Rendering Exercise – Optical FX Egg

1. Set your project to **understanding_maya\Chapter04\rendering_optical_egg.**

2. Open the scene **rendering_optical_egg_begin.ma.**

3. Play the animation. You'll see a hinged egg opening its top.

4. Create a point light by clicking **Create > Lights > Point Light.** Place the light inside the top of the egg, where it'll be seen when the egg opens as in Figure 4.73.

5. On frame 16 render a frame. The light is affecting the scene, but it is not itself visible.

6. Open the **Attribute Editor,** with the *pointLightShape1* selected. In the **Light Effects** section, click the **Create Render node** button next to the **Light Glow** attribute. This will automatically create and connect an **Optical FX** node, as well as a render sphere attached to the light (see Figure 4.74).

7. Render the frame. Now you can see the light and a four-point glow effect. If you like, experiment with the different **Glow Types** and related settings.

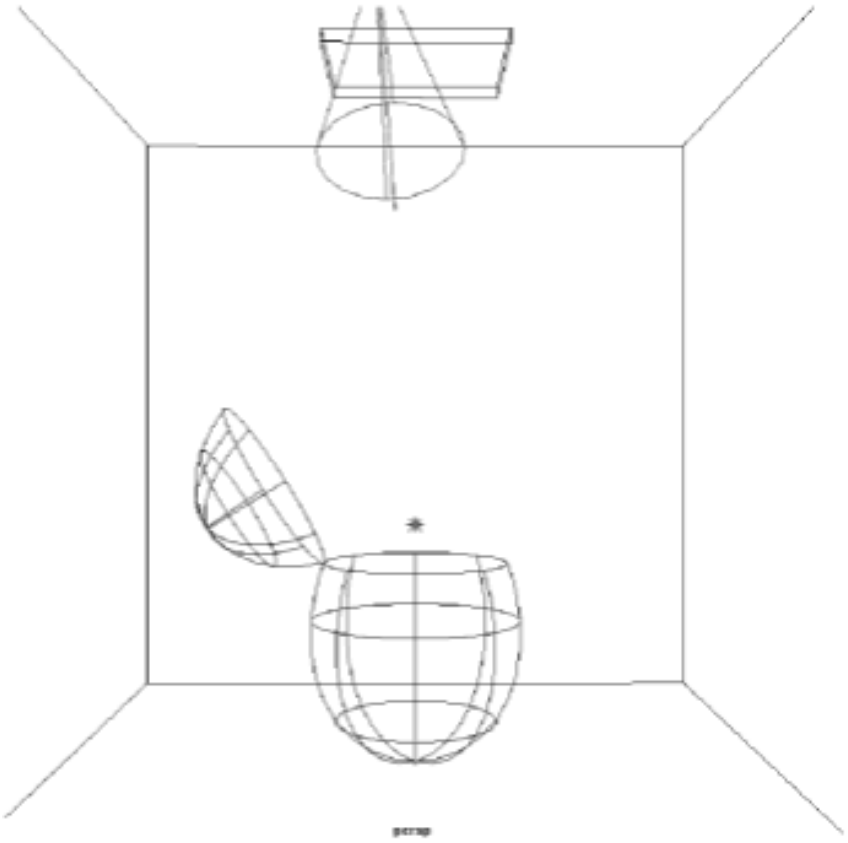

Figure 4.73: Point light placement

Figure 4.74: Enabling light glow

8. The **Lens Flare** is not enabled by default. Turn it on by clicking the **Lens Flare** checkbox, and then render the frame to see the result (see Figure 4.75).

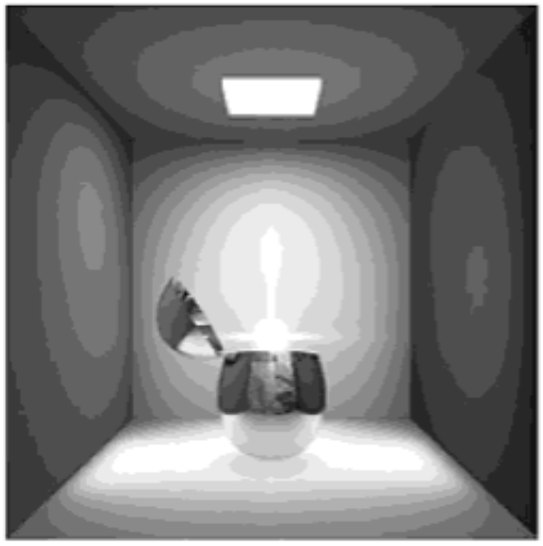

Figure 4.75: Lens flare and light glow

When you are fine-tuning light settings, effects, materials, and other render settings, it can be pretty inefficient to continually re-render the scene after every adjustment. For these cases, Maya provides an excellent solution: the **Interactive Photorealistic Renderer**, or **IPR**.

The **IPR** updates your rendered image in close to real-time. As you adjust the settings on your effects, you'll see instant results appear on your final image.

9. First, turn off **Raytracing** in the **Render Globals.** (**IPR** doesn't work with raytracing.) With your **perspective** view active, click the **IPR** render button on the **Status Line**. Your frame will be rendered, and then you'll be instructed to "Select a region to begin tuning." **LMB**-click-drag a marquee selection around the portion of your image you'd like to refine, as in Figure 4.76. (The smaller the area, the quicker the updates will be.)

10. Now continue to tune the lens flare attributes, such as **Flare Vertical, Flare Horizontal** (used to rotate the row of flare shapes), **Flare Intensity,** and **Flare Min/Max Size** (see Figure 4.77).

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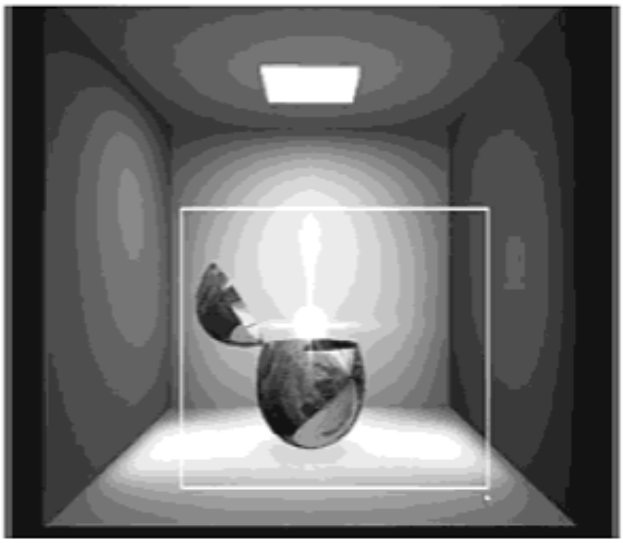

Figure 4.76: IPR render

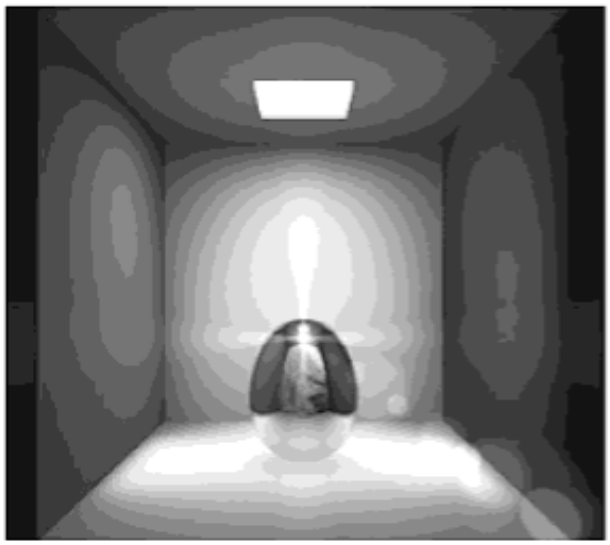

Figure 4.77: Tuned lens flare

11. When you are finished, click the **IPR** stop sign icon. This clears the **IPR** layers from memory. You should now render a frame with the usual render button. (But be sure to turn **Raytracing** back on in the **Render Globals** first.)

12. Return to frame 1 on the timeline and render a frame. There's a problem: the light should not be visible when it's hidden from view by the egg's lid. When a light is fully occluded from a camera, no lens effects can occur. In order to make this work in Maya, you must set the render sphere to an appropriate radius. When the render sphere is fully hidden from the camera, so is the optical effect.

13. Change the *sphereShape1* radius to 0.4. Render the frame – no more glow!

14. Try batch rendering this animation in order to see the glow appear as the egg opens (see Figure 4.78 and Color Plate VIII).

15. Save your scene.

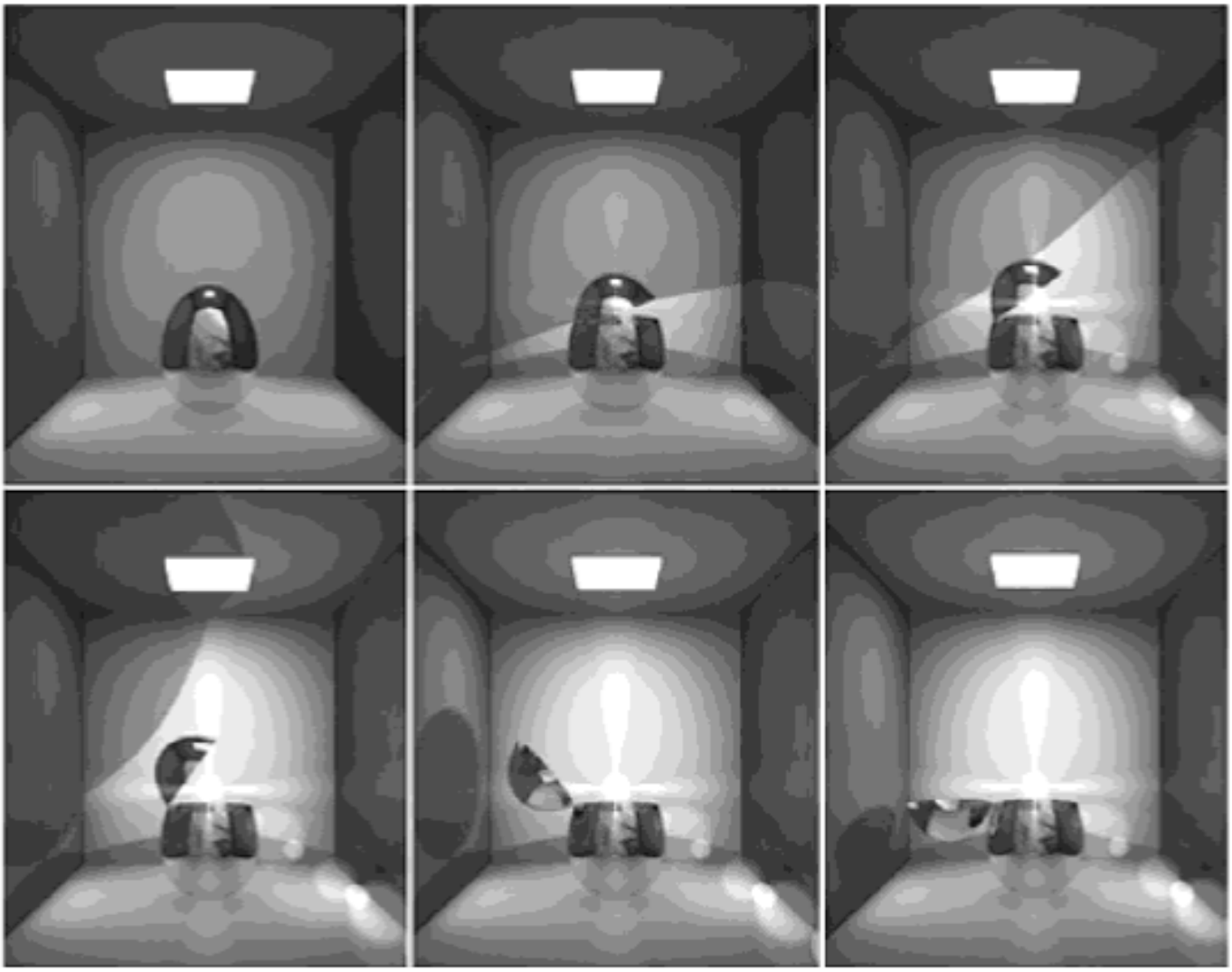

Figure 4.78: Behold the animated space egg

4.8 Project 4 — Chicken Added to Scene

Model the chicken character using polygonal and subdivision surfaces. Refine the egg's animation using the different tangency types.

- Use the Graph Editor to influence the egg's in-between.
- Create more complex shaders using bump mapping, reflections, transparency, and refractions.
- Fake colored bounce light with Area lights.
- Try adding optical effects to the render.