Photo Editing and Drawing in GIMP:

An Introductory Lesson

This guide provides several hands-on exercises on photo editing and drawing in GIMP, with the goal of making a beginner level introduction to using the software.

This lesson assumes that GIMP's user interface is in *English.*

## Photo editing: touching up an old postcard photo

In the photo editing exercise, we'll try to improve an old postcard photo. In order to proceed, please download the image from the following web link: https://ajapaik.ee/photo-thumb/73108/800/jaapan-kobe-linna-koganji-templi-vaade/ (cc BY-NC-SA).

Open the image file in the GIMP: either choose *File => Open* and then choose the location of the downloaded image; or, alternatively, if the image is on the desktop, you can drag-and-drop the image to the grey area in the middle of the GIMP window in order to open it. As a result, you should see a similar view:


GIMP's user interface. Drawing/editing area in the middle, tool docks in left and right

Adjusting color levels. The postcard in the image looks faded and grey – it could use a bit more contrast between colors. Let's try to improve the situation. Choose from the menu *Colors => Levels*. You should see a window *Adjust Color Levels* opening. The histogram in the window shows the amount of pixels per each level of shades, starting from the black tone and ending at white tone. In case of balanced color levels, pixels are distributed over all levels of the scale. But in our case, most of the pixels are on the right side:
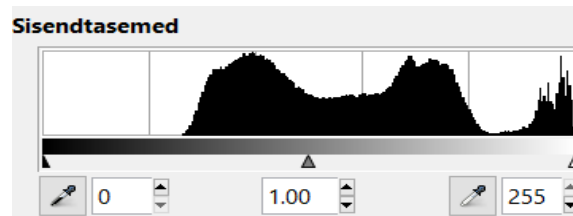
This indicates that the light tones are overrepresented, and there is not enough information about the darkest colors. In order to improve the balance, select the leftmost triangle (the black triangle) under the histogram, and move it in the right direction:
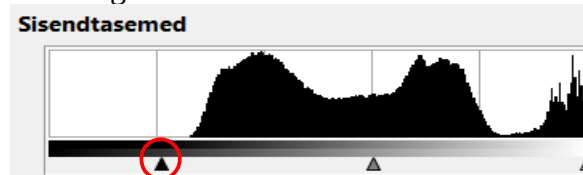
While moving the triangle, you should see how the contrast of the picture improves. If satisfied with the result, press OK. The final result should look something like this:

Removing defects. There are several ways for removing blemishes / defects / unwanted objects from a photo. The first possibility is to use *Color Picker* from the left side menu, pick a color from the background next to the unwanted object, and use a *Paintbrush Tool* with suitable size and shape (brush) to cover the unwanted object with the background color. This works well enough if the whole background of the unwanted object is in a single color. But in practice, a more typical case is that the background is a pattern of different colors, and trying to imitate that with a single color leaves an overall artificial impression of the fix.

An alternative is to use the *Clone Tool* . This tool allows to select a small background area next to the defect, create a brush from it and use it for covering the defect. Let's try this tehnique for removing larger blemishes in the picture (blemishes in the sky above the temple roof):

Zooming. In order to get a closer view of a small area, you can use the *Zoom Tool* 🔍 . After picking the tool, right click in the middle of the area you wish to zoom in. And if you want to zoom out, you can press either „-" button from the keyboard, or you can switch from „*Zoom in*" to „*Zoom out*" in the left side „*Tool options*" and zoom out by right clicking on the area.

Next, pick the *Clone Tool* 🎨 from the left toolbox. From the *Tool Options* part of the left toolbox, you can choose a suitable *Brush* for the work – it is recommended to choose a paintbrush with „soft / fuzzy contour". And now the work can begin. Hold down CTRL, and choose an area next to the defect for cloning (the clonable area will be within the brush contours). If you release CTRL, two brush contours will appear: one stays fixed and marks the clonable area, and the other can be moved with the cursor to the area of defect and can be used for covering the defect. It is recommended to proceed in small steps: cover the defect step by step, try to choose clonable areas from very close to the defect, and try to change the clonable area frequently.

Use this tehnique for removing larger blemishes in the sky above the temple roof. If the work goes fast, you can also try to remove blemishes / defects from other parts of the picture. But it is sufficient, if you remove only defects in the sky above the temple roof. The final result could be something similar:

Small fixes: getting the angle „right" and cropping. The postcard in the picture is a bit tilted. You can confirm this if you choose the *Rectangle Select Tool* ▢ from the left toolbox, and make a selection around postcard area: selection won't exactly match to borders of the postcard.

Rotating the postcard. Choose *Select => All* (or press CTRL+A) in order to select the whole image. Then choose *The Rotate Tool* 🔄 from the left side toolbox and click in the middle of the picture.

A window will appear, from where you can choose the *angle* of rotation, and the *centre* point. While changing the angle, you should simultaneously see how the picture is rotated in the background. Try

to find the right angle. If you are done, press the button „*Rotate"* in the window. (Hint: the angle -0.5 seemed to work rather well.)

After the rotation, a new layer called „*Floating Selection"* is created from the selection. This new layer needs to be anchored to the picture before continuing the work. To do that, choose from the menu *Layer => Anchor Layer or* press CTRL+H.

Croping the image. If you want to get rid of the grey border around the postcard, choose *Rectangle Select Tool* ▢ and make a selection that surrounds the postcard, but leaves out the grey border. Then choose from the menu *Image => Crop to Selection*. The picture will be „resized" according to the selection. After rotating and cropping, the picture should look similar to this:

Saving. In order to save the image, choose *File => Save* and choose a new location / name for the image. This way the image will be saved in the Gimp's native XCF format, and all the image manipulation information (selections, layers, channels etc.) will be saved alongside. If you want to distribute the image, e.g. put it on the web, you should save it in a more common format, e.g. JPG or PNG. This can be done by choosing from the menu *File => Export*.

Layers and selective colorization. The possibility to use *layers* is one of the GIMP's main advantages compared to other, simpler photo management programs. Every picture in GIMP can be made of multiple layers. These layers can be manipulated independently, and they can be merged with each other, so that the whole visible picture is a result of combining multiple layers.

The list of layers, alongside with their *thumbnails,* can be seen on the right side toolbox, under the tab ▤ Layers . At the current time, there should be only one layer, which is named after the opened file. You can change the layer (without affecting the file name), if you right click on the layer and chose from the opening menu valida avanevast menüüst „*Edit Layer Attributes"*. Try it out: change the layer's name to „Postcard".

Next, we will try to change image in a way that most of it will turn to black and white, and only one object in the picture will remain „colorful". Make a copy from the existing layer: right click on the

layer's name and from the opening menu choose „*New from Visible*". A new layer named „*Visible*" is created on top of the existing layer, and the new layer copies everything that was seen on the previous layer.

Change the new layer to **black and white.** For that, choose from the menu *Colors => Desaturate.* Opens a window, where you can „*Choose shade of gray*". Try different variants – switching the variants should immediately have an effect on the picture – and when the most suitable is found, press *OK.* The middle option should give the following result:
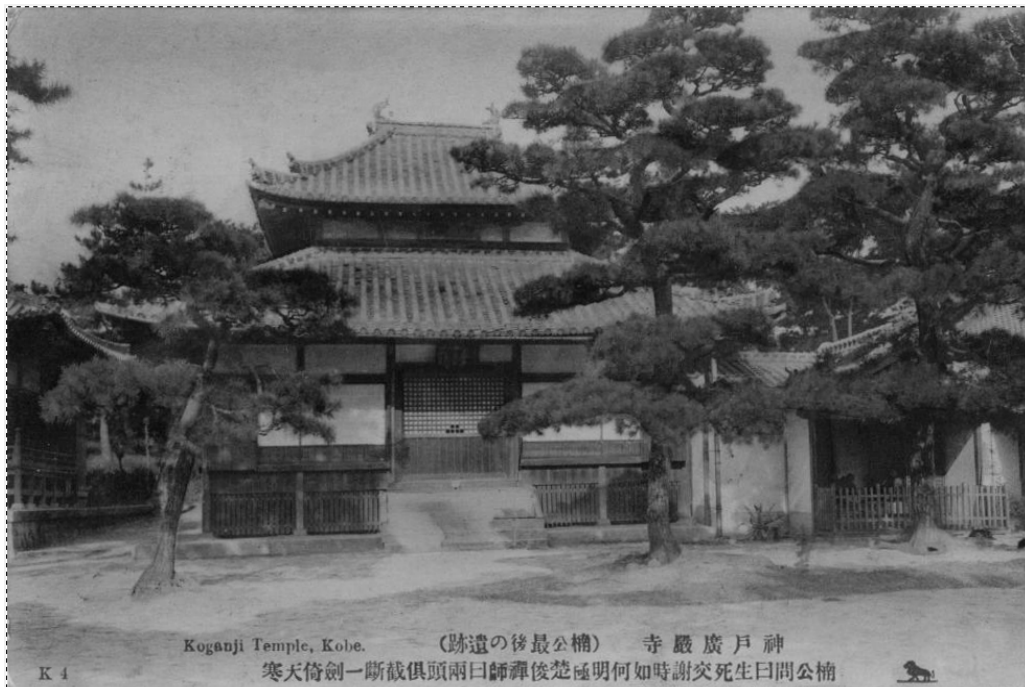
Although the picture is now black and white, the old colorful picture is not gone anywere – it is just covered by the new layer. If you click on the eye figure 👁 before the layer named „*Visible*" on the right side „Layers" tab, then the black-and-white layer will be hidden:
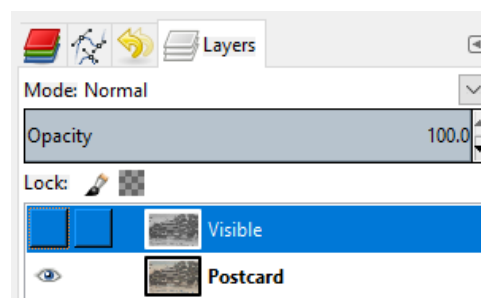
and the underlying colorful layer will be visible once again. Try it out and then change the picture back to black-and-white (by adding the 👁 to black-and-white the layer).

Adding a **mask** *to the black and white layer.* Mask can be used turn parts of the layer transparent – so that the underlying layer will appear. <u>White mask</u> will be fully opaque (covers entirely the underlying layer), <u>*black mask*</u> will be fully transparent (the underlying layer will be entirely visible through it) and a grey tone will make underlying layer partially visible through the upper layer.

Make a right click on the black-and-white layer (at the right side "Layers" list) and choose "Add Layer Mask" from the opening menu. Opens a window, from which you can choose the initialization value/color of the mask. Choose *"White (full opacity)"* – so that the created mask will

make the layer fully opaque / untransparent. After creating the mask, a new thumbnail (a white rectangle) will appear next to the *"Visible"* layer in the right side "Layers" list – this represents the mask.

(!) Note that *the thumbnail of the active layer* in the right side "Layers" list has a white border, while thumbnails of the non-active layers have a black border. You can change the active layer by clicking on the thumbnail. Tools only affect the active layer or mask, and not the inactive ones.

Drawing on the mask. When the mask is activated (thumbnail of the mask has a white border), then painting an area in the picture with the black brush ✎ will make the area transparent, and will reveal the colorful layer under it. Try it out. Change one object in the picture – for instance, the temple building – „colorful". You should already have the black color as a foreground color by default (and if you have changed the color, then press 🔳 to reset the default colors). You may want to change the size of the brush – using a big brush for covering large areas and a small brush for tiny details. If you have chosen the temple building for "coloring", the final result should look similar:
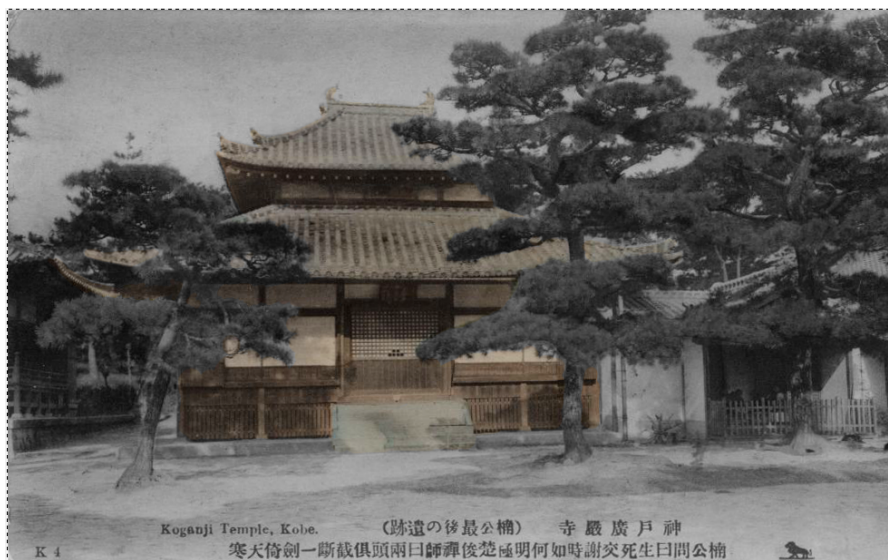
This ends the photo editing part of our tutorial. Parts of this tutorial were based on Arvo Mägi's „GIMP 2.6.7 lühijuhend" (http://ubuntu.pingviin.org/gimp.pdf , in Estonian).

Drawing: illustrating an Estonian saying

In this part of the tutorial, we'll use GIMP for drawing. The goal is to create an illustration of an Estonian old saying „*Egas kodu konn pole, et eest ära hüppab*" (*Home's no frog that it would jump away from you;* from this source). The easy exercise would to be draw a small house, a bit more complex one would be to draw a house and to add frogs legs / eyes to it – so that we would have a weird figure, half a house and half a frog:
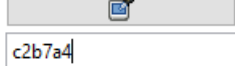
Create a new picture by choosing *File => New*. Opens a dialogue window, from which you can choose the image size. Choose the template 640x480 and press OK.

Use the *Rectangle Select Tool* ▦ from the left side toolbox and create a rectangle selection to the middle of the picture, with the height approximately 40 pixels and the width approximately 105 pixels. You can see the size of the current selection at the bottom border of the picture window.

Next, pick *the bucket fill tool* 🖌 and paint the rectangle to a grey-ish. You can change the color with the button *"Background & Foreground colors"* ◼ (the upper *rectangle* is the foreground color used for painting, the lower color is the background color used for erasing). You can also change the color in the right side toolbox – click on the tab *"FG/BG color dialogue"* ▜ to open the dialogue window. From there you can also insert the color code, e.g. if you want to use exactly the same color as I did for painting, copy the *c2b7a4* into the color entry textbox in the

"FG/BG color dialogue": [c2b7a4] .

Using the Paths Tool. Choose the *Paths Tool* 🖊 from the right side toolbox and then click on the upper right corner of the grey rectangle. A circle-shaped *anchor point* ▣ will appear. If you now click on some other location in the picture, another anchor point will be created and two points will be connected with a straight line. The next click on the picture, and the third anchor point will appear, and a line connecting the second and the third point. And so forth. Try to use this tool for creating the roof of the house, which is approximately as high as the grey rectangle, but notable wider from the bottom side (a trapezoid shape):
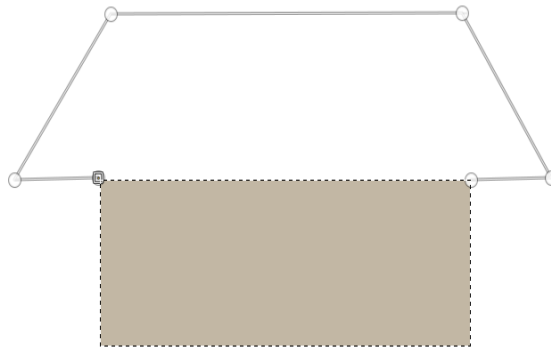

Closing the shape. If you have reached with the path to the upper left corner of the grey rectangle, hold down CTRL and click on the first anchor point (in the upper right corner of the grey rectangle) – this will close the shape.

Adjusting the path / figure. One of the advantages of using the *Paths Tool* is that the drawn path can be modified / adjusted on the progress. If you click on some anchor point, then it will become *active* and you can change its location by dragging it around. As you move the point, lines associated with the point will also move along. Try it out: click on the first anchor point (in the upper right corner of the rectangle), and drag it downwards. Then click on the point in the upper left corner of the grey rectangle, and drag that also downwards, approximately to the same level as the

previous point:
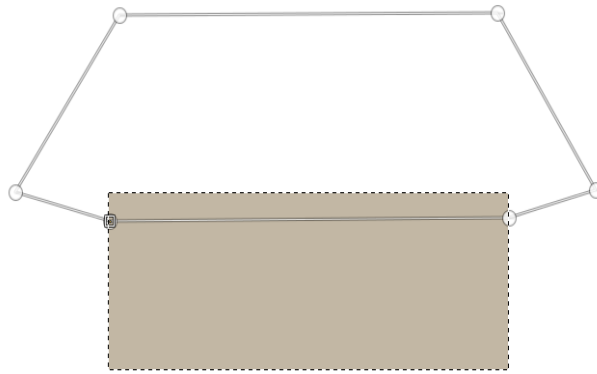
You can also modify the lines between the points, for instance, making them curved instead of straight. Do to this, click on the line between two points and drag it in the direction where you want to make a curve. Both anchor points will also expose *handles* ▣, which can be dragged to direct the creation of the curvature. Try to bend the right hip of the roof in a way that it will be curved from outside to inside:
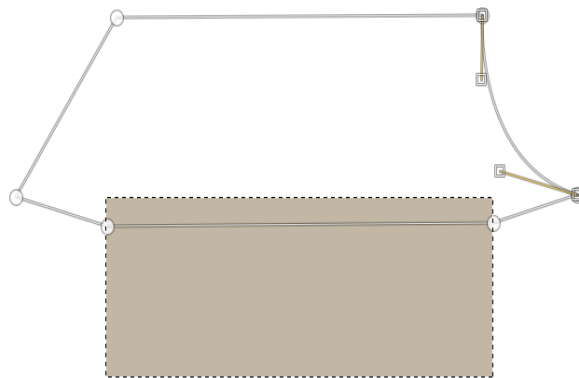
And do the same also with the left hip of the root. If you are ready, click on the button "*Selection from Path*" on the left side toolbox (under *"Tool options"*). The roof figure should now appear as a selection (surrounded by "running ants"):
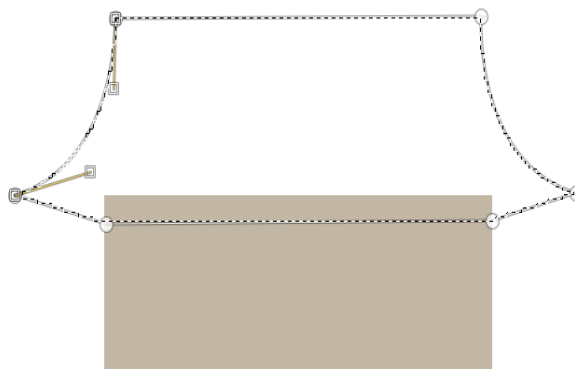
(!) When using the *Paths Tool*, it is important to keep in mind that when the shape/figure is ready, and you wish to use some other tool, you should always press the button "*Selection from Path*" in

order to preserve the selection. If you forget it, then selecting a new tool will erase the path and you have to start all over again with the drawing shape/figure.

Now you can choose the *Bucket Fill Tool* and paint the roof area. I used an orange-ish tone with the HTML code *c27b00,* but you can choose any tone you like.

Using the same techniques (+ or +), add a door, a window and a chimney to the picture. *Rectangle* can be used to make orderly shapes, while the *Paths Tool* allows to experiment with more interesting irregular shapes. My result was the following (colors: door – 7b4e00, chimney – ac3f00 and window - white):

We are done with the house exercise now. If you wish to continue drawing, you can try to add frog's legs and eyes to the picture; if you wish to finish the drawing, you can go to the last page, and make the one last step to complete the picture: add a text to it.

Frog's legs. Choose the *Paths Tool* and click on the lower left corner of the house. Then make an angled line by creating another anchor point left, and a bit up, from the house. Like this:
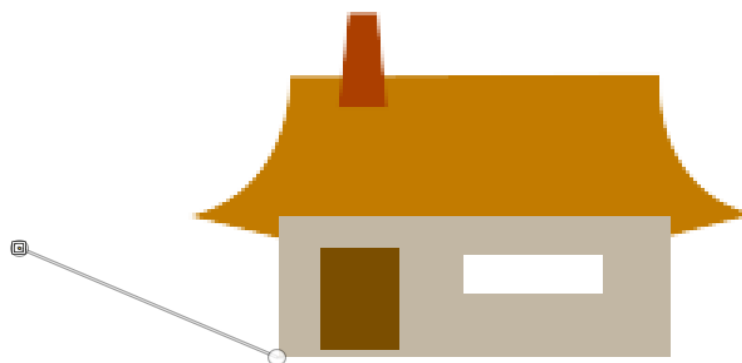

Close the shape (hold down CTRL and click to the first anchor point). And then adjust the lines in a way that both lines will be curved outside:
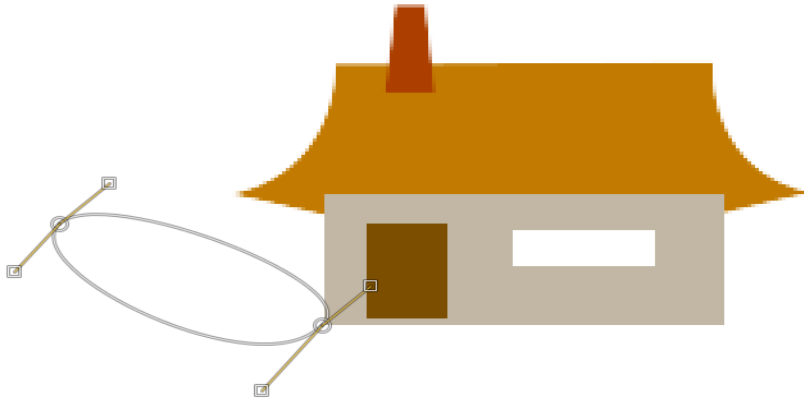
Click on the button "*Selection from Path*" on the left side toolbox (under "*Tool options*"). And then use the *bucket fill tool* to paint the shape green (or any color you like; my color was: 7b9300).

Next, use the *Paths Tool* for drawing frog's flipper, like that:
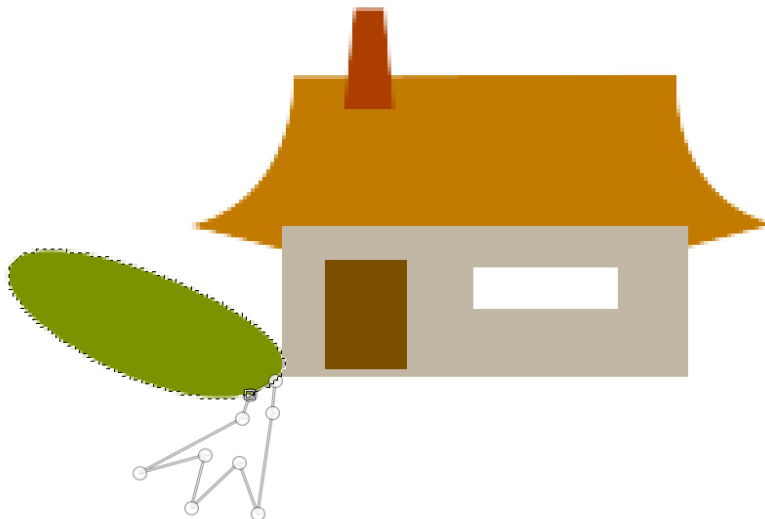

You can draw a pretty rough shape at the first, then close it, and then try to adjust the shape by moving the anchor points. If you are done (satisfied with the shape), then press "*Selection from Path*" on the left, and paint the flipper to green .

Now, try also to create the front leg / flipper using the *paths tool* :

If you are done, then click "*Selection from Path*" on the left, and then paint the leg to green . If both left side flippers are ready, use the *free selection tool* and make a selection that includes both flippers / legs, but leaves out the house. For example:
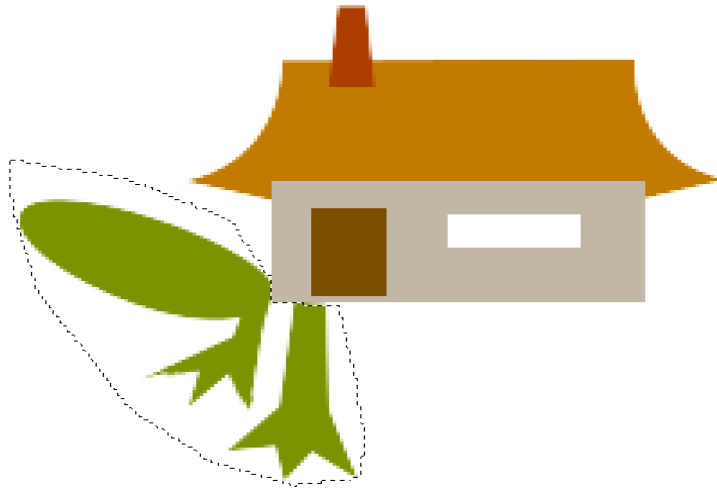
Next, make a copy of the chosen shape (CTRL+C or choose *Edit => Copy* from the menu) and paste it to the screen (CTRL+V or *Edit => Paste*). In the right side „Layers dialogue"( ) a new layer (*Floating Selection*) will appear. This also means that the active layer is the „floating" copy (you can move it around or draw on it), and you cannot change the other parts of the picture while the copy is active.

Mirroring a shape. Choose the *flip tool* from the left side toolbox, verify that the type of the flip is „horizontal" (under the left "tool options") and then click one the copy of frog's legs. This will reverse the pair of legs, so that we now also have a pair of legs for the right side. Next, choose the *move tool* , click on the legs and drag these to the right corner of the house:

Now, we have to attach the right side legs (which is still a *Floating Selection!*) to the underlying picture. Do to this, navigate to the „Layers dialogue" ( ) on the right side toolbox, make a

right click on the *"Floating Selection"* and from the opening menu, choose *"Anchor Layer"*.

Eyes and eyebrows. As the previous to last step, you can add *eyes and eyebrows* to the figure. Use the *ellipse select tool* ⬭ and make a circle-shaped selection on the top of the roof:
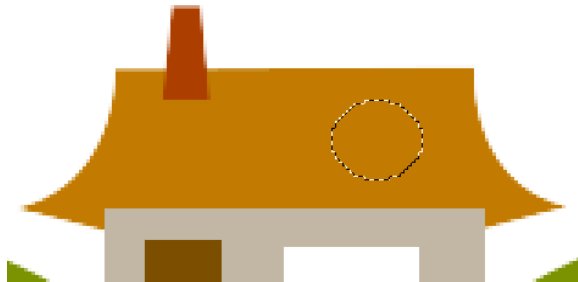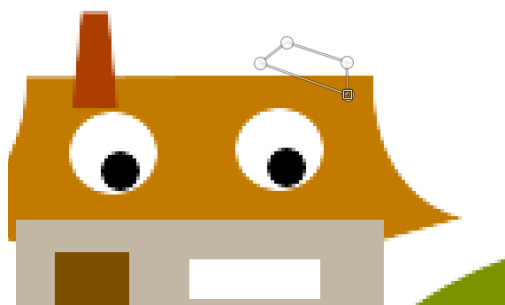

Then use *the bucket fill* 🪣 and paint it to white. Make a white circle also to the left side of the roof (either by copying the white one, or by using ⬭ + 🪣).

Next, make smaller black circles inside white circles (pupils):

And use the *Paths Tool* 🖋 to add a trapezoid shaped eyebrows:

After adding the eyebrows, the final picture should look similar to this:

Adding Text. As a last step, you can use the *Text Tool* **A** and add the text of the saying to the picture. Select the tool and make a rectangular selection – this will be the text area. Then click on the rectangular selection and insert or copy the text. You can change font of the text on the left side toolbox (by clicking the "*Aa*" button); there you can also change the color, size, alignment (and various other parameters) of the text. I chose *Bradley Hand ITC* as the font, and „*centered*" as the alignment, and got the following result:

Links : tutorials and guides

A more advanced drawing exercise:

https://www.gimp.org/tutorials/Draw_A_Paint_Brush/

Gimp User Manual 2.8:

http://docs.gimp.org/2.8/en/index.html

Online Book "Grokking the GIMP":

http://gimp-savvy.com/BOOK/index.html

An online source of GIMP's tutorials:

http://gimp-tutorials.net/

Links : art created with GIMP

A magazine for artwork created with GIMP:

http://gimpmagazine.org

A gallery: artwork made with GIMP + the package Gimp Paint Studio:

https://code.google.com/archive/p/gps-gimp-paint-studio/wikis/Gallery.wiki