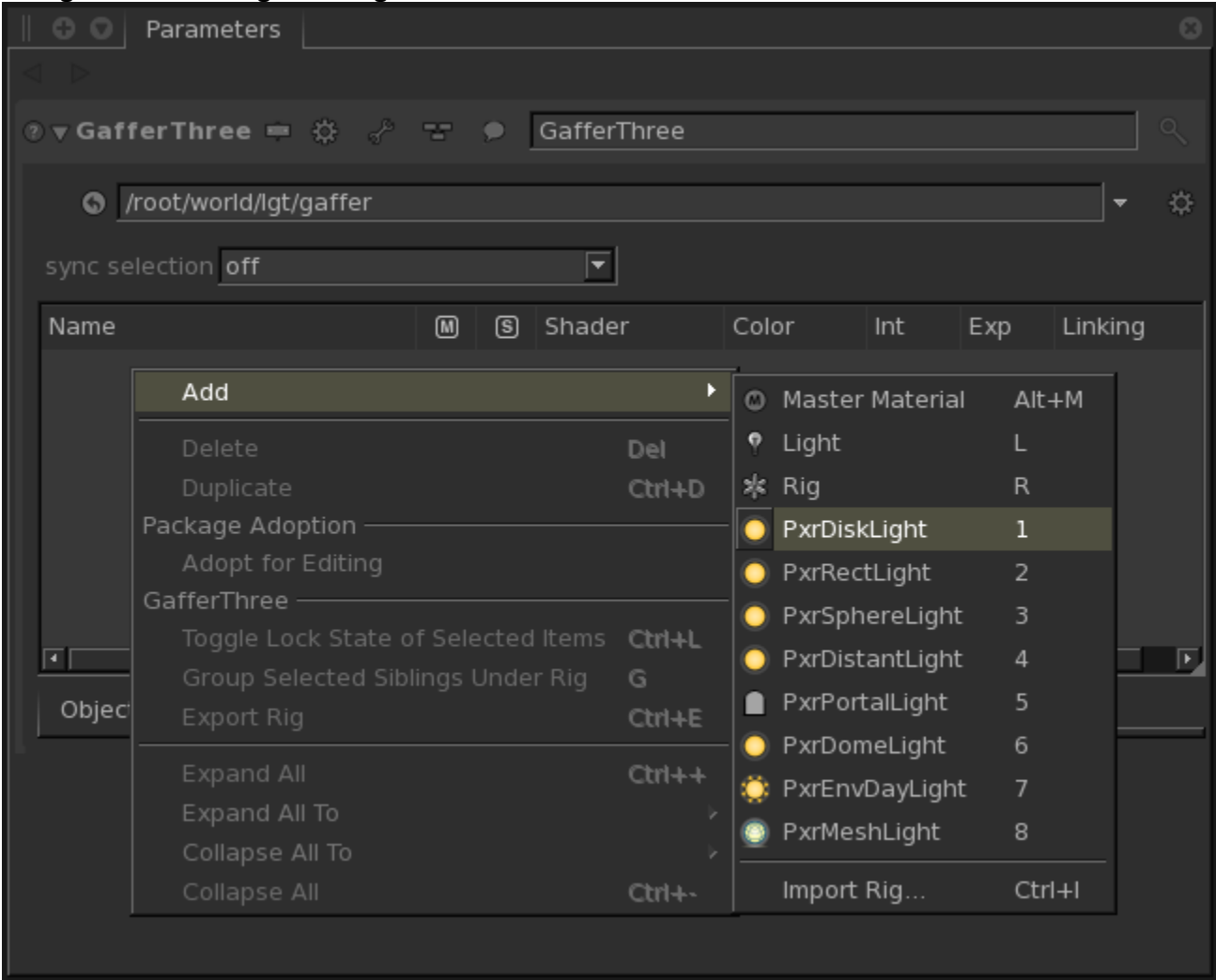# Lighting in Katana

About Analytic Lights

One of the most valuable features of RenderMan for Katana (RfK) is the ability to create and manage Lights. The sections below provide a brief overview of how to take advantage of these capabilities.

Using RenderMan LightPackages

RfK offers PRMan-specific light packages for creating each type of light in GafferThree. These light packages minimize the number of steps necessary to create a light. Shortcuts let you add a light with only one keystroke. Each light package also includes a set of light-specific attributes, available in the Object tab of GafferThree, which lets you control certain attributes per-light without adding an additional PrmanObjectStatements node.

The PxrMeshLight package includes the following attributes:
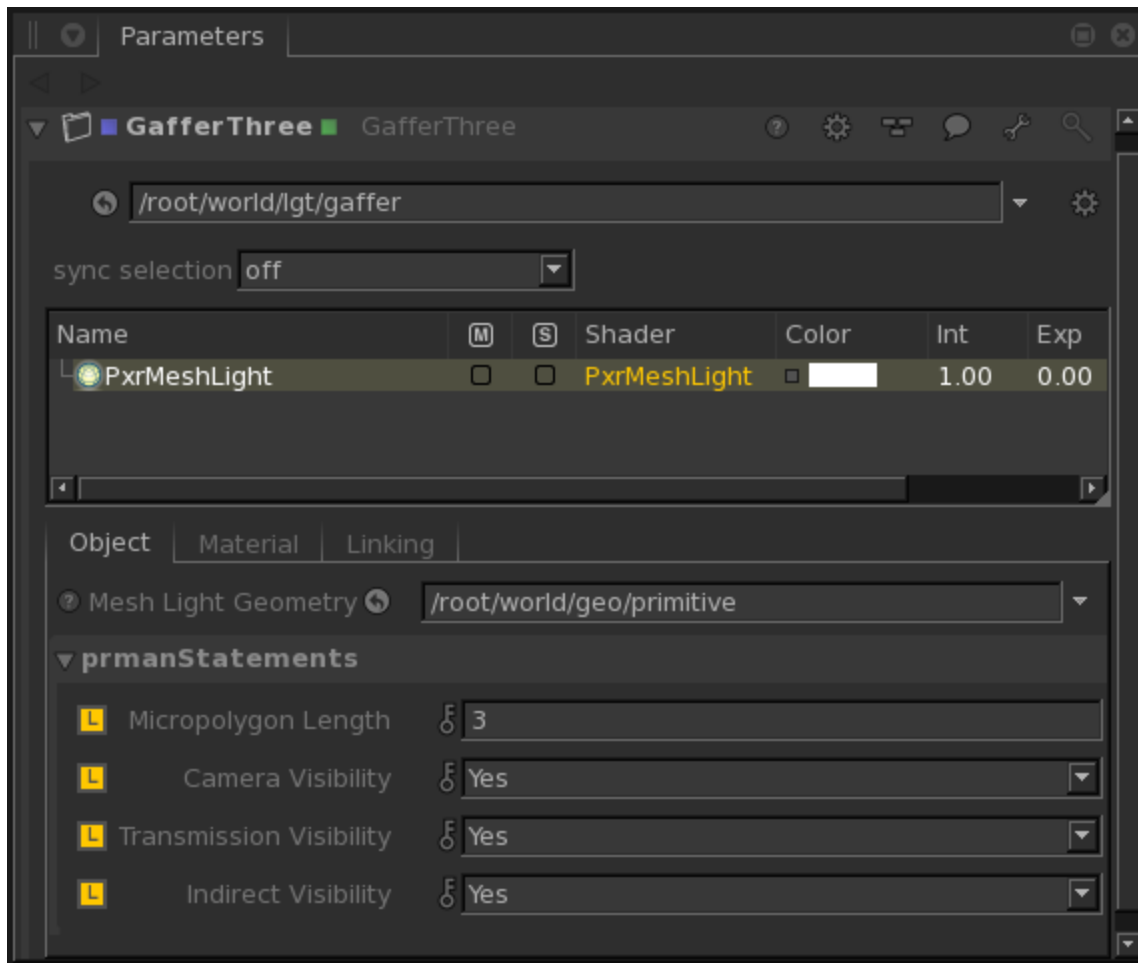
The analytic light packages only include Camera Visibility, which is set 'Off' by default, because the renderer ignores the other visibility attributes for analytic lights.

Creating Mesh Lights

There is a specific light package for creating mesh lights in GafferThree. To create a mesh light, select the desired geometry in the Scene Graph and add a "PxrMeshLight" in GafferThree. You can find a detailed explanation about mesh light setup in the link below:

* Mesh Lights in RfK

Using Light Filters

Light filters are a powerful way to control a light's appearance. With Katana 2.0 or 2.1, light filters can be added to a scene with a PrmanLightFilterCreate node. GafferThree support for light filters is available in Katana 2.2 and above. You can find a detailed explanation about light filter setup in the link below:

* Light Filters in Katana

Using Portal Lights

PxrPortalLight is an optimized environment light. Because Portals are lights, not light filters, they require a special workflow. GafferThree support for portal lights is coming in a future version of Katana. You can find a detailed explanation about portal light setup in the link below:

* Portal Lights in Katana

Light Sampling

Light Sampling capabilities are available through sample balancing in the integrator, typically with the **numLightSamples** option. Or using the Importance multiplier on the Light Parameter list to draw more samples from the sample pool.