

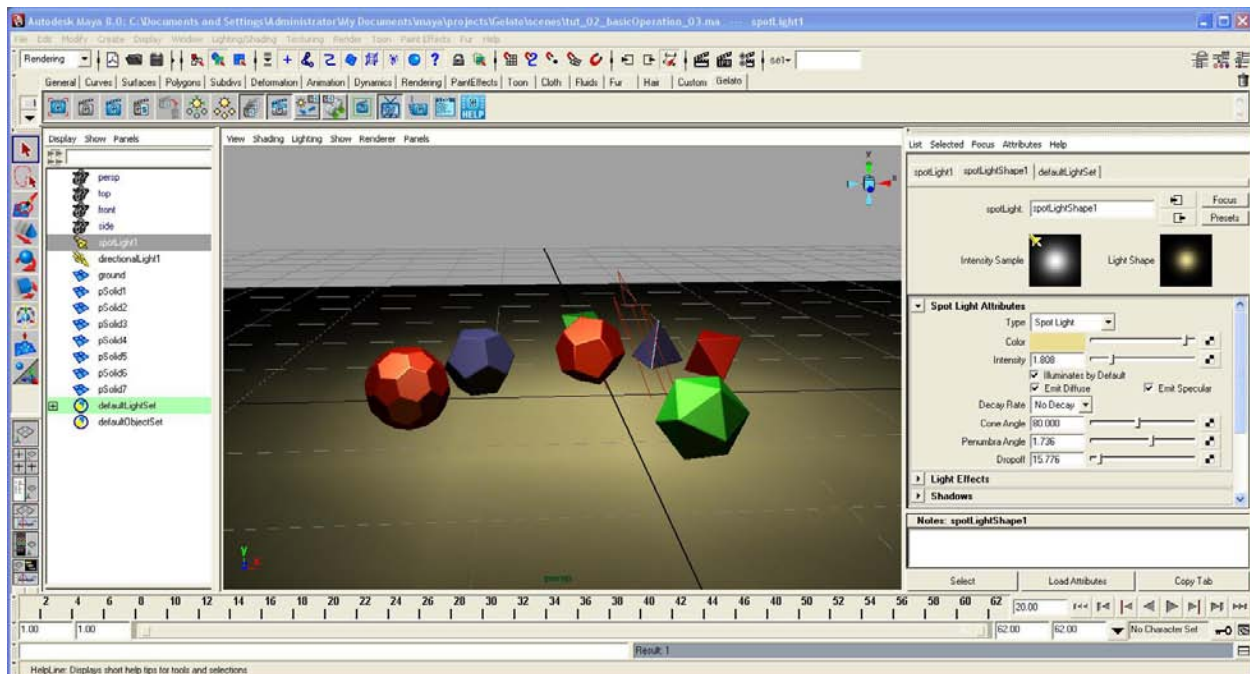
## 2.3 GELATO SHELF



This is the companion to the movie, tut\_02\_03, part 3 of the 3 NVIDIA® Gelato® Basic Tutorials.

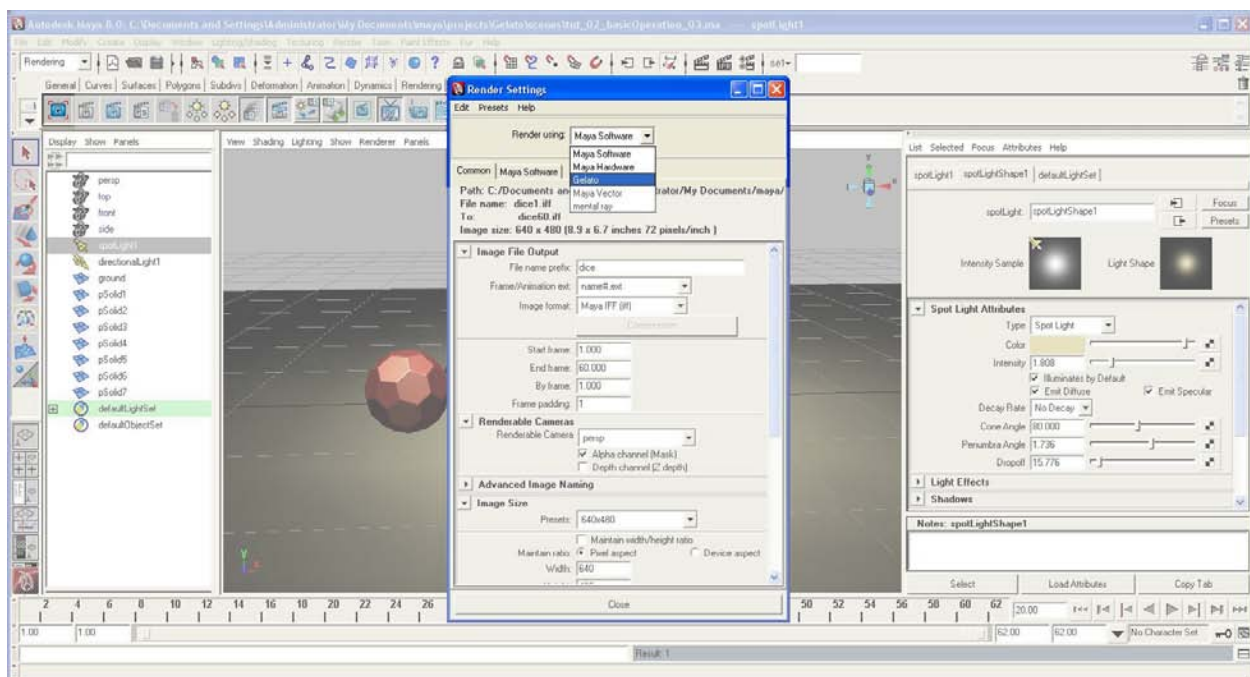
In this tutorial, we will meet the inhabitants of the Gelato Shelf and discover how they might serve us and make our lives easier. Gelato has many features which can save us time while we are trying fiddle to perfection. We can perform a low-res render without going into the Render Settings and we can return to our original higher-res settings just as easily. We can tweak the lights individually if we like by merely clicking one button, then re-enable all the scene's lights by clicking another button. We'll be introduced to Sorbetto™\*, something which we'll encounter in more detail in later tutorials, and which will be very useful as we tweak lighting. So, that being said, let's take a look...

*\*Note: Sorbetto is a feature of NVIDIA® Gelato® Pro.*

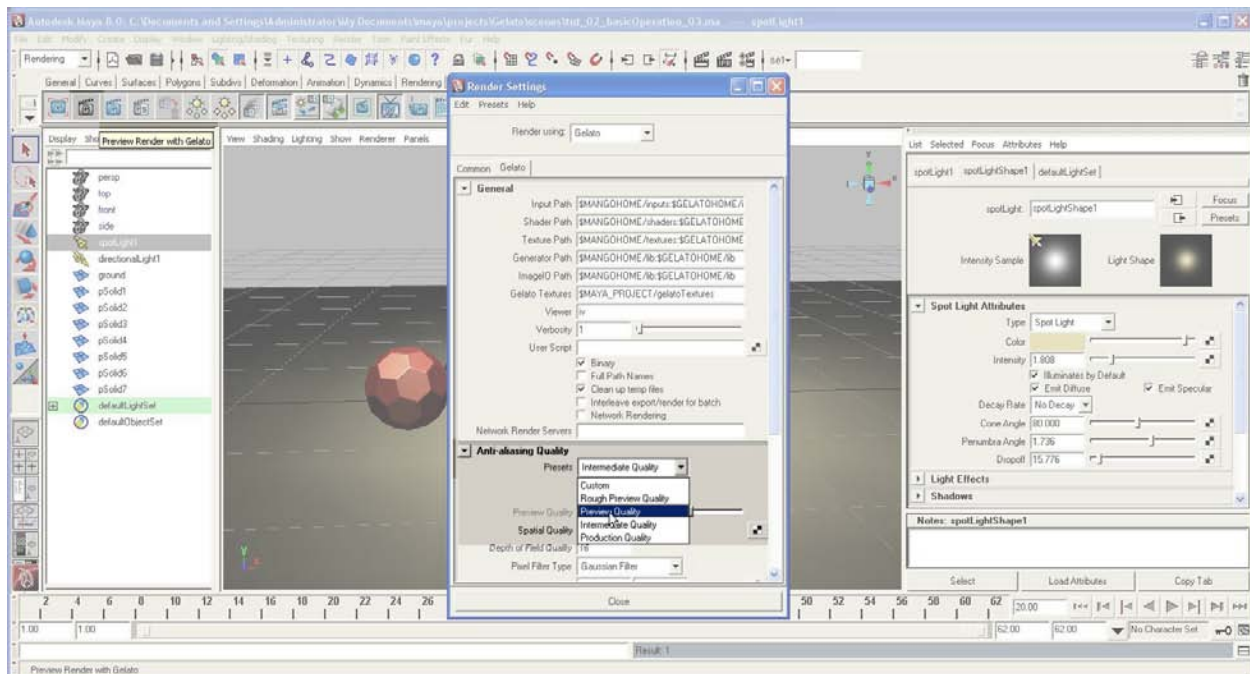


- Open “tut\_02\_03.”

Gelato created a custom shelf when it was created. We are going to begin our tour of its wonders by observing that there are G icons and GS icons. The G icons are specific to Gelato; those with GS are functions for Gelato and Sorbetto.

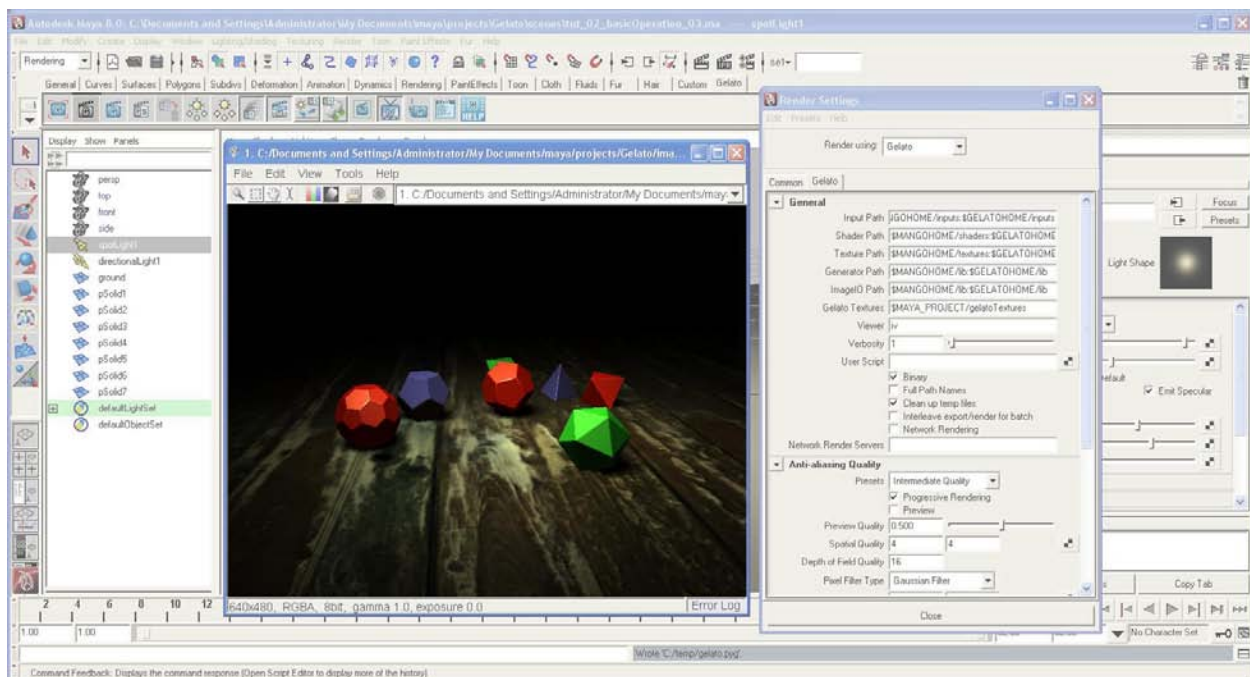


**Set Gelato Renderer as the current renderer** is the first button in the shelf. This is the same as going to the Render Settings and changing “Render Using” to “Gelato.”



**Preview Render with Gelato**, the 2nd button from the left, is the equivalent of going over to the Anti-aliasing Quality section of the Render Settings and changing the Preset to Preview Quality.

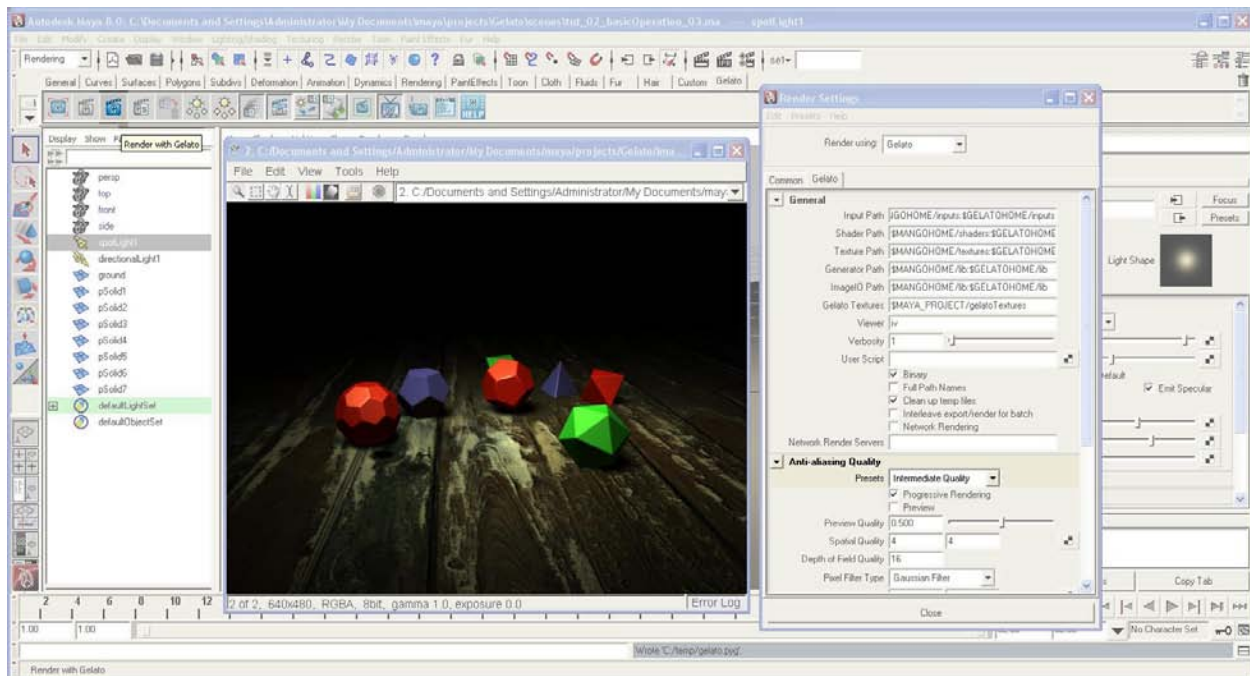
Many times, for preview purposes, we will lower the anti-aliasing to save time while we are tweaking certain things, then change it back to a higher setting when we are fine-tuning or preparing to render. This button saves us having to go back and forth in the Render Settings. We can leave our anti-aliasing set at a higher setting and use this button to override that setting when we only need a very rough, quick preview.



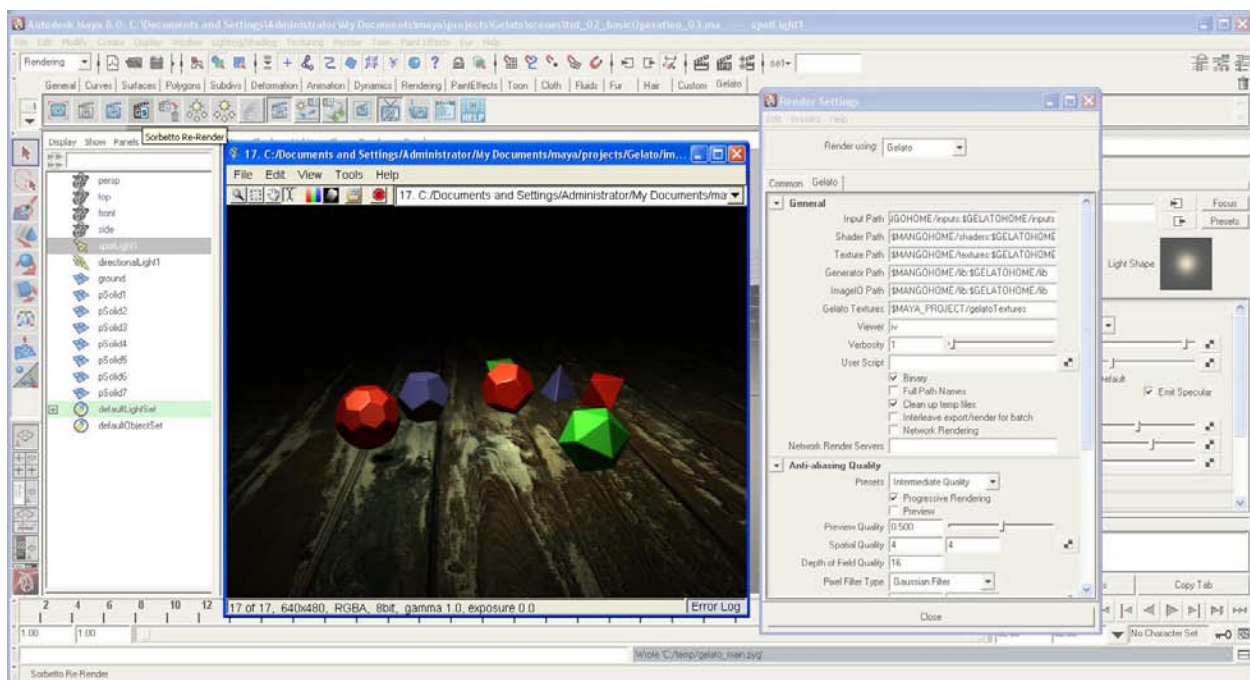
As well, if ray-tracing were set up, "Preview Render with Gelato" would ignore it. We don't have to go into our settings to disable these things to get our rough preview.

This rough render allows a quick check of the basic lighting and camera setup.





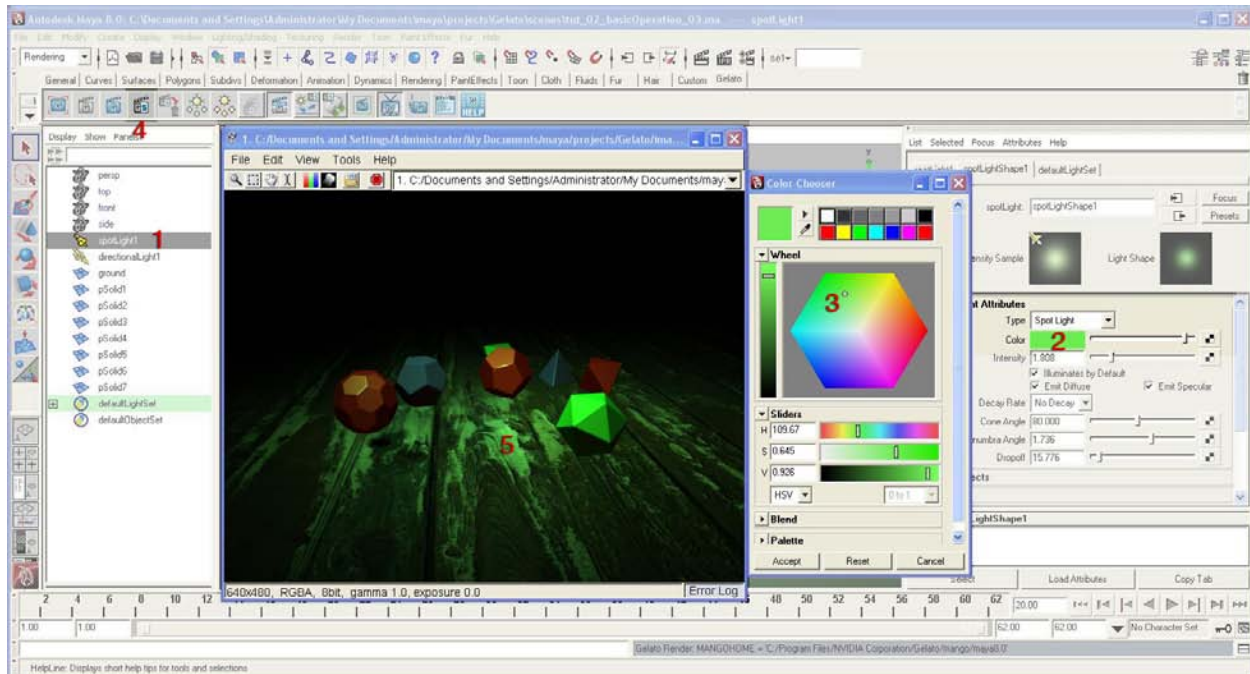
**Render with Gelato**, the 3rd button from the left, will render using the settings that have been established in the Render Settings dialog.



**Sorbetto Re-Render** is 4th from the left in the Button Bar. Sorbetto is a relighting render technology, similar to Maya's IPR. The geometry and texturing gets cached and we simply re-render any changes made to the lighting or shadows.

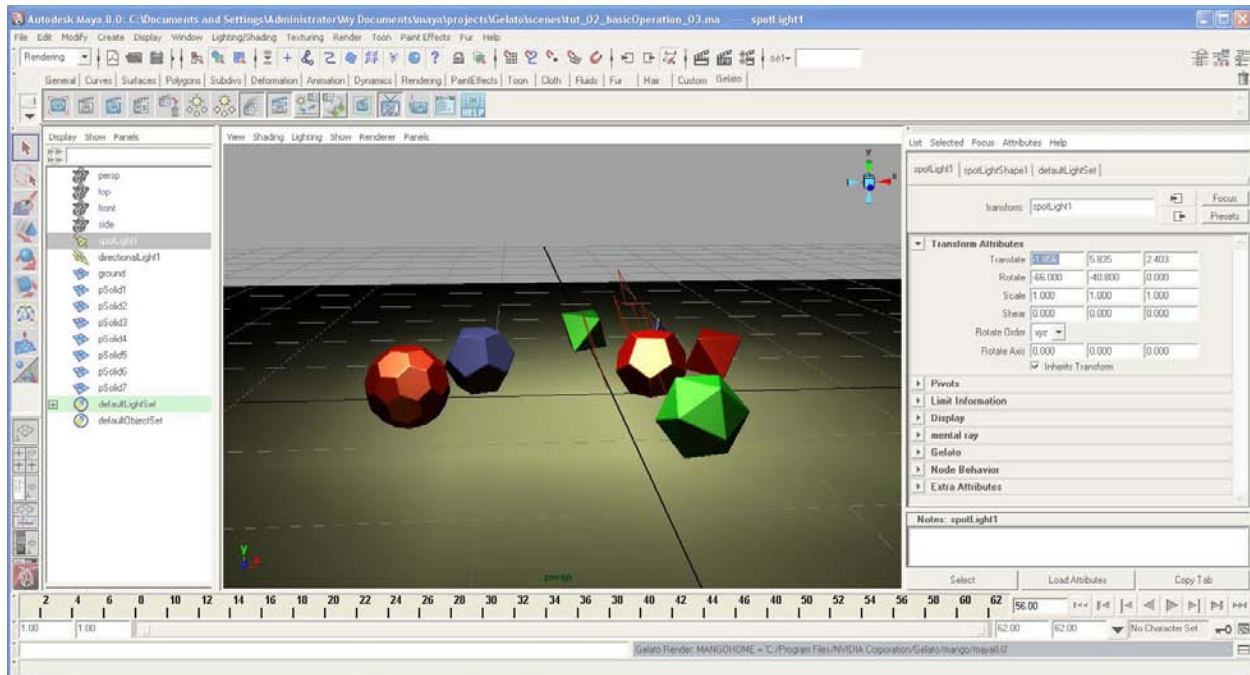
- **[CLK]** Sorbetto Re-Render.

This first Sorbetto Re-Render doesn't appear to be any different from a plain Gelato Render. It certainly is not any faster...

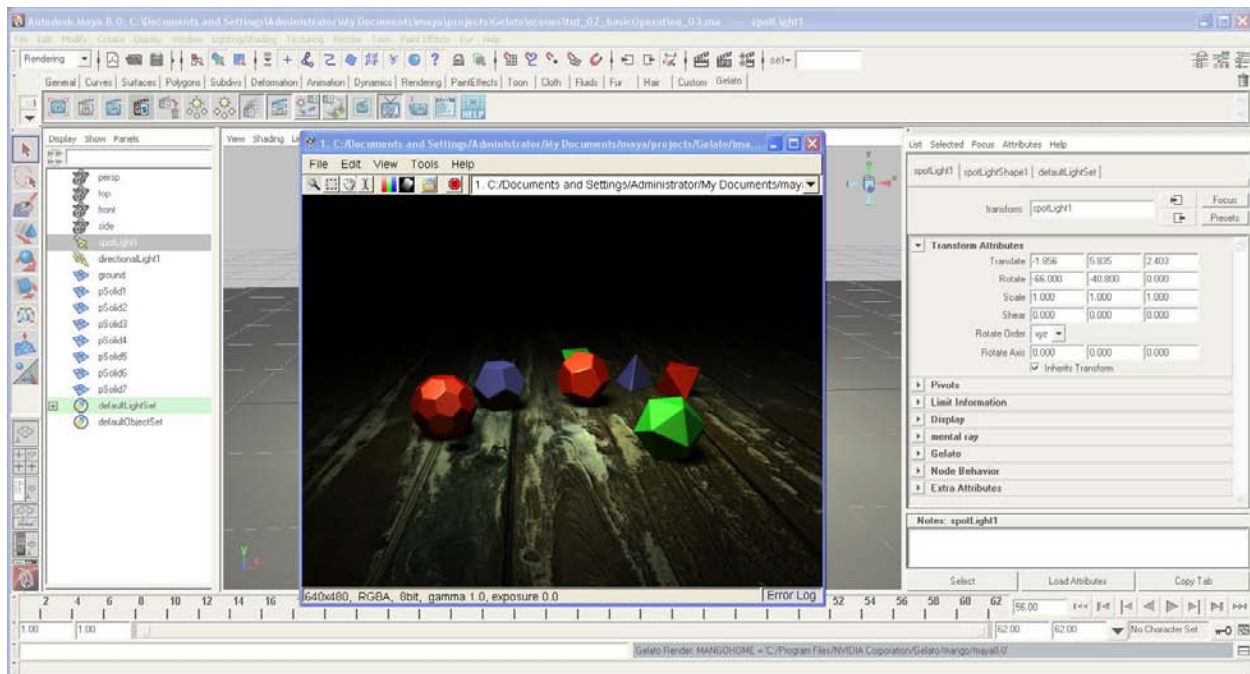


- Select the spotlight and open its Attribute Editor.
- **[CLK]** on the spotlight's Color field to open the Color Chooser.
- Change the color to anything else.
- Sorbetto Re-Render.
- When you're done playing with the light color, change it back to its original slightly yellow color.

The color in the scene has changed and this render was much faster. Since the first Sorbetto Re-render did the caching, this one only updated the change in lighting.



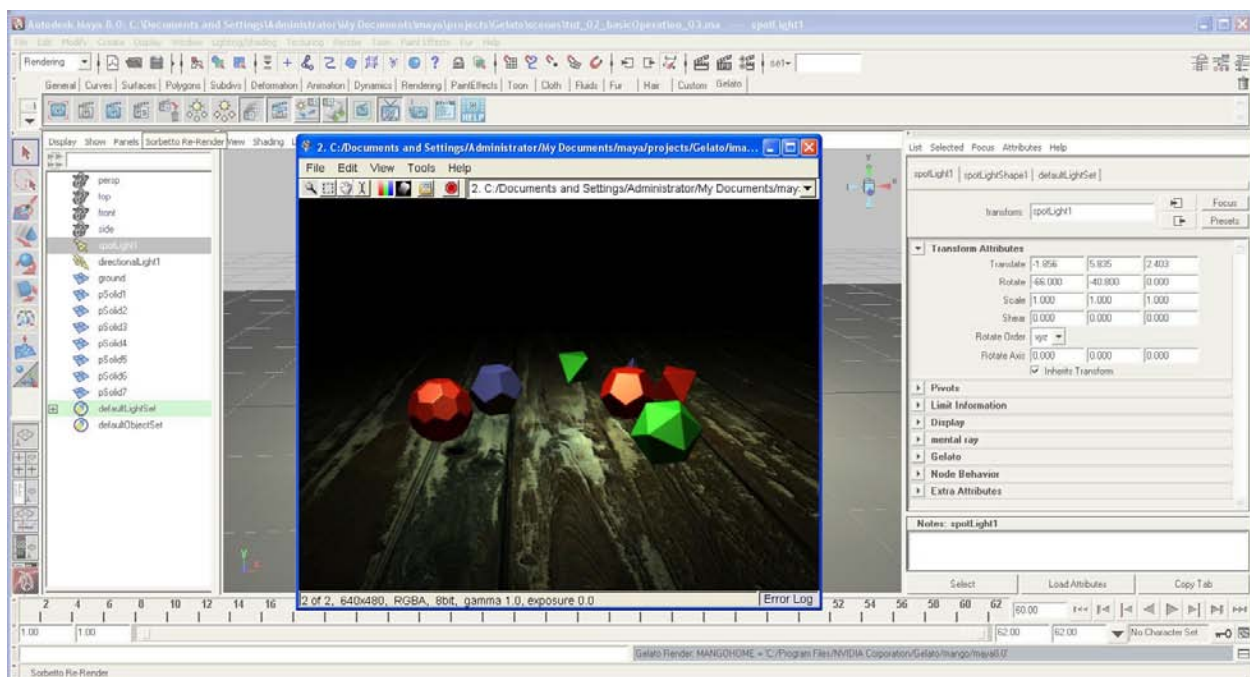
- Scrub the Timeline so that there is a change in the geometry.



# - Sorbetto Re-Render.

The view in the viewport and the view in the Image Viewer don't match.

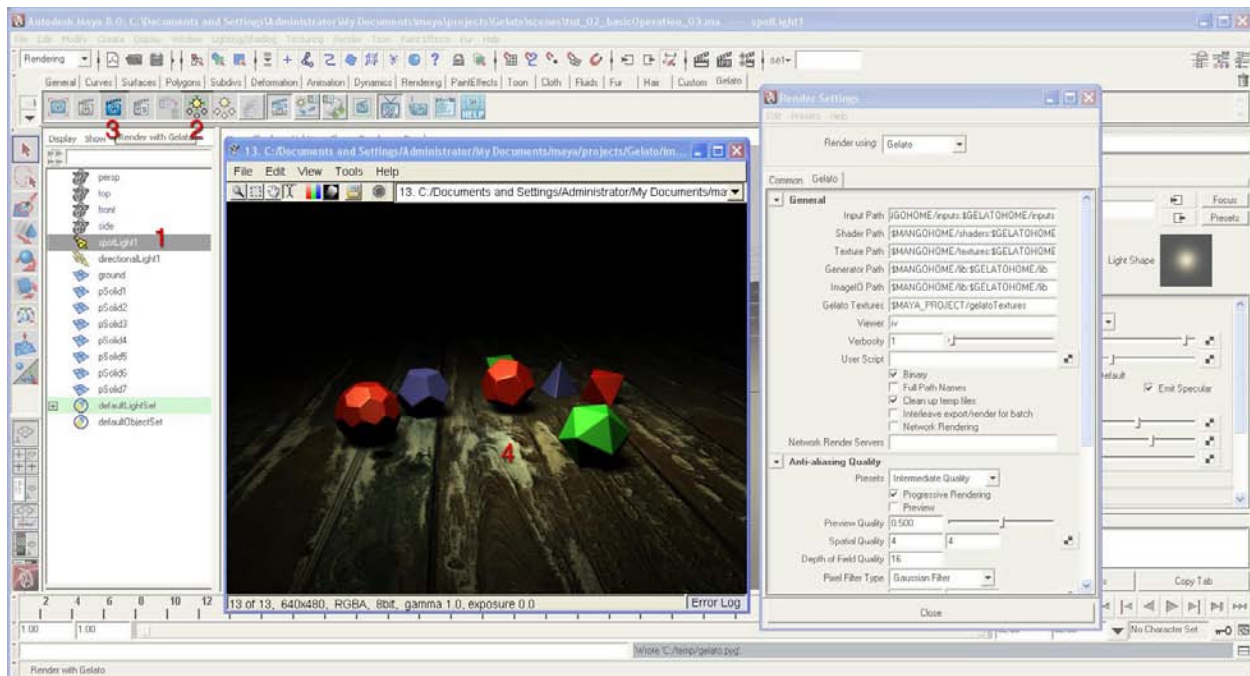
What happened? Remember, the first Sorbetto Re-Render separated the light and geometry into different caches and subsequent re-renders now only update the lighting.



**Refresh Sorbetto**, 5th from the left, is for situations like this, when the cache needs to be updated.

# - [CLK] "Refresh Sorbetto."



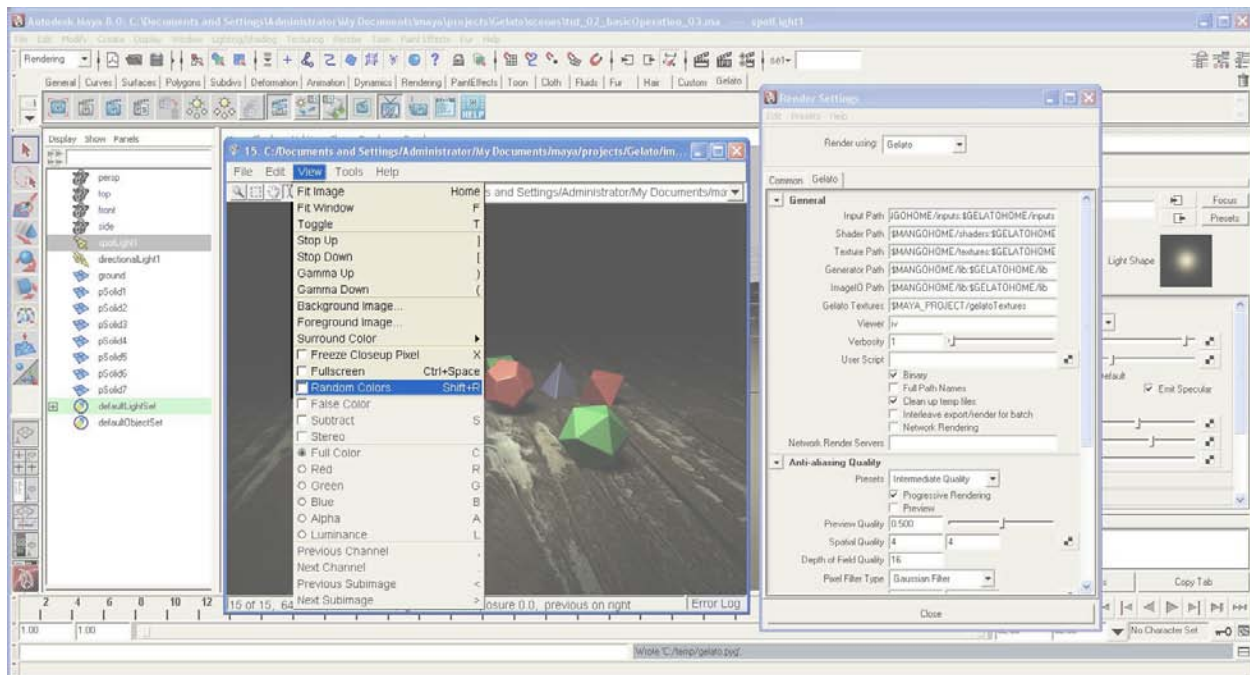


**Solo Lights**, 6th button from the left, will disable all lights save the one(s) selected.

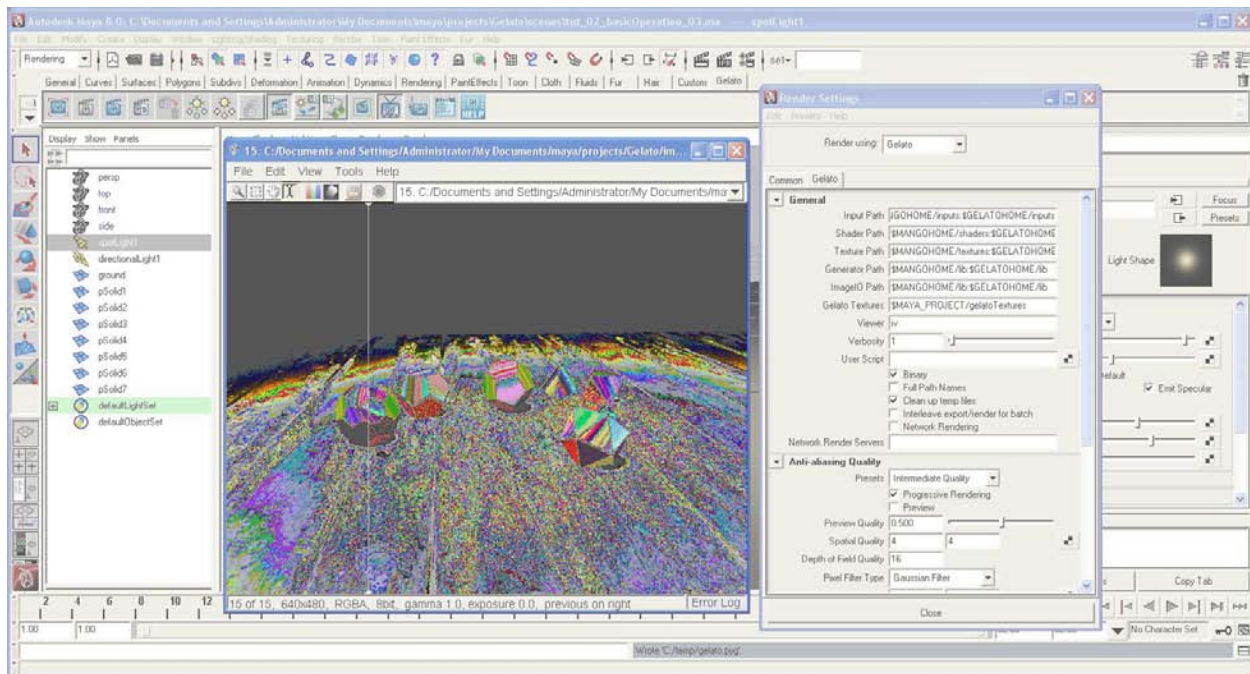
- **[CLK]** on “spotLight1” in the Outliner.
- **[CLK]** “Solo Lights.”
- Gelato Render.

The only visible light in the render is that from the spotlight, making this a useful way of fine-tuning or troubleshooting individual lights.

*This could also be done to isolate groups of lights.*

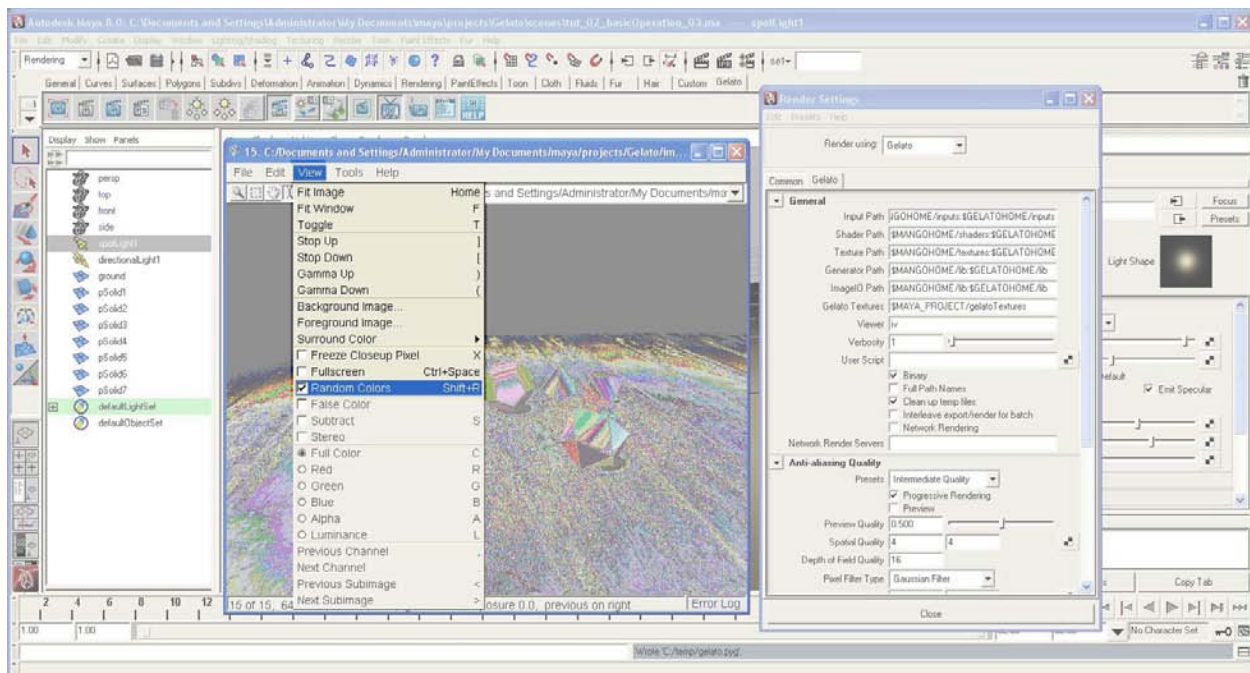


- Enable “Random Color.”



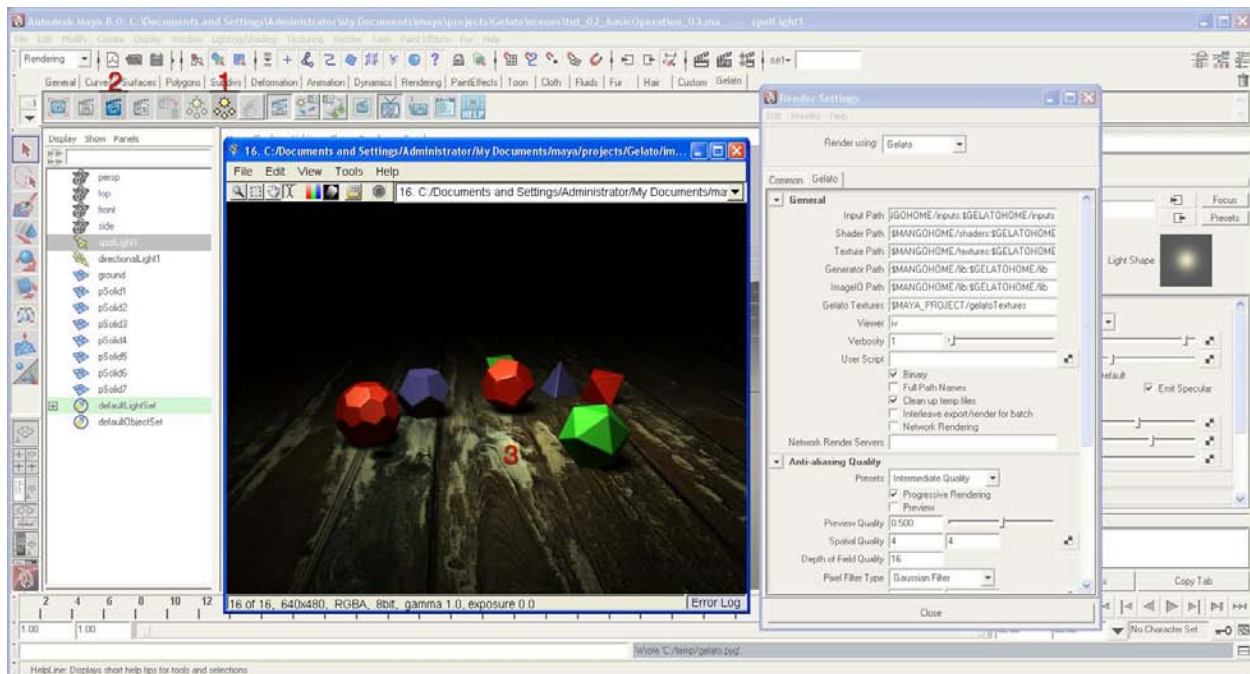
- Use the Wipe Tool to compare this image to the last, to see how much light is contributed by the fill light.

This technique is particularly useful when identifying subtle changes. Take a look at the left and right sides of the floor. Using the Random Colors and the Wipe tool, it becomes easy to pick up that the fill light is influencing this part of the scene as well as the more visibly noticeable parts.



- Turn off Random Colors.

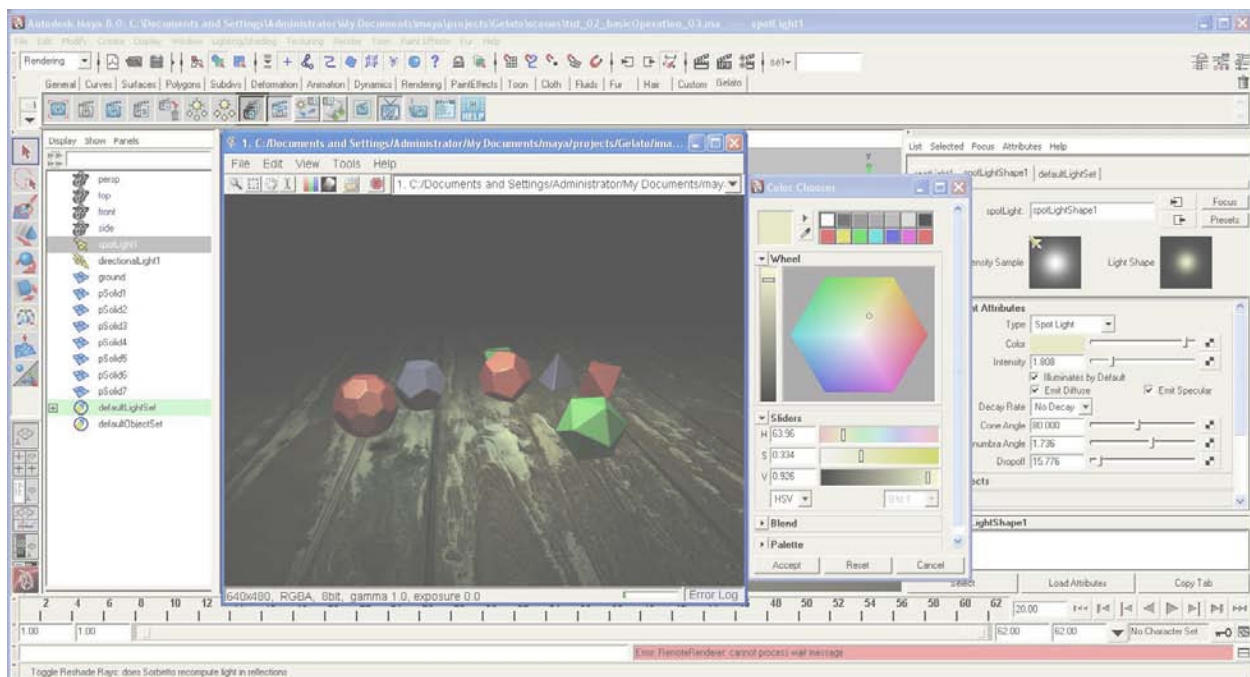




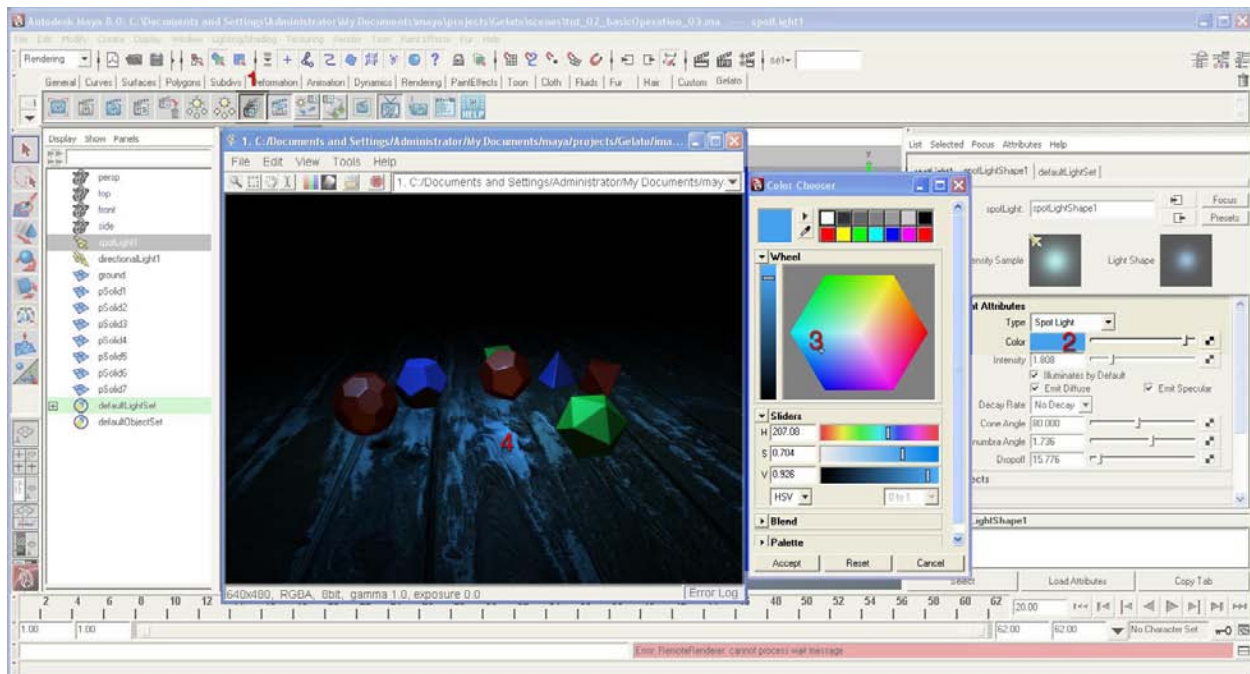
**Unsolo Lights**, 7th from the left, restores all the lights to the scene.

- [CLK] “Unsolo Lights.”
- Gelato Render.

All the scene’s lighting is once again enabled.

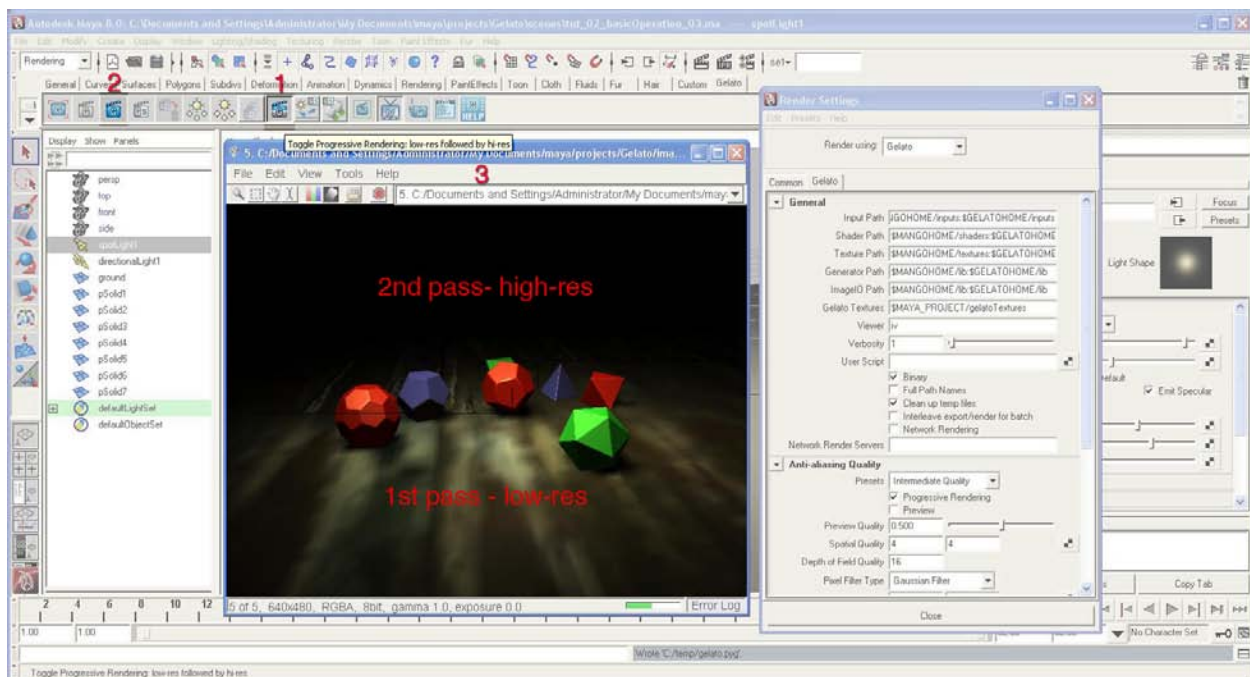


**Toggle Live Updates**, 8th from the left, is a feature that is recommended to be toggled “on” at all times so that as changes are made, the Image Viewer will automatically update, saving us from constantly going up and clicking the render button.

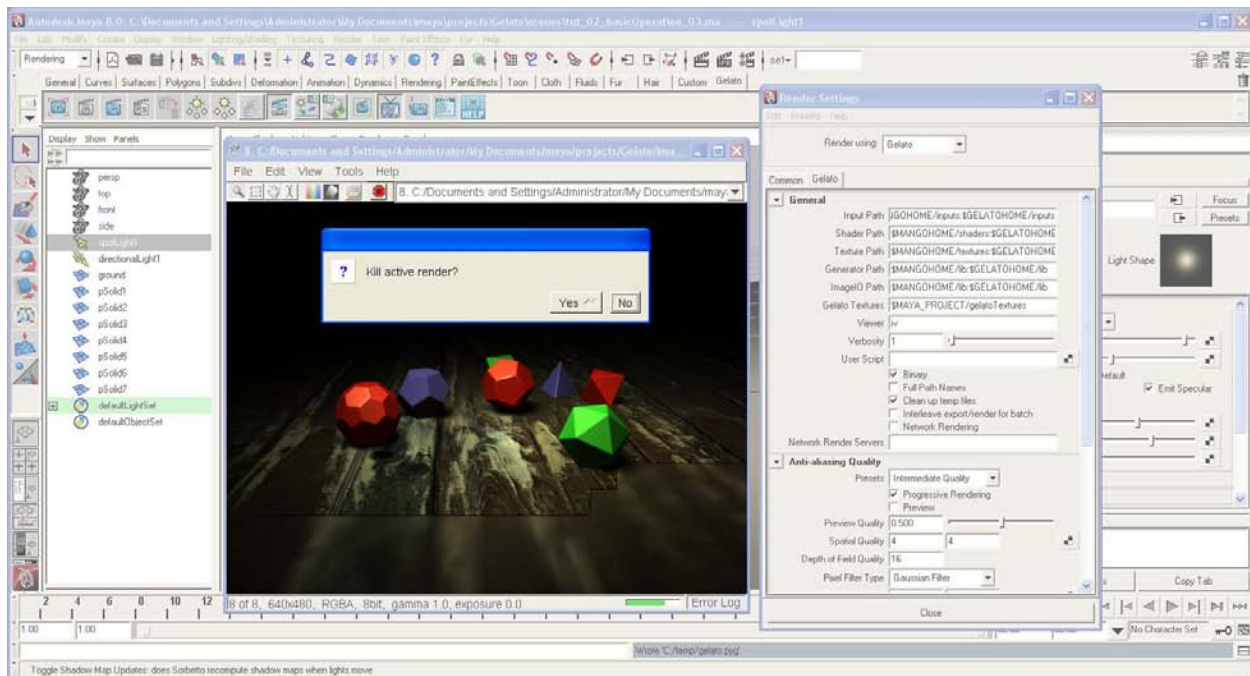


- With the spotlight selected, **[CLK]** the Color Field in its Attribute Editor to open the Color Chooser.
- With “Toggle Live Updates” enabled, move the cursor across the Color Chooser.

As you do this, you will see the Image Viewer updating to keep up with the color changes.



When **Progressive Rendering**, the 9th button from the left, is toggled on, Gelato will first quickly spit out a Preview Quality image during a render, then follow with a render using the resolution settings established in the Render Settings dialog.



If the low-res version shows any issues that need addressing, the render can be terminated without wasting more time than necessary by hitting the red Stop button in the iv's Button Bar. Because of this, Progressive Render is a useful thing to have on all the time.



**Toggle Reshade Rays**, 10th from the left, determines whether ray-tracing is going to be recalculated.

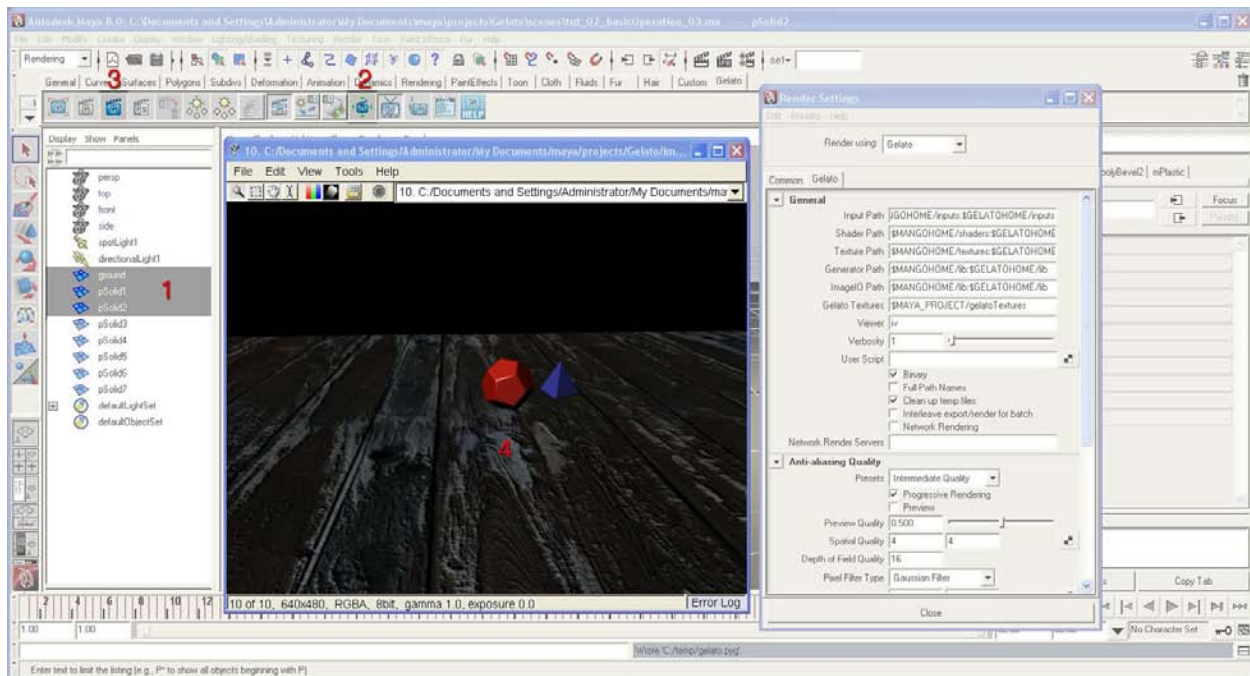
This is off by default; having it on is expensive – it can really slow things down – so unless it's necessary to see changes in reflections, it's a good thing to leave off.



**Toggle Shadow Map Updates**, 11th from the left, determines whether the shadow maps will be updated when the lights are moved.

This is on by default; if your lights are not changing position, turn this off so as not to incur a render hit by having the shadow maps being recalculated each time.

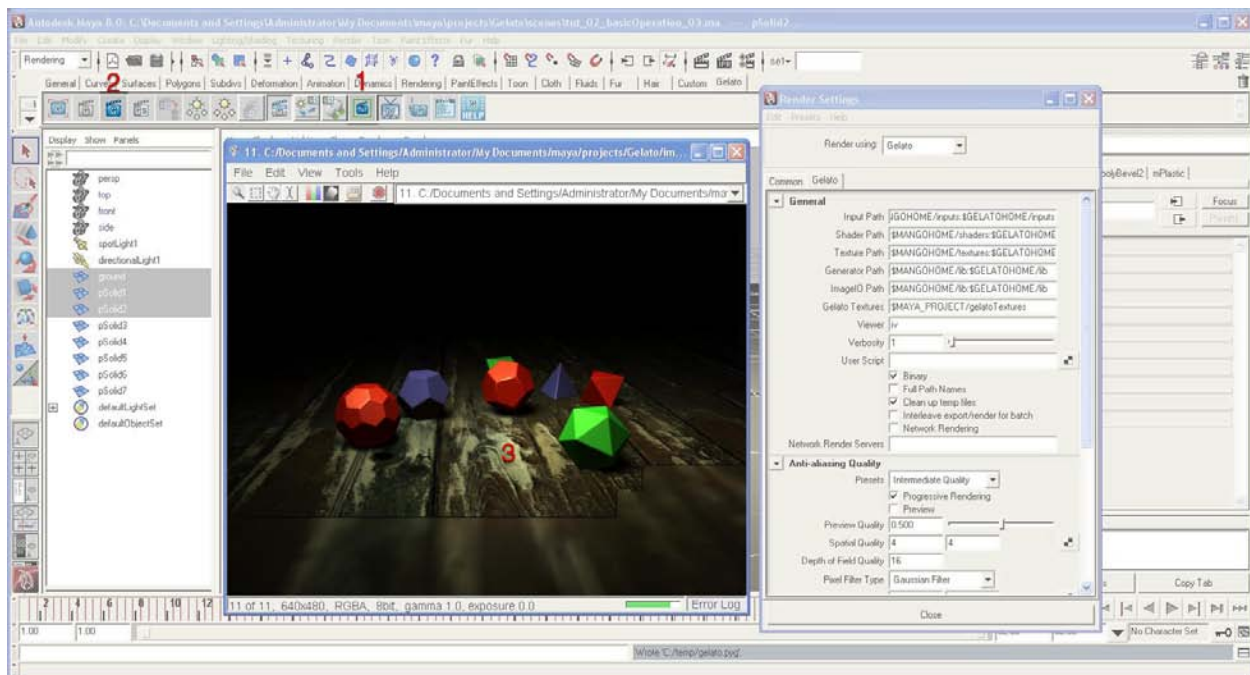




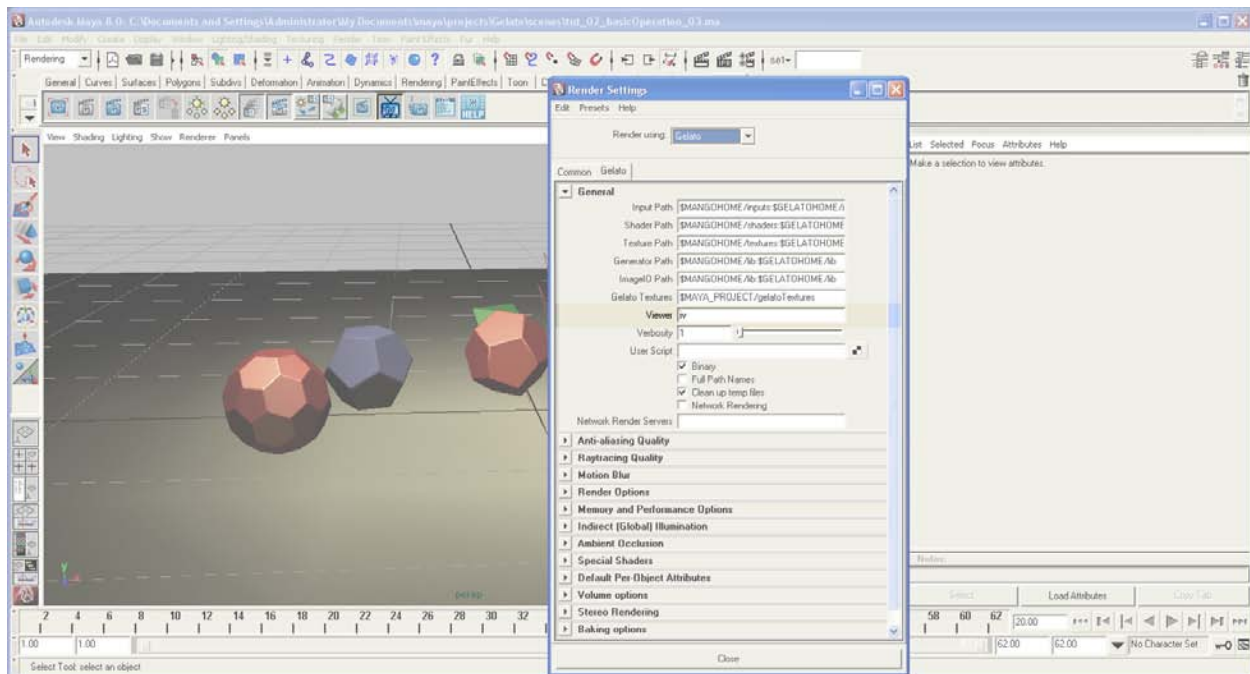
**Render all objects with Gelato**, 12th from the left, allows us to selectively render geometry.

- Go to the Outliner and select “ground,” “pSolid1,” and pSolid2.”
- **[CLK]** “Render all objects with Gelato” to enable it. Triangles pointing inwards will appear on the button.
- Gelato Render (3rd button from the left).

Now only two objects and the floor are rendered.

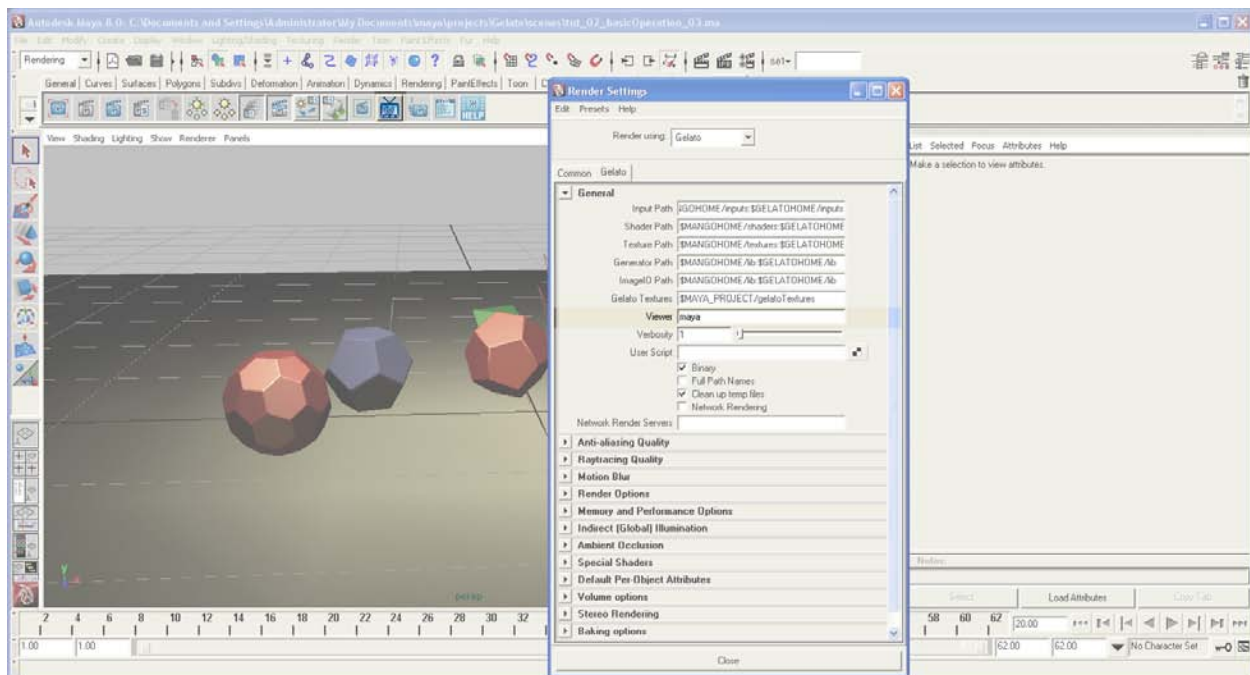


- **[CLK]** “Render all objects with Gelato” again to disable it. The triangles on the button will disappear.
- Perform another Gelato Render so that all the geometry can be seen once again.



**Use 'iv' as the image viewer**, 4th from the *right*, is a shortcut to the Viewer setting in the Render Settings dialog.

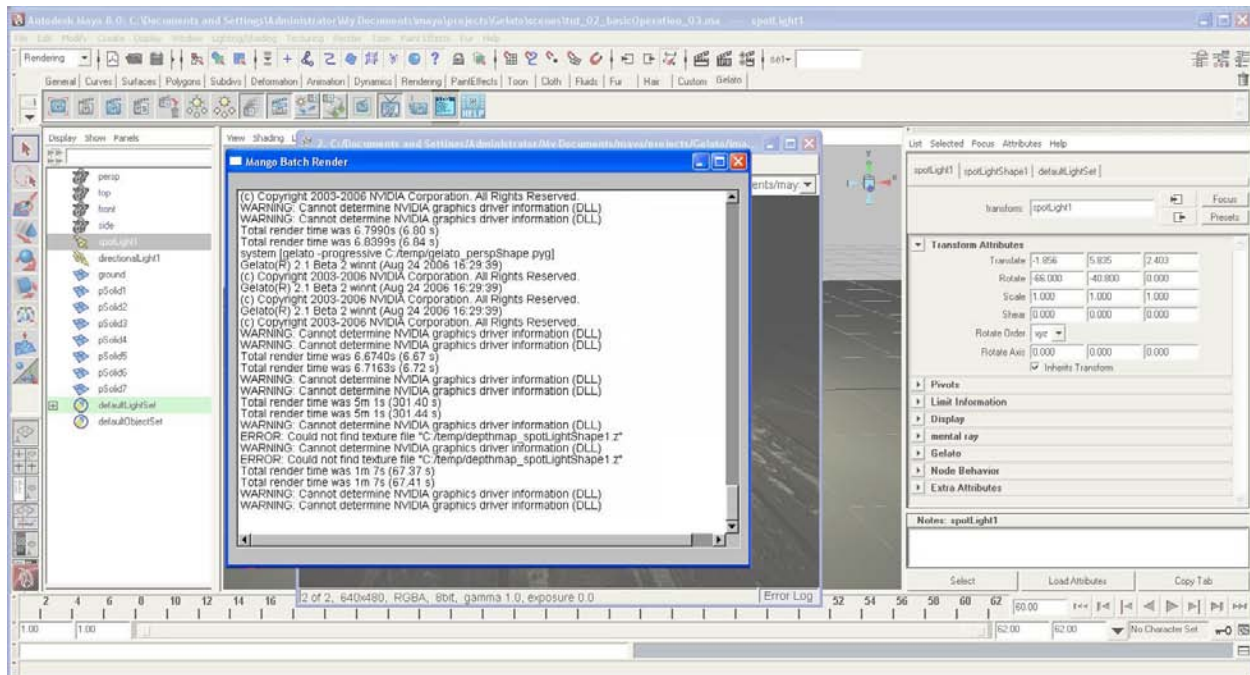
This button toggles between iv and maya. Above, it's shown in its iv position – the button is depressed.



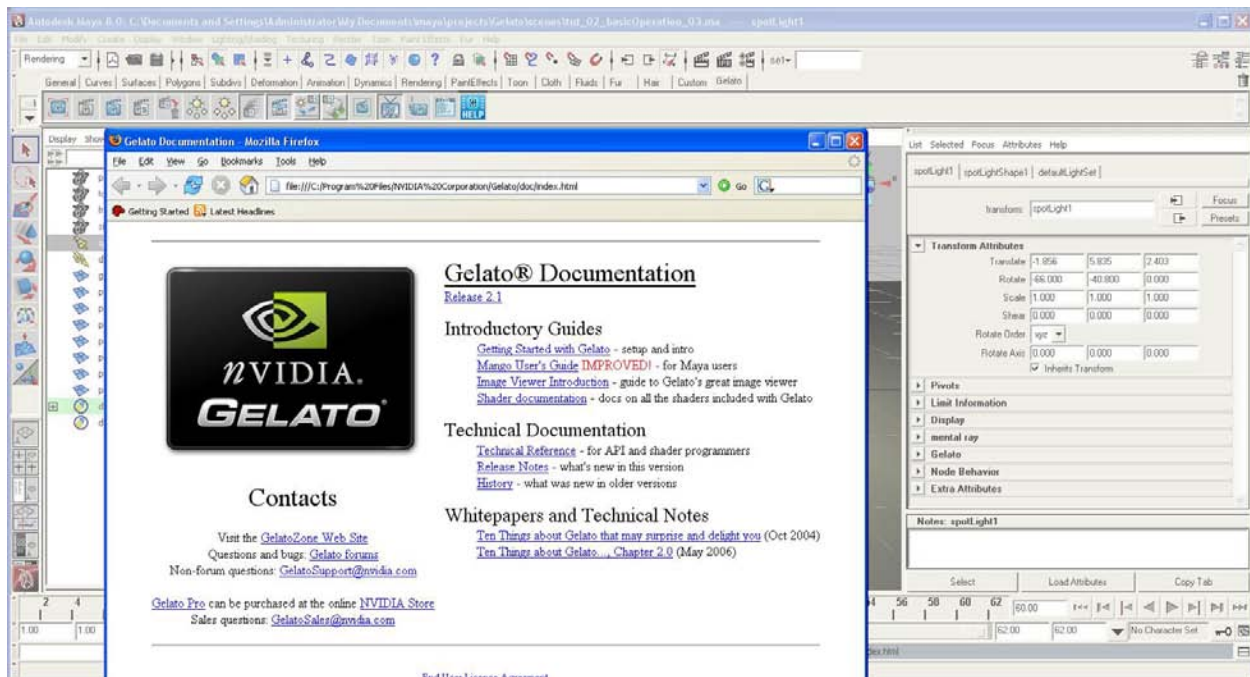
Here it is shown in its maya position – the button is up.



**Bake textures with Gelato**, third from the *right*, bakes textures and lighting effects into texture maps which can be brought back into a project and applied to objects to save on rendering times.



**Show Render Log**, 2nd from the *right*, brings up the Mango Batch Render dialog. Time is calculated to 4 decimal points.



**HELP**, the last item in the Gelato Shelf, is used to invoke the Gelato documentation.

And that's a look at the Gelato Shelf. In the subsequent tutorials, we'll be making use of this information.