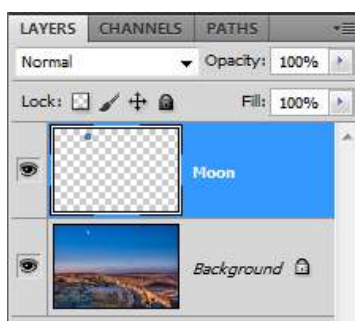# 3 Transformations

One of Photoshop most powerful features is the ability to resize, distort and warp an object within an image. For example, in fig 3.1 we have a landscape image that features the moon. If we make a selection of the moon using any of the selection tools, it can then be copied to a new layer by going to the Layer menu and choosing New > Layer via Copy. A copy of the selected area will then appear in a new layer in the Layers panel, fig 3.2.
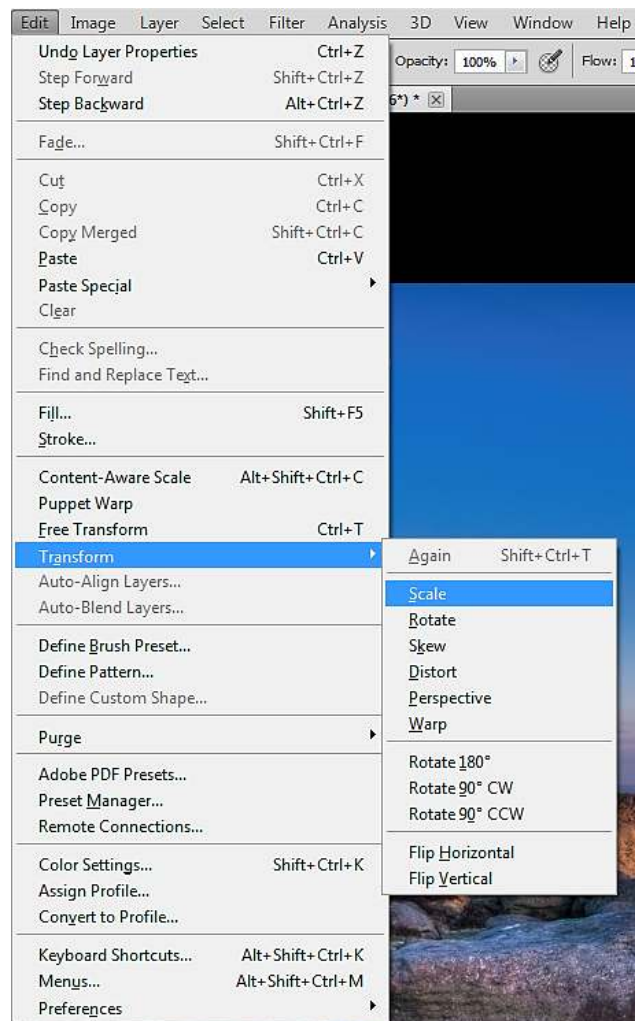

Fig 3.1 the Moon is selected.

Fig 3.2 the Moon in a new layer.

Once the Moon is on its own layer we can then apply a Transformation to it. The Transformation options can be found in the Edit menu, fig 3.3.

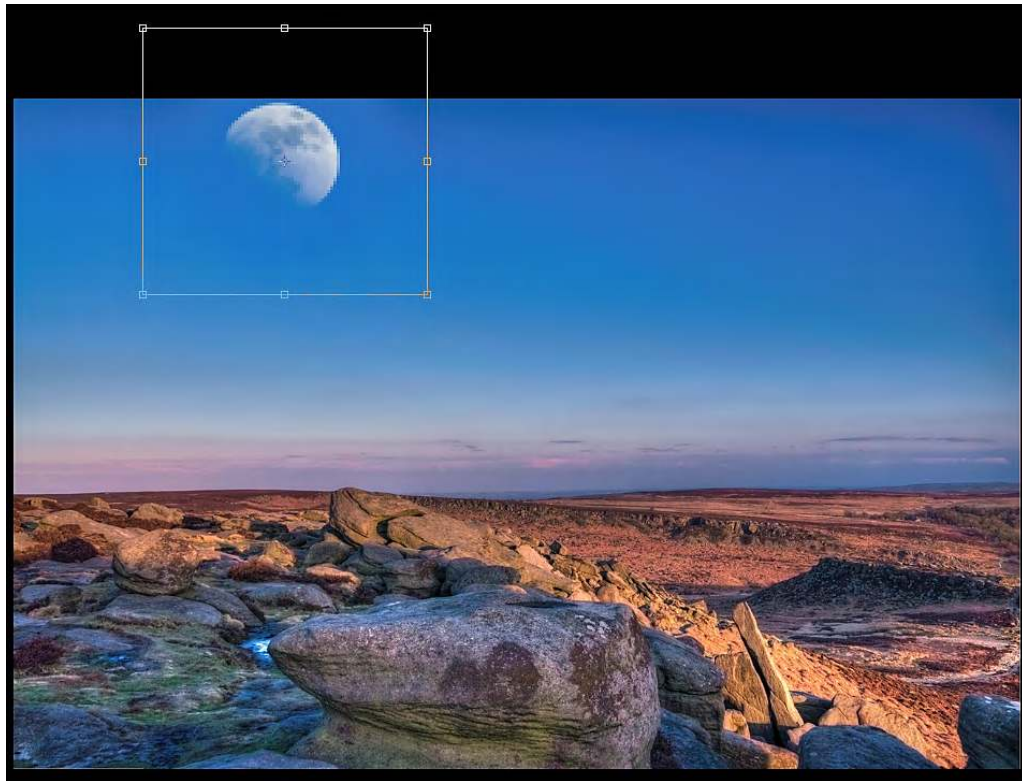**Fig 3.3** the Transformation options, located in the Edit menu.

Fig 3.4 the Scale Transformation has been used to increase the size of the Moon.

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In fig 3.4 the Scale Transformation has been used to increase the size of the Moon. To use the Scale Transformation to click on the option in the Edit menu (fig 3.3) and with the Shift key held down you simply drag one of the corner points in the box that surrounds the Moon. Holding down the Shift key results in the Transformation occurring, whilst maintaining the original proportions of the object. If you don't use the Shift key whilst dragging a corner point the object may become deformed because the objects ratios will not be maintained.

To reposition the object after a transformation, click inside the bounding box and drag the object. In all cases, once you have completed a transformation you MUST click on the tick icon in the Options panel to accept the changes to the image. You can also cancel a Transformation by clicking on the cross icon in the Options panel. When you are making a transformation you may notice that the object that you are transforming appears blurry or pixelated. This is because Photoshop is only showing you a preview. Once you click on the tick to accept the changes, Photoshop will render the object at the full resolution of the document.

Warp

Most of the Transformations are self-explanatory in their function. However, the Warp Transformation works in a slightly different manor. When you choose the Warp Transformation a grid appears inside the objects bounding box, fig 3.5.
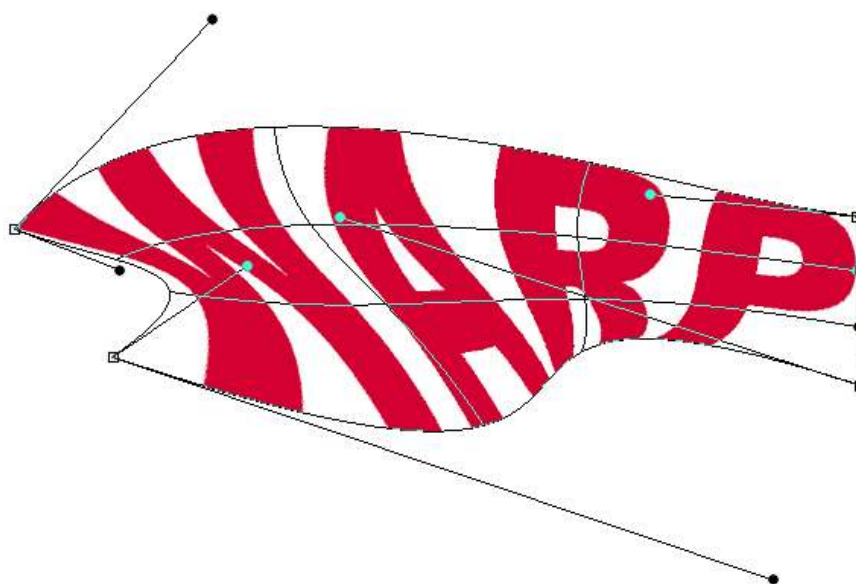
Fig 3.5 the Warp grid.

Fig 3.6 the points, handles and grid segments can all be manipulated to Warp the object.

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To manipulate the Warp grid (fig 3.6), there are three options available to you:

1. Move the corner points.
2. Click and drag inside one of the grid segments.
3. Move the corner handles

Warping Text

Warping Type layers can be fun and creative. However, you can't freeform Warp text as seen in in fig 3.6 without knowing a couple of things first. If you select the Warp command and try to Warp a standard Type layer you will be made to choose one of a number of preset warp shapes, fig 3.7, located in the Options panel. You can then edit the Warp, within the confines of the shape, by clicking and dragging inside the bounding box. To freeform Warp the text you must do one of two things. Either Rasterize the Type layer by going to the Layer menu or choosing Rasterize > Type, fig 3.8, or choose Smart Objects > Convert to Smart Object to create a Smart Object from the Type layer, fig 3.9.
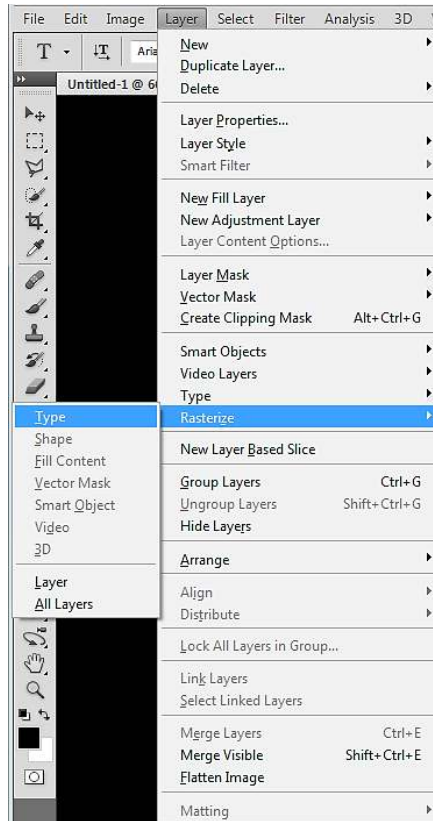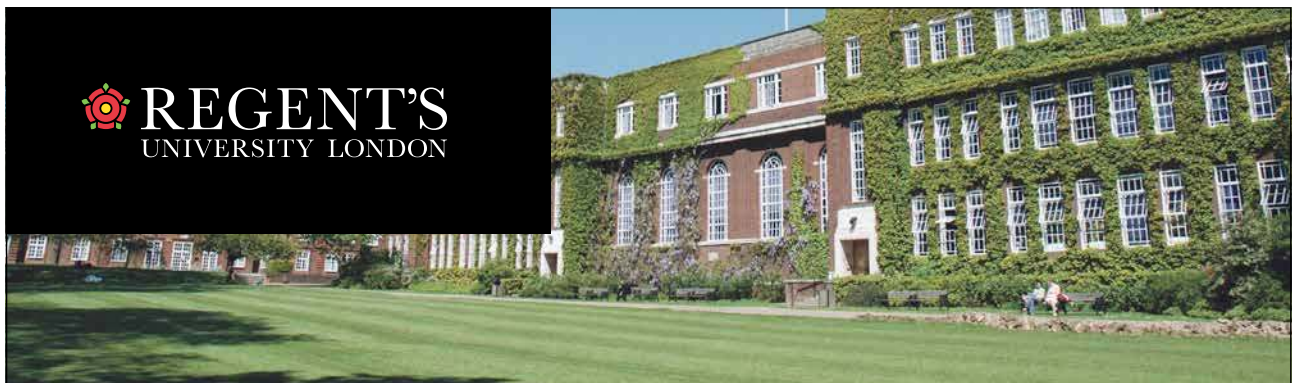
Fig 3.7 the Warp Text options

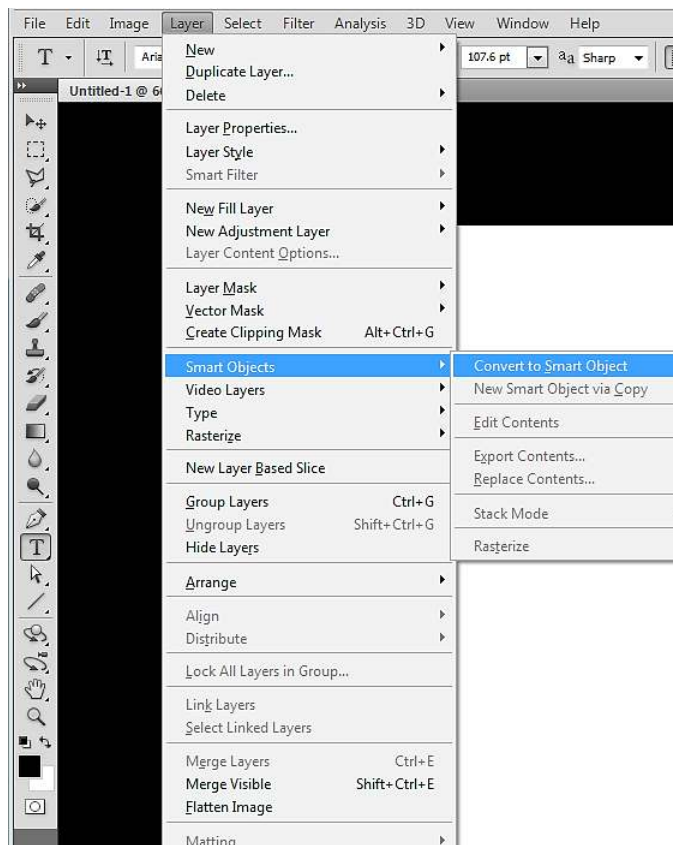**Fig 3.8** use the Layer menu to select the Rasterize Type option

Fig 3.9 convert the Type layer to a Smart object in the Layers menu

The Smart Object route is the most flexible as the text may still be edited (see the chapter on Smart Object for more details). Once a Type layer is Rasterized the Type then becomes pixels and cannot be edited as Type.

Free Transform

Most experienced Photoshop users prefer to use the Free Transform option for all their transformations. The Free Transform bounding box can be used to perform most of the Transformations in two different ways. Firstly, you can Right + Click inside the bounding box to get access to the individual Transformation options. Secondly, you can use modifier keys to change how the bounding box reacts to you manipulation.

Modifier Key PC	Modifier Key Mac	Operation
Ctrl + Drag	Cmd + Drag	Skews the bounding box when you drag the middle point
Ctrl + Drag	Cmd + Drag	Distorts the bounding box when you drag the corner points
Alt + Drag	Option + Drag	Scales from the center point of the bounding box when you drag a corner point.
Alt + Drag	Option + Drag	Reflects the transformation to both sides when you drag a side point
Shift	Shift	Constrains the proportions of the bounding box and can be used in conjunction with other modifier keys.
Shift	Shift	If you use the Shift key whilst Rotating an object, it will constrain the rotation to 15 degree increments.
Alt + Click	Option + Click	Set the center point within the bounding box

You can enter the Free Transform mode by using the keyboard shortcut Ctrl/Cmd (PC/Mac) + T.

Content Aware Scale

Transformations can be very useful. However, if you need to transform an image in such a way that the aspect ratio will be changed, the standard transformation functions will distort the image in an unpleasing fashion, fig 3.10.

Fig 3.10 the original image on the left and the transformed image on the right

Content Aware Scale allows us to scale an image disproportionally by protecting key areas, which in this case would be the cricketers. The Content aware function can be found in the Edit menu.

Areas can be protected during Content Aware Scaling in two different ways.

1. The first method protects images that contain people. To enable this feature, click on the 🕺 icon in the Options panel. Photoshop will look for flesh tones and will attempt to protect these areas during the transformation. In the image of the cricketers, there are insufficient flash tones visible for this method to work effectively. In this case we would need to use method two.
2. Use the Lasso tool to make a rough selection around the subjects that you wish to remain undistorted, fig 3.11.


Fig 3.11 the cricketers are selected

Then go to the Select menu and choose Save Selection. This will create a new Alpha channel which you can name if you wish. Once the selection is saved, go to the Select menu once again and choose Deselect.

Choose Content Aware Scale from the Edit menu and in the Protect function located in the Options panel, choose the Alpha channel that you created from the drop down menu, fig 3.12.
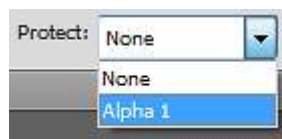
Fig 3.12 select the new Alpha channel from the Protect function in the Options panel.

Drag the bounding box in the direction that you wish the transformation to occur and then click on the Tick in the Options panel to accept the change.

Fig 3.13 the Content Aware Scale is completed with any distortion to the subjects

In fig 3.13 we can see the final image transformation and the appearance of the subject's has been preserved. This technique is extremely useful when you need to make an image fit a specific graphic design or web design layout.