

## ‘Facet Designer’ – Tip # 03

### MOVING STONE and LIGHT

There may be some confusion about turning the stone, the sphere, or the light. Hopefully this will be clarified here because these are the most powerful tools of Anton’s program.

#### THE VIEWER’S EYE = LINE OF SIGHT

Fig.1 shows the sphere surrounding the gem. The center of the gem is at the center of the sphere. The axis of the sphere coincides with the line of sight, passing through the intersection of the red meridians at the ‘pole’, labeled ‘0’ (purple arrow). Think of the viewer’s eye at this point.

In Fig.1 & 2 the lighting is symmetrical about the line of sight – light is the same shade around the ‘equator’.

#### ‘NORMAL’ VIEW

Fig.1 shows a ‘normal’ view of the gem, in the sense that ‘normal’ means perpendicular to the surface, or ‘face-up’ view. The image is perfectly symmetrical.

In this illustration the color tones are also symmetrical, which means that the lighting is also symmetrical – that the axis of the lighting sphere is in line with the line of vision.

In Fig.1 note that the light source specks are symmetrical about the center.

#### TILTING THE GEM ONLY

To tilt the gem, just drag its image with the LEFT mouse button (green arrow) as shown in Fig.2. Note that the sphere, and the lighting, do not move.

You are still looking down the sphere axis at ‘0’ (purple arrow), and through the center of the gem, but no longer down the axis of the gem, or ‘normal’ to its table. Note that the light specks (red arrow) are no longer the same around the equator.

#### TURNING SPHERE AND GEM TOGETHER

As shown in Fig.3, you can turn everything for a better view of the light source specks near the equator. This is done by dragging the sphere with LEFT mouse button (black arrow).

Nothing has changed with the system – it is as though you have walked around the sphere for a different view. The line of sight is still down the axis of the sphere (purple arrow) with the viewer’s eye at ‘0’.

We have restored the gem to ‘face-up’ view by right-clicking on its image and then on the message *Reset to initial Position*; note that the source specks are perfectly symmetrical about the axes (red arrows).

#### TURNING THE LIGHT ONLY

As shown in Fig.4, you can turn the LIGHT ONLY by dragging it with the RIGHT mouse button (black arrow). Notice that the meridians and viewpoint ‘0’ are not moved, and that the light source specks (red arrow) are still symmetrical about the axis. The gem also has not moved, but its lighting has changed, as you can see on the gem image.

This is especially useful with the tri-color sphere because you can put the color zones behind the gem to see where rear light sources are coming from specifically..

BLH 2004 Jul 21

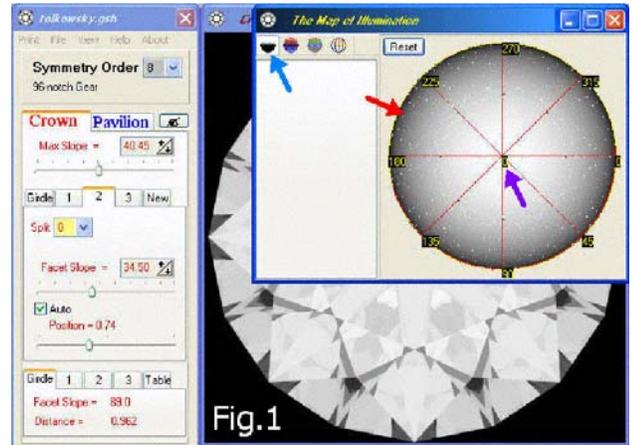


Fig.1

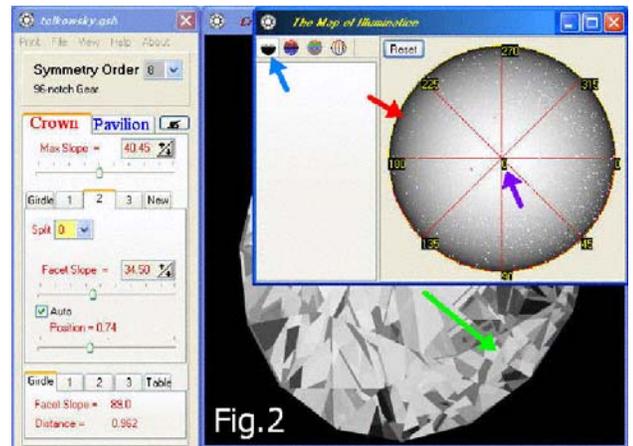


Fig.2

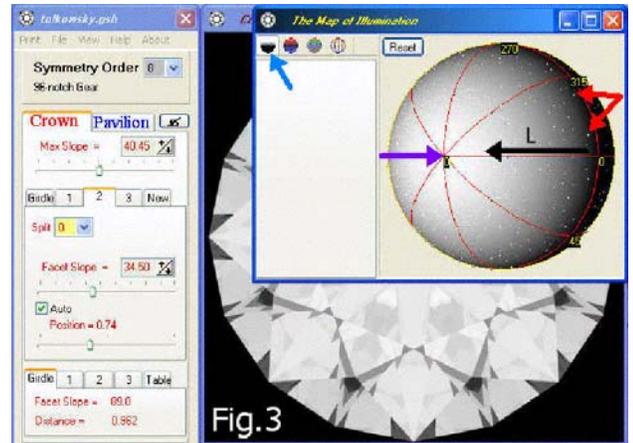


Fig.3

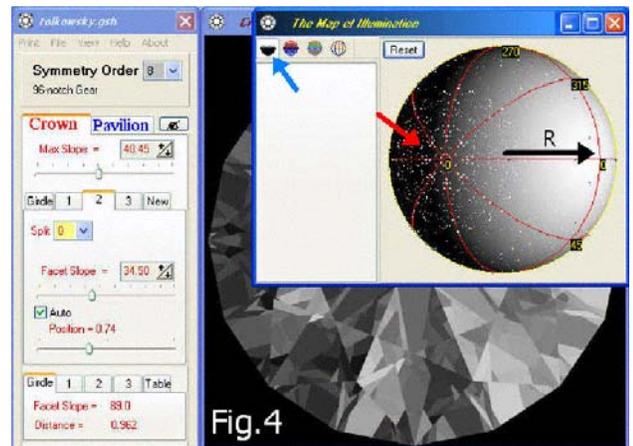


Fig.4