Chapter 8- Ray-Tracing

Ray-tracing is used to produce mirrored and *reflective* surfaces. It is also being used to create transparency and *refraction* (bending of images through transparent surfaces- like a magnifying glass or a lens). With ray-tracing, all Blender lights can cast shadows if you desire. Ray tracing can produce some stunning effect, but can come at a high cost in rendering times. ***Use it only where needed***. Don't try to ray-trace everything. The professionals don't even do that. Watch any 3D show on T.V. and you will see it being used selectively. You can get some great shadow and texture effects with Blender's traditional spotlights and material settings at a fraction of the render times.

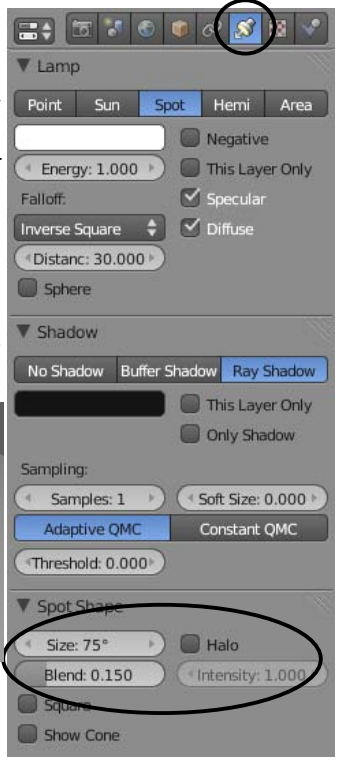
To get ray-tracing to work, you need to go to the *Render* settings and turn on "*Ray Tracing*" in the Shading panel (see previous chapter). Now you are ready to apply some of the ray-tracing features to your objects. *Until you do that you won't see any difference in your renders.*

Lighting and Shadows

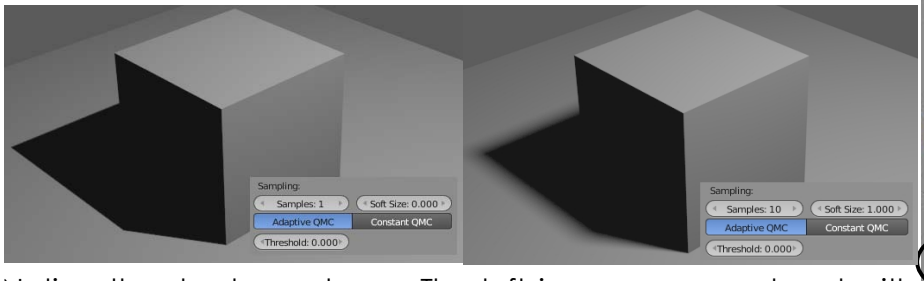
To get a ray shadow for a lamp, select the lamp you want to cast shadows (all types work with ray-tracing), go to the ***Lamp*** settings, find the "**Ray Shadow**" button and activate it.

When you activate ray shadow, you will see a few setting for most of the lamp types. You will see "*Soft Size*" settings for edge softness and "*Samples*" for improved quality.

You will also see two options called "*Adaptive QMC*" and "*Constant QMC*". These are just ways to generate the shadows with Adaptive being quicker while Constant can give better quality, but slower renders.



You will notice a few extra setting options for a ray spotlight. *Spotlight Size*, *Spotlight Blend*, and *Halo Intensity* work the same as they do for a buffer shadow spotlight.



Notice the shadows above. The left image was rendered with Samples at 1 and Soft at 0. The right image was 10 and 1.