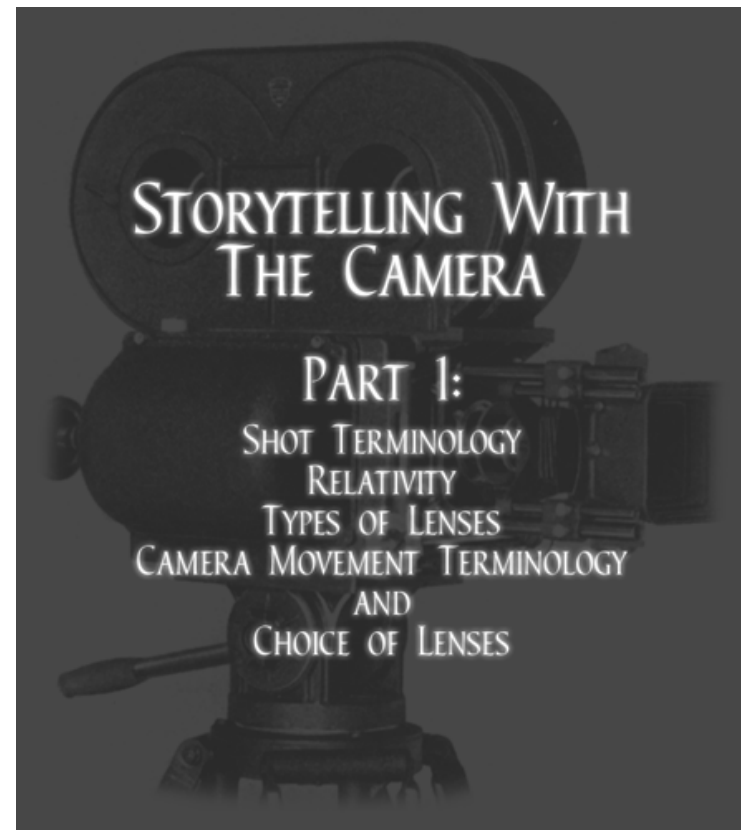


Storytelling with the camera

~ Todd Cherniawsky

**Spinning a good yarn. Telling a tale.
Storytelling.**

So what makes good storytelling? Beyond the obvious (the story or script), there are many factors that separate good storytelling from the average or the just plain bad. Ultimately, though, *how* the story is portrayed can really affect the success of storytelling.



We all have a relative or friend who seems to be able to tell a joke or story better than those around us. And, we probably all know somebody else who, after delivering the punch line to that same hilarious joke, is left with a silent room, sans laughter. Was it their performance (bad acting)? Did they forget something important (bad editing)? Did they take too long to tell it (bad editing)? Did they not sketch out the characters very well, or expand on them too much (bad directing)? Or, did they simply tell the story in such a way that you didn't "see" it. Chances are, it's a bit of all of the above. But one of the biggest aspects of a failed good story, is often how it was "shown" to us. How the story was "shot".

In filmmaking, the subjective decisions by the director, director of photography, and production designer in shooting a script or scene ultimately shapes the storytelling

process. Even as animators, though, you have the capacity to mold the story into a tighter, more efficient entity by approaching your scenes in the same manner. Whether you are working on one of 300 visual effects shots for next summer's big blockbuster or creating new vistas for a personal piece, the result will be better when you take basic shot construction and lens selection into consideration. And, understanding camera movement and the effects of different lenses, you will have more control over shaping the scene – directing. You are the storyteller.

Basic Shot Terminology

- The Long Shot (LS) - [Figure 1.1](#).
- The Medium Shot (MS) - [Figure 1.2](#).
- The Close-up (CU) - [Figure 1.3](#).

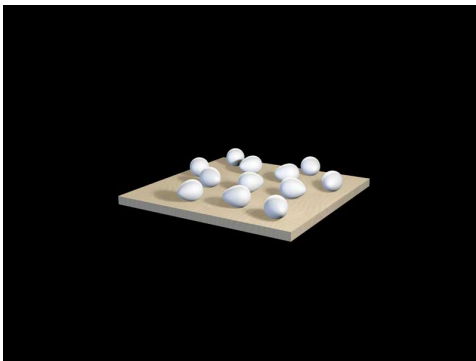


Figure 1.1: The Long Shot (LS).

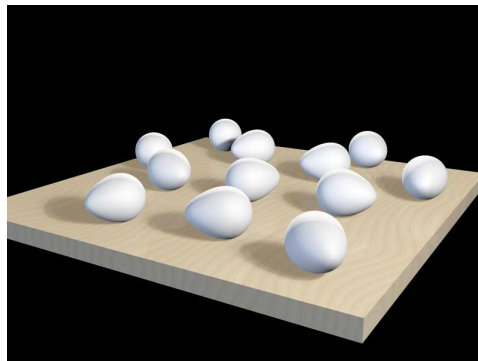


Figure 1.2: The Medium Shot (MS).

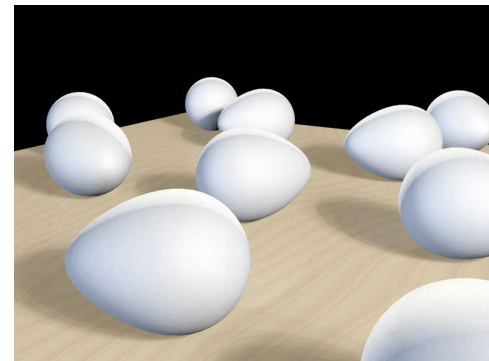


Figure 1.3: The Close-up (CU).

The above terms form the basic building blocks of shot construction. In the three images above the basic shot terms are illustrated. I have chosen a simple still life setting, floating in black, to clearly show the separation between main subject and environment. **Figure 1.1** shows our object clearly in frame, though, keeping a distance from it. The value of the LS is that it establishes local geography, putting the important object, character, or action in relation to its surroundings. **Figure 1.2** places the camera closer, letting the object fill the frame. The MS provides a transition or a bridge between the LS and the CU, allowing you to build up the subject. In **Figure 1.3**, the camera is now within the space of the eggs, and illustrates the CU. The objects spill outside the edges of the frame, and provide an intimacy (or uneasiness, depending on the situation) between the viewer and the image.

These three shots form the basis of what is known as visual or pictorial continuity – the proper development and connection of sequences or shots to create a coherent

story. In building a sequence, the LS can be used as an establishing shot, letting the viewer have a moment to become familiar with the surroundings and understand the characters and objects contained within the frame and how they relate to each other. Cutting to a MS, the viewer now focuses on what is important, the eggs on the cutting board. Then, moving into a CU allows the viewer to take in detail, and study the characters and subjects closer.

In addition to these three basic terms, there are extensions of the LS and CU, which can be effective tools for dramatic purpose.

- **The Extreme Long Shot (ELS)** - **Figure 1.4**.
- **The Extreme Close-up (ECU)** - **Figure 1.5**.

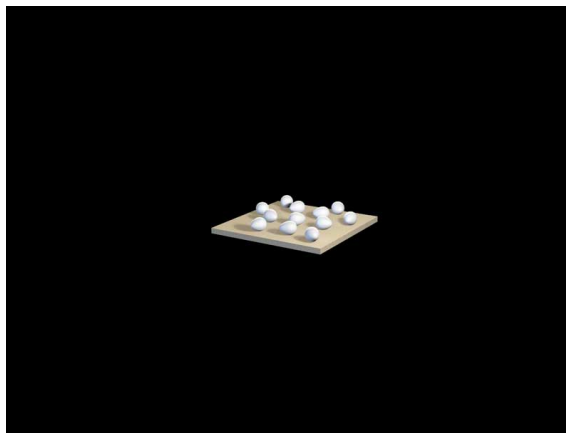


Figure 1.4: The Extreme Long Shot (ELS).

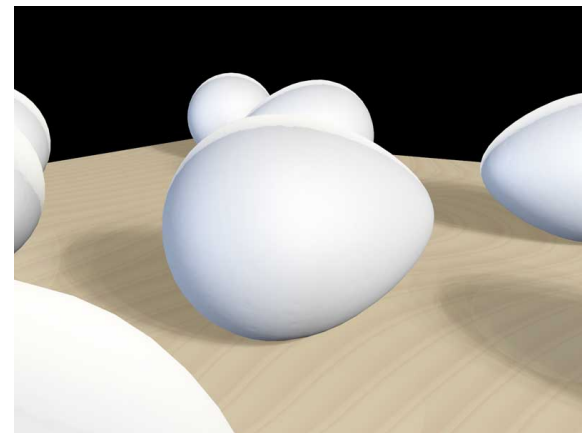


Figure 1.5: The Extreme Close-up (ECU).

Like the LS, the ELS is often used solely to establish the physical character of a location or set, but the ELS provides a way to establish a distinctive environment or atmosphere. Using a series of ELS's is a common way to open a film – aerial shots of skyscrapers, bridges, monuments and congested streets will clearly identify a specific urban city; mountains, flowing streams, open meadows convey the massiveness and beauty of the wild; and mist-shrouded vistas of crashing waves along a castle on the seafront can set the tone for a medieval adventure. Granted, [Figure 1.4](#), our ELS of static, odd-shaped eggs sitting on a cutting board is not quite as interesting as the previously mentioned sequences, but fill that black space with the hustle and bustle of a restaurant kitchen, and voila!

The ECU, [Figure 1.5](#), is a further extension of the CU, and at the opposite end of the scale from the ELS. It magnifies the object, bringing it even closer to the screen. The ECU is usually used for dramatic emphasis or to reveal an important piece of information to the viewer that would otherwise be unclear with a MS or even CU.

The Relativity of Shot Terminology

It is very important to understand that the terms and definitions of the LS, MS and CU are not absolute, but rather, relative.

Consider our previous five shots. Relative to the entire group of eggs, those definitions seem quite clear. And if talking to other animators or filmmakers, they would probably understand you clearly if you asked for any of those five shots. But consider this scenario. The scene is no longer about the group of eggs. Instead, it is about one egg in particular. This specific egg, is now the center of our attention. Our relative terminology is about to change. [Figure 1.6](#), would actually now be considered the MS. In treating the scene about our “hero” egg, this type of framing would be considered a medium shot. In our prior scene, one about a “group of eggs”, [Figure 1.6](#) would be considered another ECU.



Figure 1.6: Is this an MS of an egg, or an ECU on a group of eggs?

This relativity is very important to keep in mind when doing a shot breakdown for a scene. If this breakdown is to be shared with other animators, it is very important to clarify what any shot is of. It is not enough to state, “I need a medium shot”. You must qualify the shot by stating what it is of. “I need an ECU of one of the eggs on the cutting board,” or “I need an MS of the eggs on the cutting board.” The shot terminology is always relative to the intentions of the scene.

Types of Lenses

So far, all the shots were taken with the same lens, a 25mm. By keeping the same lens throughout, we moved the camera in order to get different framing for each shot. But it would be possible to get all those shots by never moving the camera, and just changing lenses.

In the real world, motion picture lenses come in two basic design types, primes and zooms. A prime lens refers to a fixed focal length, such as the 25mm lens we had on earlier. Zoom lenses allow you to move through a range of focal lengths, such as 20mm to 200mm. Although zoom lenses are flexible and allow for quick framing adjustments without moving the camera, they have many more glass elements in their design, and therefore, introduce more aberrations into the image. For this reason, zoom lenses are not used unless they have a specific purpose. By thinking in terms of prime lenses, you will begin to think in cinematic terms.

Prime lenses can be categorized into three basic groups: long, medium and wide. Again, these groups are all relative; relative to the range of lenses you have at your disposal, what format you’re shooting (35mm, 16mm,

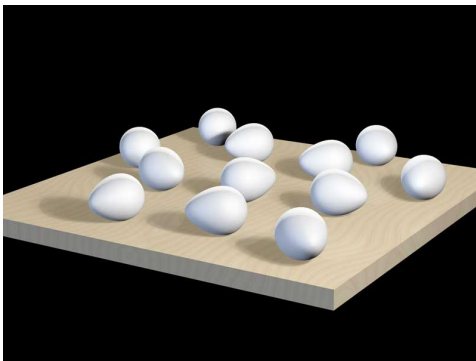


Figure 1.7: A MS taken with a 50mm prime lens.

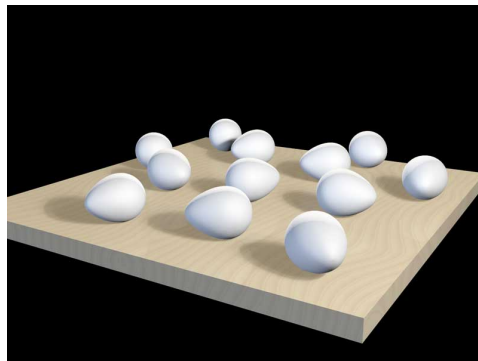


Figure 1.8: A MS taken with a 25mm prime lens.

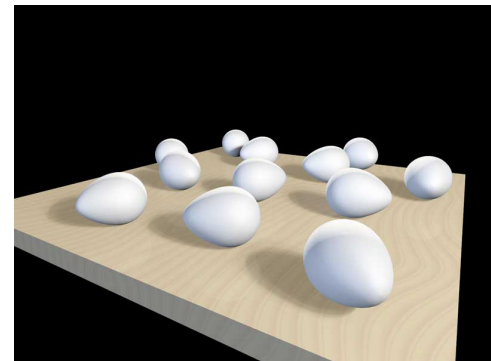


Figure 1.9: A MS taken with a 15mm prime lens.

Betacam, DigitalVideo, etc.) and personal tastes. Assuming you're working in 35mm, I usually refer to lenses between 35mm and 65mm as medium lenses (sometimes referred to as portrait lenses), anything bigger than 65mm as a long lens, and anything shorter than 35mm as a wide lenses. You may occasionally hear terms like "telephoto lens" or "fish-eye lens". These, like the three basic shot terminologies, are all relative. Telephoto lens usually refers to lenses which are very long, while fish-eye lens refers to lenses which are very wide.

It is important to keep lens length and shot type separate and not confuse them – a medium shot (MS) is not the same thing as a shot with a medium focal length lens.

In the examples (see [Figures 1.7](#), [1.8](#) and [1.9](#)), I've made three different medium shots of the group of eggs. But each time I used a different prime lens and moved the camera to keep the same frame. Take a look at the results.

As you can see, all three of these images contain the eggs and cutting board in a medium shot composition. By moving the camera forward or backward and changing focal lengths, very different results are achieved. [Figure 1.7](#), uses a 50mm lens and the camera is roughly 180cm (6'-0") away from the center of the board. [Figure 1.8](#), switches back to our original 25mm lens and has the cam-

era only 90cm (3'-0") away. Lastly, [Figure 1.9](#), swaps to a very wide 15mm lens and pushes the camera to only 53cm (1'-9"). It is clear, from these three illustrations, that lens selection greatly affects the feel and composition of a shot. By carefully selecting the most appropriate lens, you have another tool for use in the storytelling process.

Camera Movement Terminology

Camera movement can be broken down into two basic sections, the rotational movements of the camera along it's own axis, and then the physical movement of the camera through space.

In order to keep this article applicable to all software, I do not want to assign X, Y and Z axes to the camera, because every application uses it's own quirky global, local and camera axis assignments. If you learn and use the terms that I'm explaining here, they will be internationally recognized. Used in cinematography throughout the world, your communication with professionals everywhere will be clear and understandable.

Let's put our good old 50mm lens on the camera, and begin.

The AVI files [2.1](#), [2.2](#) and [2.3](#) illustrate the three basic camera axial movements, panning, tilting and dutching

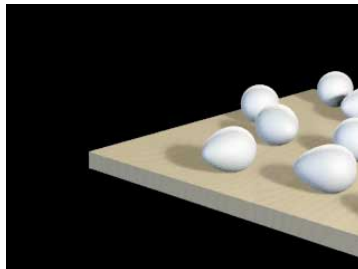
the camera. It is very important to keep these terms straight, and not mix them up. You pan the camera to the left or the right. You tilt the camera up or down. And you dutch the camera to the left side or right (indicating which side is lower). If you mix up the terminology and action and say, “Hey, pan that shot down”, you will probably be understood. A cinematographer or camera operator will let the action override the term – they do not usually get caught up in semantics. But by using the terms and actions in their correct manner, you will not only sound more professional, but your intentions will not be confused. After all, we’re all working in the visual arena and we need to be verbally concise when explaining visuals.

The AVI files 2.4, 2.5 and 2.6 are the same camera actions as above, but in these examples, we’ve strapped on our 25mm wide angle lens to the camera.

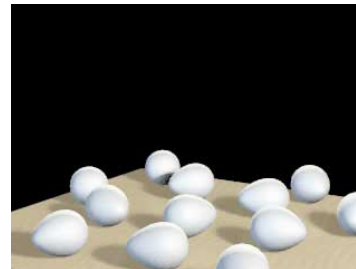
Note the different feel that these shots have

compared to the previous three animations. For even better contrast, open up the two panning animations (AVIs 2.1 and 2.4) in different windows and play them off against each other. Although the same camera movement is being used, the different lenses give a substantially different feeling to each shot. Do the same with the tilting and dutching animations.

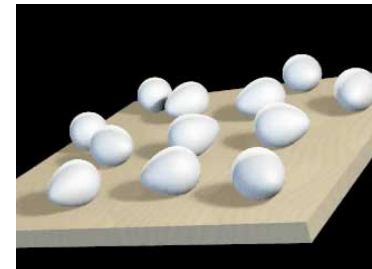
As mentioned before, the previous examples moved the camera itself, as if it never left the head of the tripod.



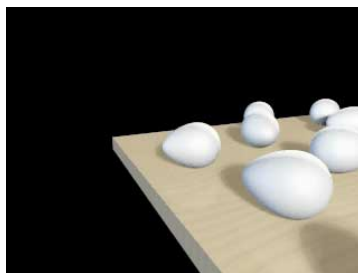
AVI 2.1: Panning the Camera, 50mm lens.



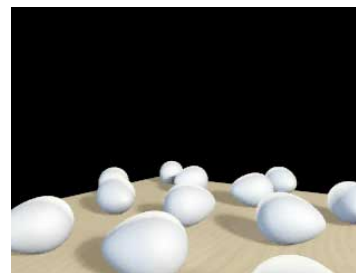
AVI 2.2: Tilting the Camera, 50mm lens.



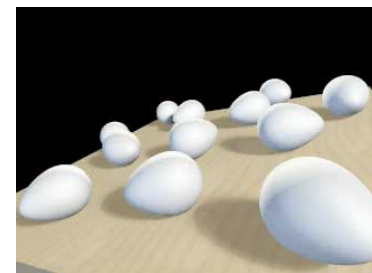
AVI 2.3: Dutching the Camera, 50mm lens.



AVI 2.4: Panning the Camera, 25mm lens.



AVI 2.5: Tilting the Camera, 25mm lens.



AVI 2.6: Dutching the Camera, 25mm lens.

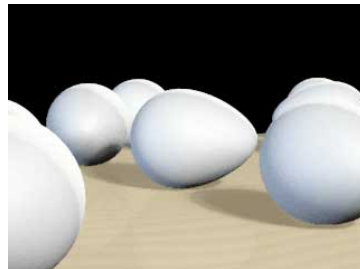
Now, we want to physically move the camera. Our shots are getting much more dynamic, aren't they? With physical movement, our eggs are starting to be a little more interesting.

These last three shots would all be executed in the real world on a device called, sure enough, a dolly. The dolly is a four-wheeled cart that can seat up to two people (usually the camera operator and the 1st assistant cameraperson). It is controlled and pushed around either on the floor or on a track (like a train) by the dolly grip. The camera is mounted on to a mechanical device known as the boom arm (or pedestal) which can raise the camera up or down. The arm is powered by either a pneumatic or electrical system.

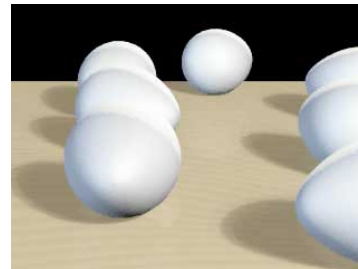
In [AVI 2.7](#), the dolly in, you can see that the shot can be used to start with a CU and end up in a ECU. Equally, the dolly

out can do the reverse, start with an ECU and end in a CU, or even an MS. The dolly in and out shots are sometimes called a push-in or pull-out. These are not to be confused with a zoom, where the focal length on the actual lens is changed. The dolly or push in/out uses a prime lens.

The dolly across shot, [AVI 2.8](#), is also very dynamic. Sometimes called trucking, the dolly across (in this case to the right) builds upon the separation of foreground and background.



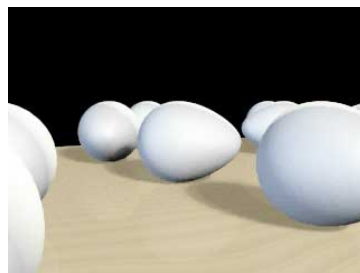
AVI 2.7: Dollying In, 50mm lens.



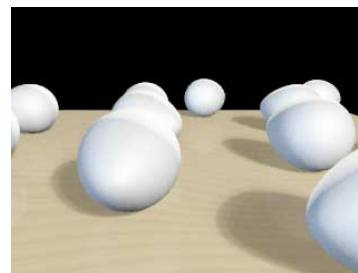
AVI 2.8: Dollying Across, 50mm lens.



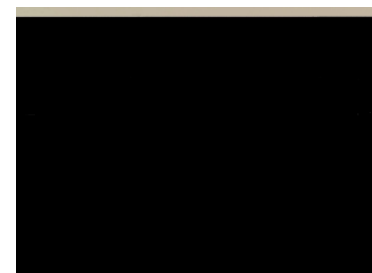
AVI 2.9: Booming Up, 50mm lens.



AVI 2.10: Dollying In, 25mm lens.



AVI 2.11: Dollying Across, 25mm lens.



AVI 2.12: Booming Up, 25mm lens.

Last in this section, is the boom shot. In [AVI 2.9](#), the camera moves straight up, revealing space and geography in yet another way.

Now, let's change back to our 25mm lens and do it all over again (see [AVIs 2.10](#), [2.11](#) and [2.12](#)).

Are you starting to see how the lens selection can affect the shot? These dramatic effects are another storytelling tool in your kit.

For our "lucky" thirteenth shot, let's composite the movement into something truly interesting.

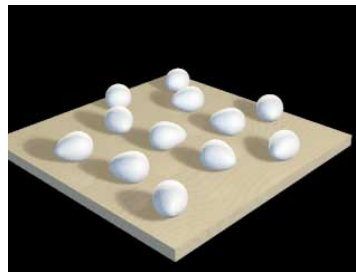
But first, one more term. The crane shot. This usually refers to a combination of any of the above camera axial and physical movements. You know those big swooping shots that start above a flashing neon sign beside a gas station and move down, across and into the car coming down the road, and then end up on the hood ornament or front grill as the car comes to a screeching halt right in front of the camera? That's the crane shot. And, like the dolly shot being done from a dolly, a crane shot is done from a, how'd you guess? That's right. A crane, is a specialized piece of equipment that, like the dolly,

accommodates two to three people and allows the camera to be moved through physical space. Because cranes are extremely specialized and massive, the dolly grip will enlist the additional help of other grips to control the crane arm and movement.

Back to the eggs. We get a message from the director, saying this: *"Start with a high-angle LS. Moving down and across the eggs, I want to end up with a CU of our hero egg, in the center. Make the shot as interesting as you can."*

So let's do this. We'll crane down while dollying across. During this whole movement, we'll tilt down and pan to keep the center egg tracked. Before this movement is finished, we'll continue right into a dolly in and end on a CU of our hero egg. Are you visualizing it? If you want to, take a stab at making this shot using the DXF or Imagine files of the eggs yourself before looking at my result in

[AVI 2.13](#).



AVI 2.13: The Big Finale.

The Basics Out of The Way

We now have a solid start on the basics of storytelling through the use of shot and camera movement terminology. Hope-

fully, the issue of shot relativity and the types of lenses that exist has been made clear to you.

Over the next few weeks, practice understanding and using these terms while watching movies or television. By getting used to the flow of shot selection, and noting how different lenses affect the viewer's experience, you'll begin to make progress in designing efficient, effective and exciting cuts.

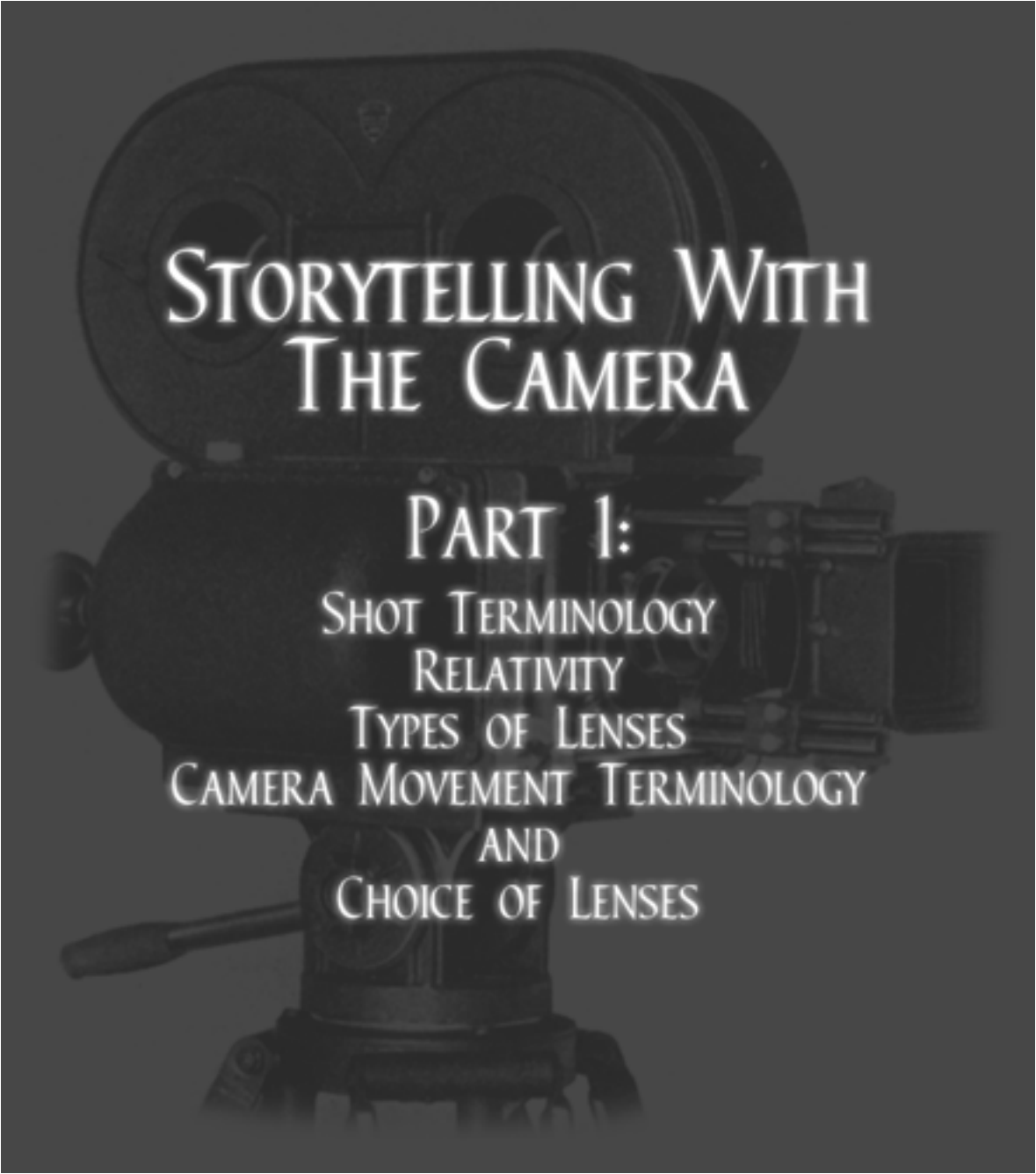
To follow up this theoretical explanation of the above topics, in the next part, we'll explore the principle of depth of field – how to use deep focus and shallow focus for dramatic effect. As well, we'll take a close look at how depth of field relates to the real world types of lenses that we now know. To build on all this knowledge, we'll examine a portion of a short film called “Endgame”, which will expose and illustrate all these principles. And as a bonus, I'll reveal a movie-magic secret, the dolly-zoom shot!

By then applying realistic cinematographic principles and guidelines to our animated worlds, they will become that much more believable.

Until next time...

Biography

Todd Cherniawsky, IDSA, is a practicing production designer who works in the motion picture industry. Working in various capacities, including art direction and set design, he has contributed to the recent feature films “Inspector Gadget”, “Armageddon”, and “Sphere”, and Lightstorm Entertainment's new IMAX 3D project. Todd is currently production designing “Ginger Snaps”, an independent feature film being shot in Toronto. He can be reached at todd@asylumdesignworks.com.



STORYTELLING WITH THE CAMERA

PART 1:

SHOT TERMINOLOGY
RELATIVITY

TYPES OF LENSES

CAMERA MOVEMENT TERMINOLOGY
AND
CHOICE OF LENSES

