any shots where you're not sure how you could have eliminated the unwanted details?

Remember these

- Shoot Prolifically & Edit Ruthlessly
- Understand auto's weaknesses and work with it
- Get closer
- Use your feet before you use zoom
- Check the entire frame
- Eliminate distracting detail
- Cheat!

Image Credits



CC0

<https://pixy.org/5763718/>

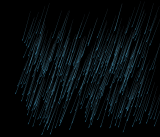


<http://freepngimages.com/skull-transparent-image/>



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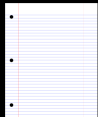
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<https://www.homedepot.com/p/202264044>

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https://contentgrid.homedepot-static.com/hdus/en_US/DTCCOMNEW/Articles/light-bulbs-led-vs-fluorescent-section-6.jpg

Image Credits

Promotional stills from *Back to the Future* from various fan sites.
Back to the Future copyright 1985 Universal City Studios, Inc.

All other images by Adrian and Kim McCarthy.

The Ghost Bust photographed at Ghost Golf in Walnut Creek, CA.
Ghost Bust by Fright Props. Ghost Golf has relocated to Fresno, CA.

The Flying Crank Ghost photographed at Dragon Vane Cove, Menlo Park, CA.
Prop built by Ralph Miller and Gigi Babcock.

Appendix A

Exposure Analogy

Bad Analogy, Poorly Illustrated



Bad Analogy, Poorly Illustrated



Bad Analogy, Poorly Illustrated



Bad Analogy, Poorly Illustrated



Bad Analogy, Poorly Illustrated



Sensor (or film)

Bad Analogy, Poorly Illustrated



Light



Sensor (or film)

Bad Analogy, Poorly Illustrated



Light



Aperture

Sensor (or film)

Bad Analogy, Poorly Illustrated



Shutter Speed

Light



Aperture

Sensor (or film)

Bad Analogy, Poorly Illustrated



Shutter Speed

Light



Aperture

Sensor (or film)

Bad Analogy, Poorly Illustrated



Shutter Speed

Light



Aperture

Sensor (or film)

Appendix B

Even little details should be important

Spoiler Alert!

The following example from

Back to the Future

might spoil a relatively small detail

1985

Marty McFly meets Doc Brown at the **Twin Pines Mall**.



1985

Marty McFly meets Doc Brown at the Twin Pines Mall.

Doc: "I remember when this was all farmland as far as the eye could see. Old Man Peabody, owned all of this. He had this crazy idea about breeding pine trees."



1985 → 1955

Marty McFly meets Doc Brown at the Twin Pines Mall.

Doc: "I remember when this was all farmland as far as the eye could see. Old Man Peabody, owned all of this. He had this crazy idea about breeding pine trees."

Marty travels back to 1955 and crashes the DeLorean through **one of two pine trees** on Peabody's farm.



1985 → 1955 → 1985

Marty McFly meets Doc Brown at the Twin Pines Mall.

Doc: "I remember when this was all farmland as far as the eye could see. Old Man Peabody, owned all of this. He had this crazy idea about breeding pine trees."

Marty travels back to 1955 and crashes the DeLorean through one of two pine trees on Peabody's farm.

When Marty returns to 1985, the shopping center is now named **Lone Pine Mall**.



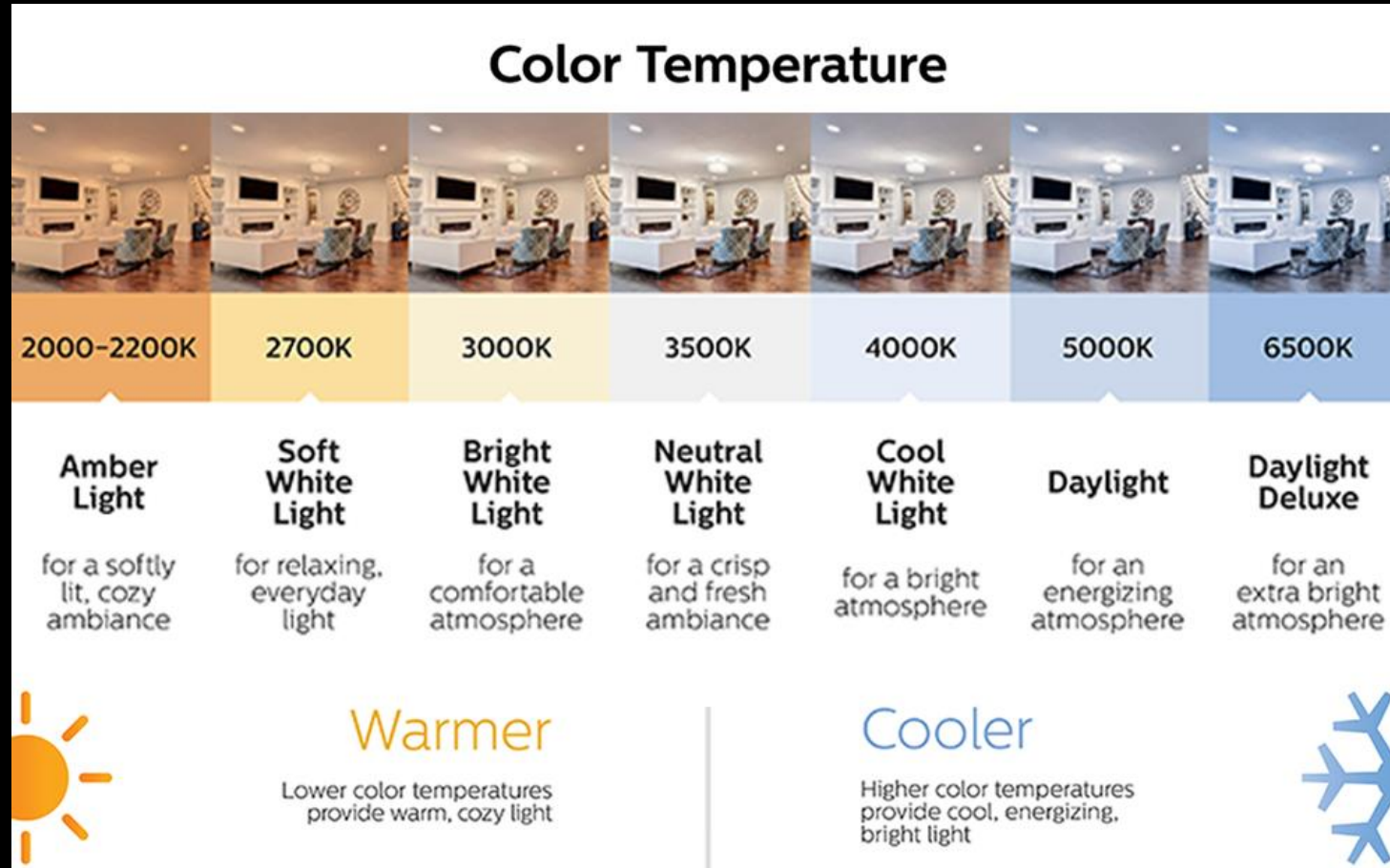
Appendix C

White Balance

White Balance

There's a third auto mode feature called white balance that tries to correct the overall color of your photos by guessing about the color of the light source(s).

White lights come in all colors



Color perception is complicated

Check Wikipedia for “The Dress”

People couldn't agree on what colors they saw in a social media picture of a dress: white/gold or blue/black

Lots of perceptual factors at the core of the controversy, but also the white balance setting of the camera. And what our brains *think* the white balance was.

White balance is rarely a problem

Auto mode rarely gets the white balance wrong in normal situations.

But, in a haunt, where everything is illuminated with non-white lights, you might not get the *exact* colors you expect.

If it is a problem

Your camera may have special “scenes” or “program modes” that are tuned for less common situations. Look for a “city lights” mode.

If all else fails, manually set the white balance to “Daylight”.