A tutorial on how to use 'Shape It', a versatile Plug-in for The Gimp.

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Background & Theory.

Imagine you want a text or an image to follow a shape; like a curve, a roof, or whatever. According to the The Gimp Manual, the best way to do this is to use the Displace filter. The Displace filter is a splendid one, but unfortunately quite tricky to tame, since it wants you to create a gradient map to follow the shape. It is not easy to convert a shape from x-y coordinates into a gradient in x-z space.

For this reason, I wrote the 'Shape It' plug-in, using an approach which hopefully will be easier to grasp.

'Shape It' uses two layers: an Active Layer and a Map Layer. The Active Layer is the one which is going to be transformed, and the Map Layer contains information on how to transform the Active Layer.

The Map Layer works the best if it is just black and white. Each pixel column is read from the top downwards. White pixels are ignored, but as soon as I find the first black pixel, it tells me how much to offset the corresponding column in the Active Layer. No image information is lost, since the Active Layer is wrapped.
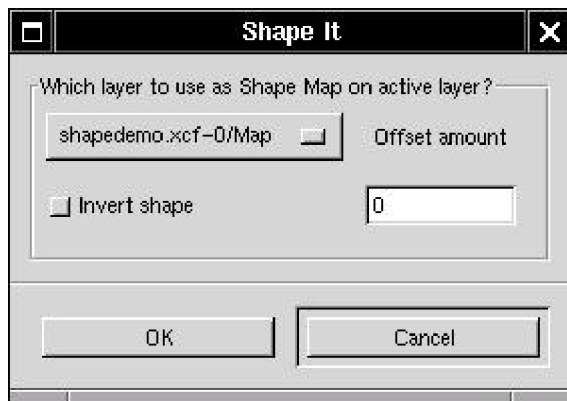
How to compile 'Shape It'?

Just type
```
gimptool --install shapeit.c
```
and everything will be taken care of automagically. Next time you start your Gimp, this plug-in will be available under <Image>/Filters/Map/Shape It. Note: if the name is greyed-out, this indicates that you have forgotten to add an Alpha Channel to the bottom layer. If you cannot select a Map Layer, this indicates that your layers are of different types.

Any bugs left?
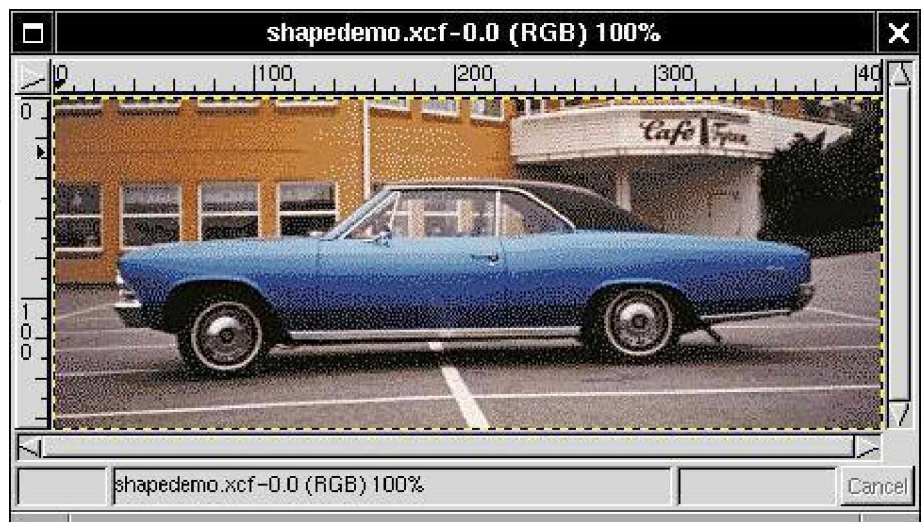
Most certainly! :-) Please tell me about them.

Dialog.

Just five things to remember:
1) All layers must be of the same size and all must have an Alpha Channel.
2) The Plug-in always acts on the Active Layer.
3) Select which layer to use as Shape Map in the Dialog (see illustration above).
4) Tick 'Invert shape' is you want the shape inverted [what else? :-)].
5) Enter 'offset amount' if you want to alter the calculated height displacement.

How to use Shape It? - Shaping a text.

As a start, let's take the same car which is used in the Gimp Manual. Go to the Layers & Channels dialog (<ctrl-L>), right-click and Add Alpha Channel. (This is important!)

Name this layer 'Car'.

Still in the Layers & Channels dialog, right-click and duplicate the Car layer. This new layer is the one which we are going to convert to a map for 'Shape It' to follow.

Where do we want the text to start? Just above the hood/bonnet sounds as a good position.

This means that we will have to make everything above the car white - and the rest (including the car itself) is to be made black. Use a brush, the magic wand, posterize or whatever trick you like to isolate the parts you are after.
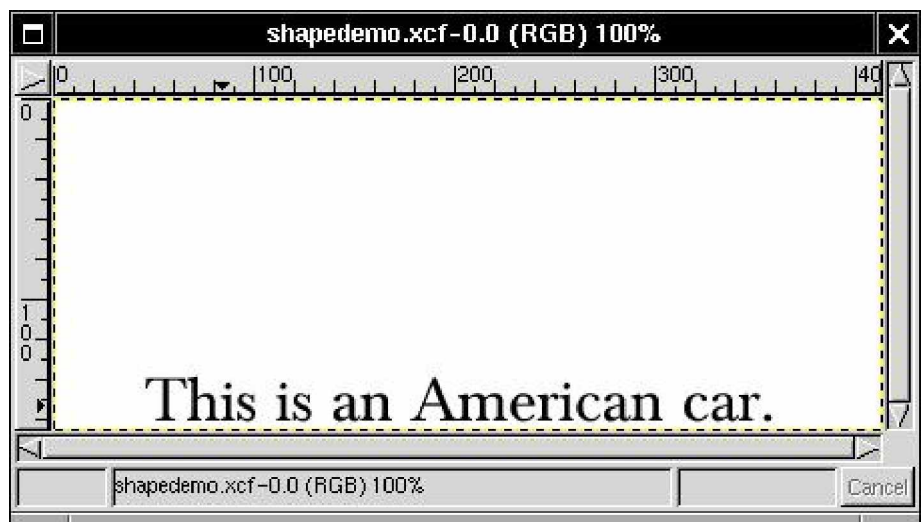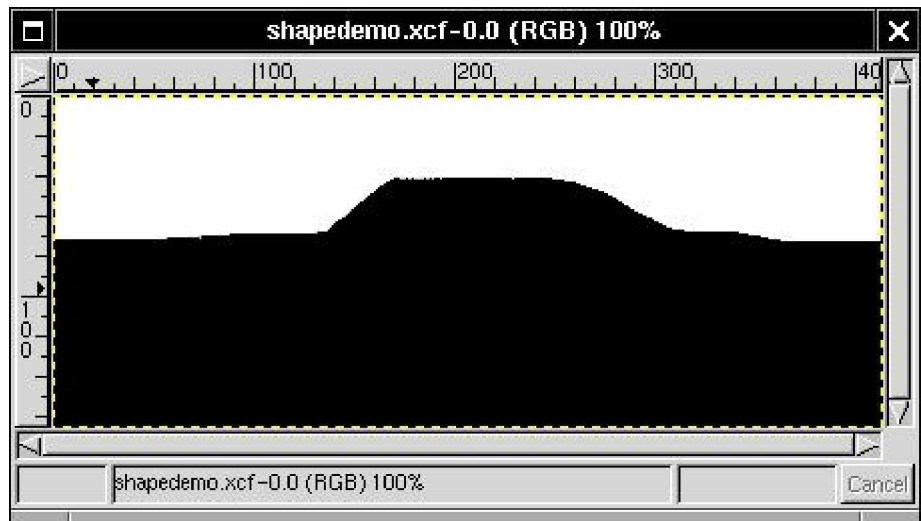
Name this layer 'Map'.

Now, make a new layer for the text. Background white and text colour black, for example. Add the text, like 'This is an American car.'
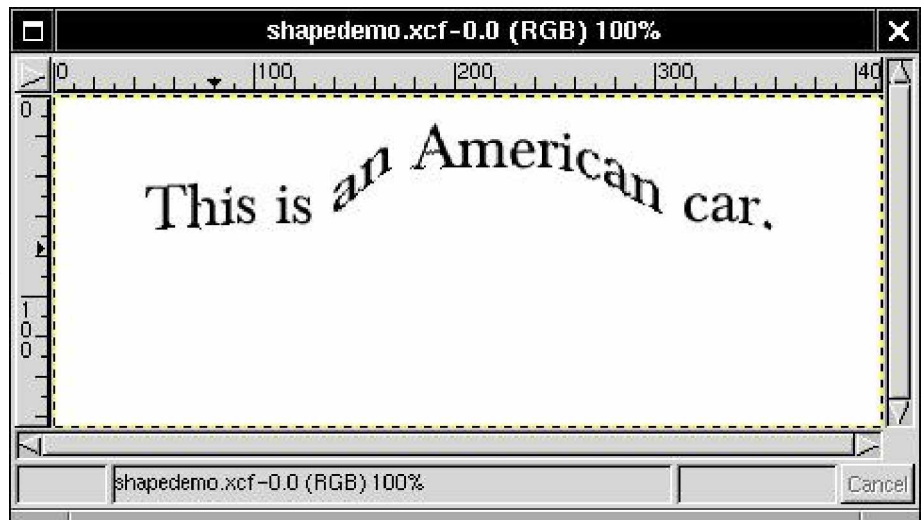
Note: if you place the text at the exact bottom of the layer, the text will be lifted exactly to the position where the black portion of the map starts.

Example: If you leave 5 pixels below the text, it will be lifted to 5 pixels above the map, and so on.
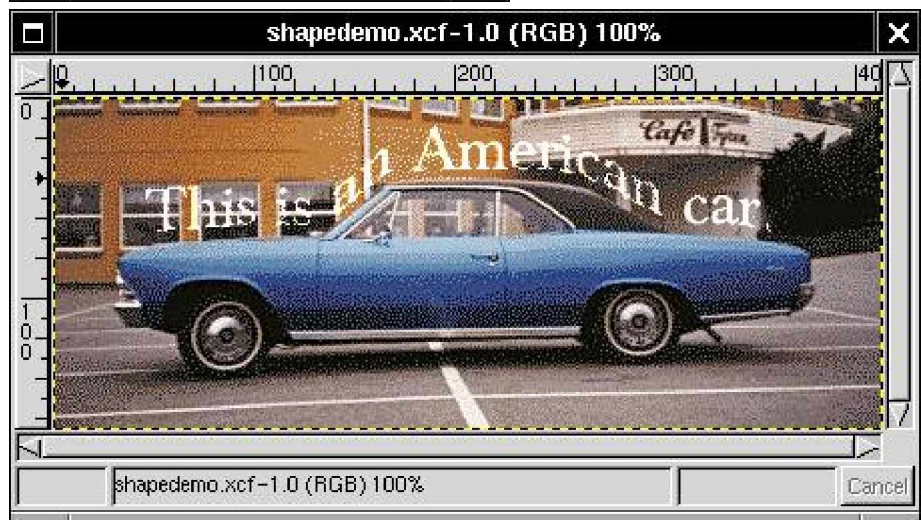
Name this layer 'Text'.

With the Text layer as Active Layer, invoke the Plug-in with <Image>/Filters/Map/Shape It. Select Map Layer ('Map' in our case), and click OK. Here's what will happen:

Finally, in the Layers & Channels dialog, make the Map layer invisible, and change the Text layer from normal to 'Divide (Dodge)'.

Congratulations: You've managed!

For the "egg" on top of this page, I used the plug-in in the normal way for the text "Shape It". For the bottom text, "a plug-in for The Gimp.", I ticked the "Invert Shape" toggle in the dialog. To get the repeating gradients to follow the shape of the egg, I used Invert Shape on them, and made that layer "screen".