

Ink-Pen Drawing Effect_TUTORIAL

version 2: the formula to calculate the threshold values has been changed because the previous formula didn't work properly with very light images (thanks to Krikor and OMG)

Information: This tutorial comes from the procedure implemented in an Antique script:

Inkpen.scm by Eddy Verlinden, 2007 (Recently revisited by Dinasset)

The aim of this tutorial is to transform a photo into an ink-pen drawing.

Summary and information

The procedure is met by subdividing all the values of the photo into three main areas.

- 1 A light area, which will remain in white color
- 2 An intermediate area, which will receive ink-pen strokes only once.
- 3 A dark area, which will receive ink-pen strokes twice.

The two sets of strokes are drawn with two different slopes:

At 135° and 45°. (The user can change these angles)

The source image to transform is crucial to get a nice result.

To detect whether an image is good as a source, temporarily transform it in an indexed image with 3 colors. If the outcome looks good, it's OK to be taken as a source for Ink-Pen Effect. (remember to come back to the original RGB source image)

A good measure to apply this effect on the photo is 2000 pix at least in width or height.

There are a few previous steps to prepare the photo properly.

Open your image – go to Colors – Info – Histogram –

A small window opens and you get the **Mean Value** of the image. This value is very important to get balanced values to the process on any image for this effect.

We will name The Mean Value of your image **(T)**

Dinasset makes use of a modifier in the calculation to get **T1** and **T2** which will make the T1/T2 values more consistent whichever image is used.

So, T1 and T2 are two values important in the Ink-Pen Drawing process.

The procedures to get the right values to apply on the photo are these:

Take your **Mean value and multiply it by 255**, you get a figure which we name **T0** and then we will use it to get **T1** and **T2**

Remember this procedure:

$T0 = \text{Mean Value} * 255$ this result is applied to get T2 and T1 values

$T2 = T0 + ((255 - T0) * 0.333)$ the result will be applied on B layer

$T1 = T0 - (T0 - 0) * 0.333$ the result will be applied on D layer

$\text{Mean Value} * 255 = T0$

$- T2 = T0 + ((255 - T0) * 0.333)$

$- T1 = T0 - ((T0 - 0) * 0.333)$

Having our calculation done previously we start the Tutorial.

1_Open your original photo which is your background.

In our example we use a source image having a mean value of 0.355

So, $0.355 * 255 = 91$

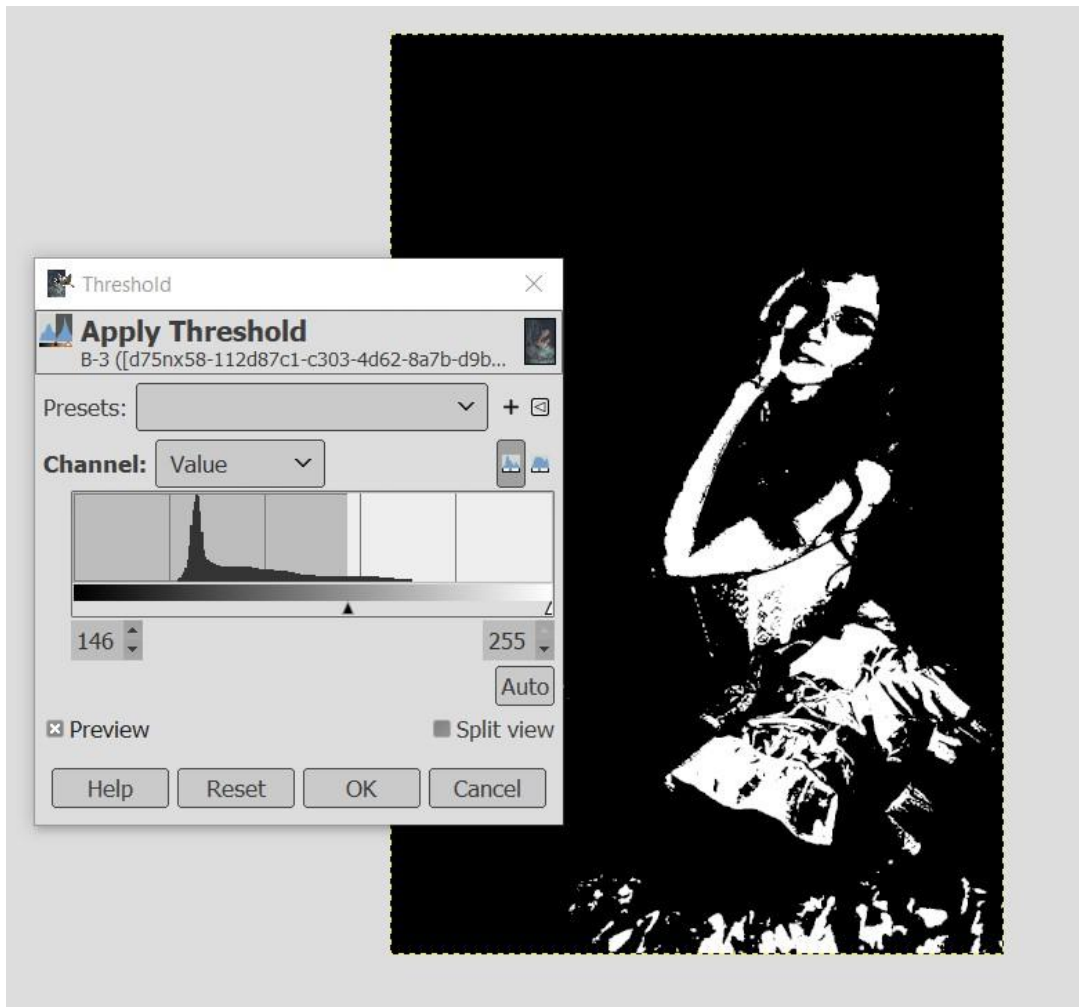
$T2 = 91 + ((255 - 91) * 0.333 = 145$

$T1 = 91 - (91 - 0) * 0.333 = 61$

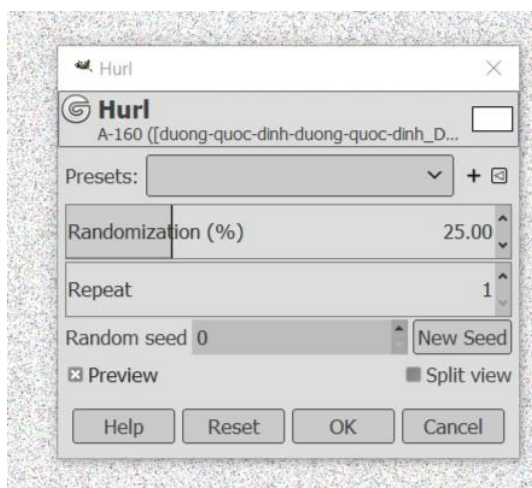
2_Duplicate the background photo and set it above background and name this layer as **B layer**.

3_Select B layer – Go – Colors – Threshold and apply this values.

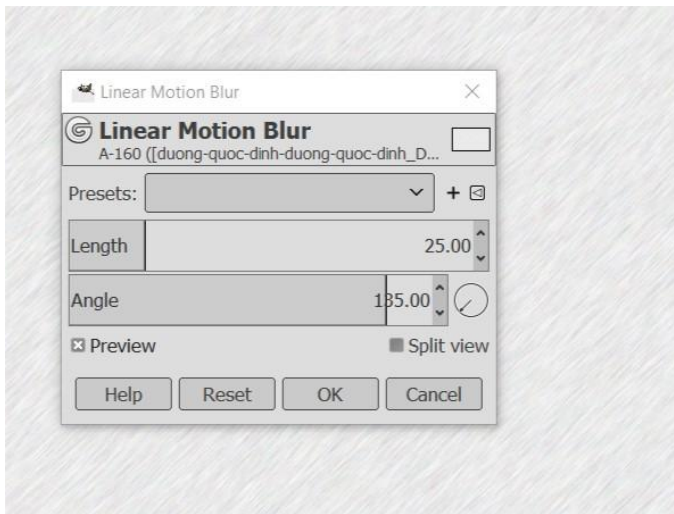
4_On the left side, set the value you got named **T2** and **255** (default) on the right side. Accept.



5_Create a new **white layer** on B layer. Name this layer as **A. Selected A** layer go to Filters – Noise – Hurl and use these values: **25** and **1**. Accept

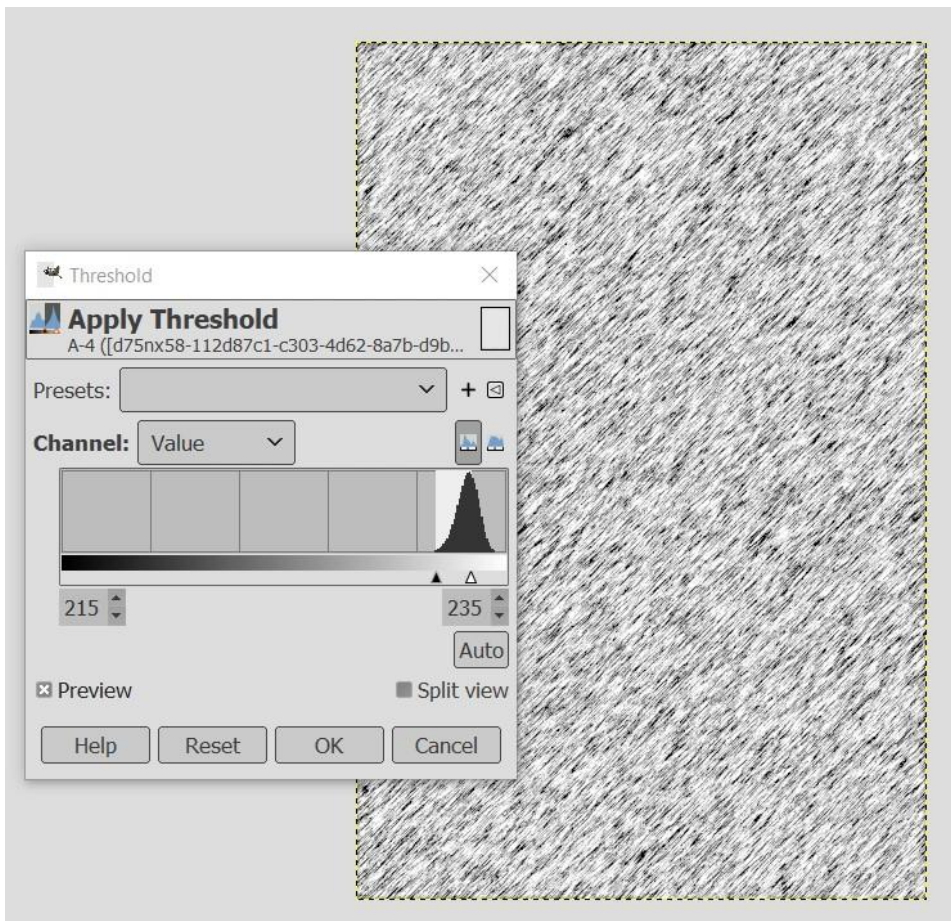


6_Selected A layer go to Filters – Blur – Linear Motion Blur –



(The most appropriate stroke length usually is 1/100) Our image/photo is 2000,

So, we set **20** and **135** for angle. Accept.



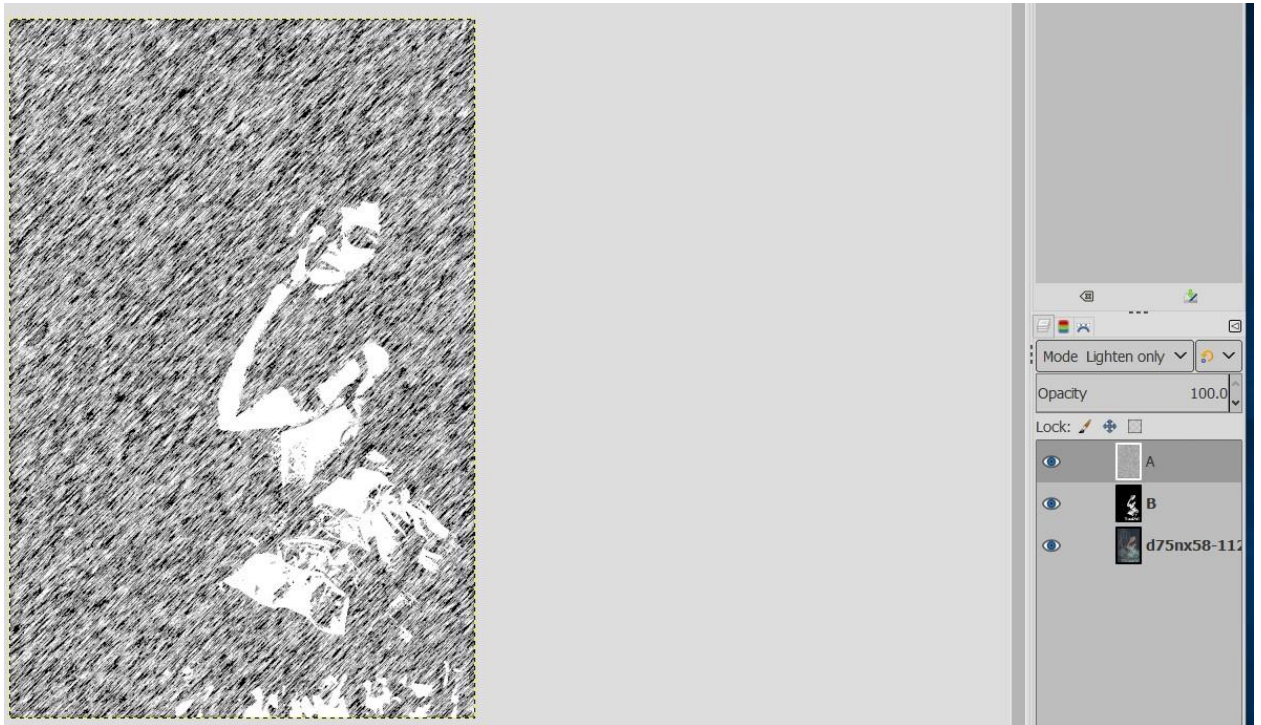
7_Selected A layer go to Colors – Threshold and set

215 to 240
(clear result)

or

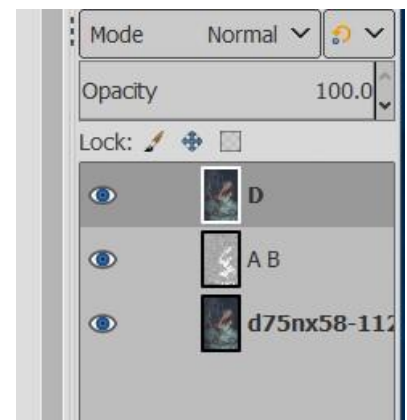
215 to 235
(dark result) (to your linking)

8_Set the layer at Lighten Only as layer mode.

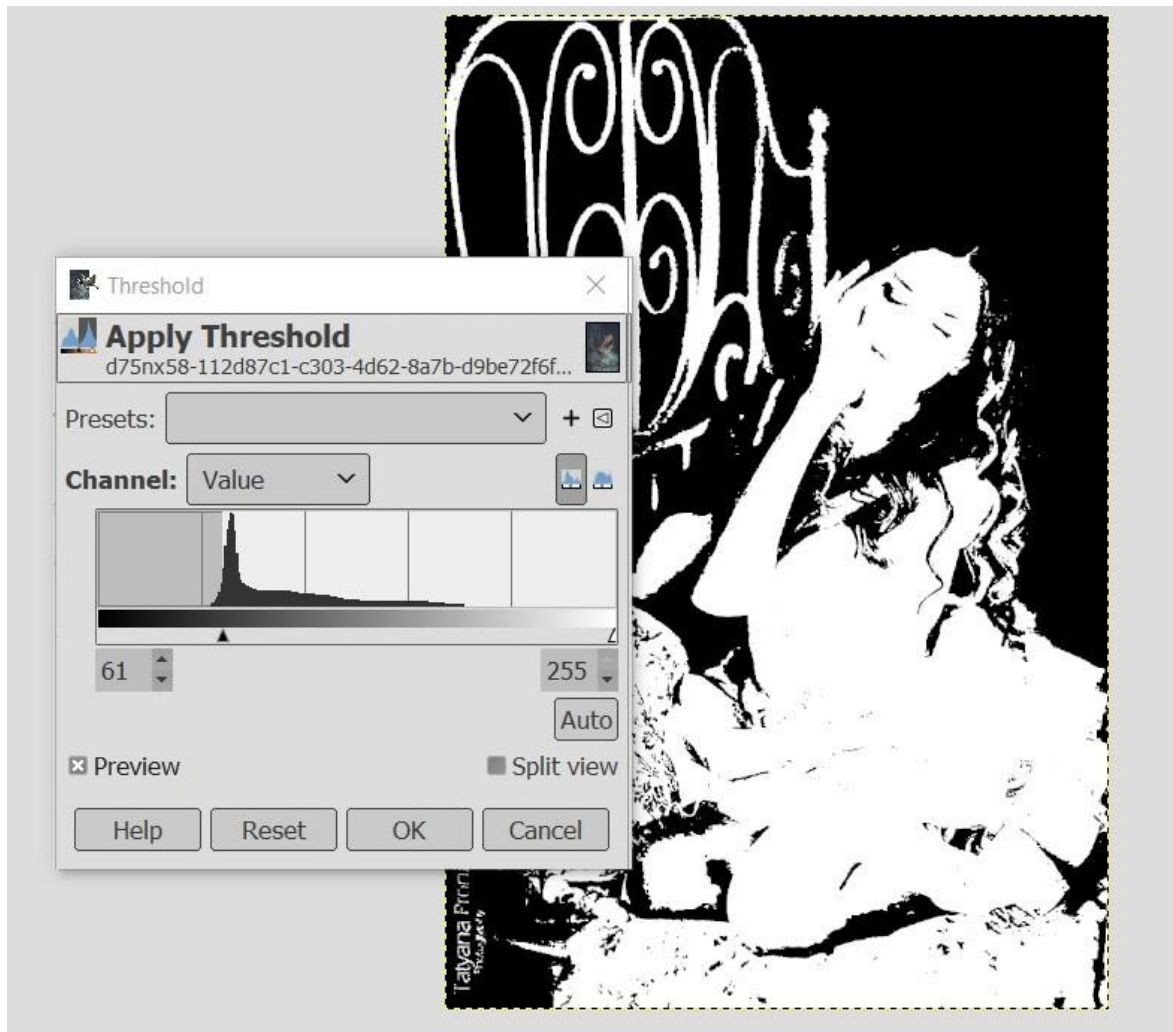


9_Merge down A layer with B layer. Name the layer as **AB layer**.

10_Duplicate the original background photo and set the layer on AB layer. Name this duplicate layer as **D layer**.

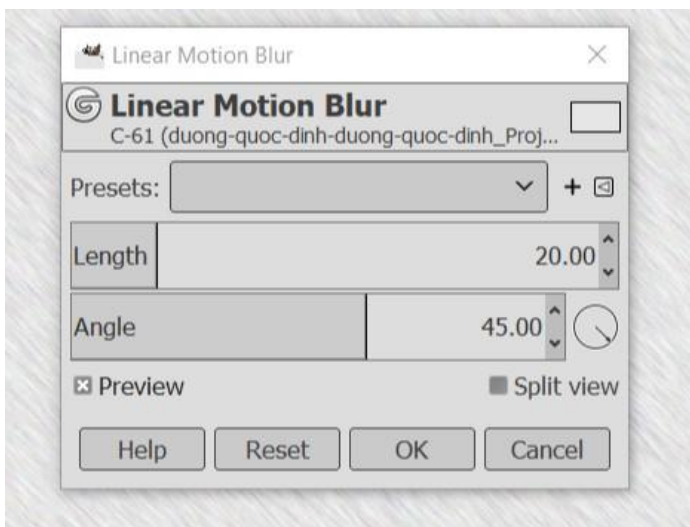


11_With **D layer selected**, Go to Colors – Threshold and set **your result of T1** on the left side and **255** (default) on the right side. Accept.

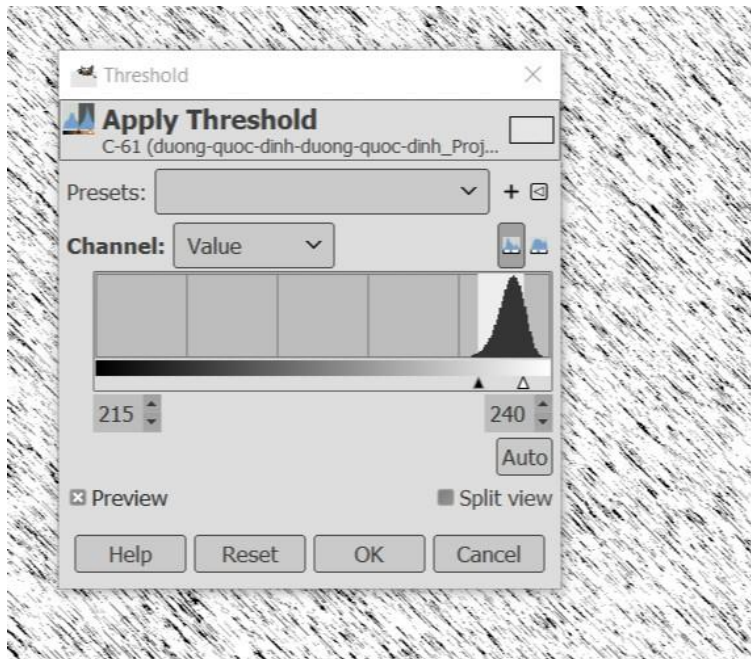


12_Add a new **white layer** above D layer and name it **C layer**.

13_Selected C layer go to Filters – Noise – Hurl and use these vales; **25** and **1** Accept.



14_Go to Filters – Blur – Linear Motion Blur and use **20** (length) and **45** in angle. Accept



15_ Go to Colors – Threshold and use these values **215** on the left side and choose from **235 to 240**. You decide seeing the image

16_ Set the layer at **Lighten Only**.

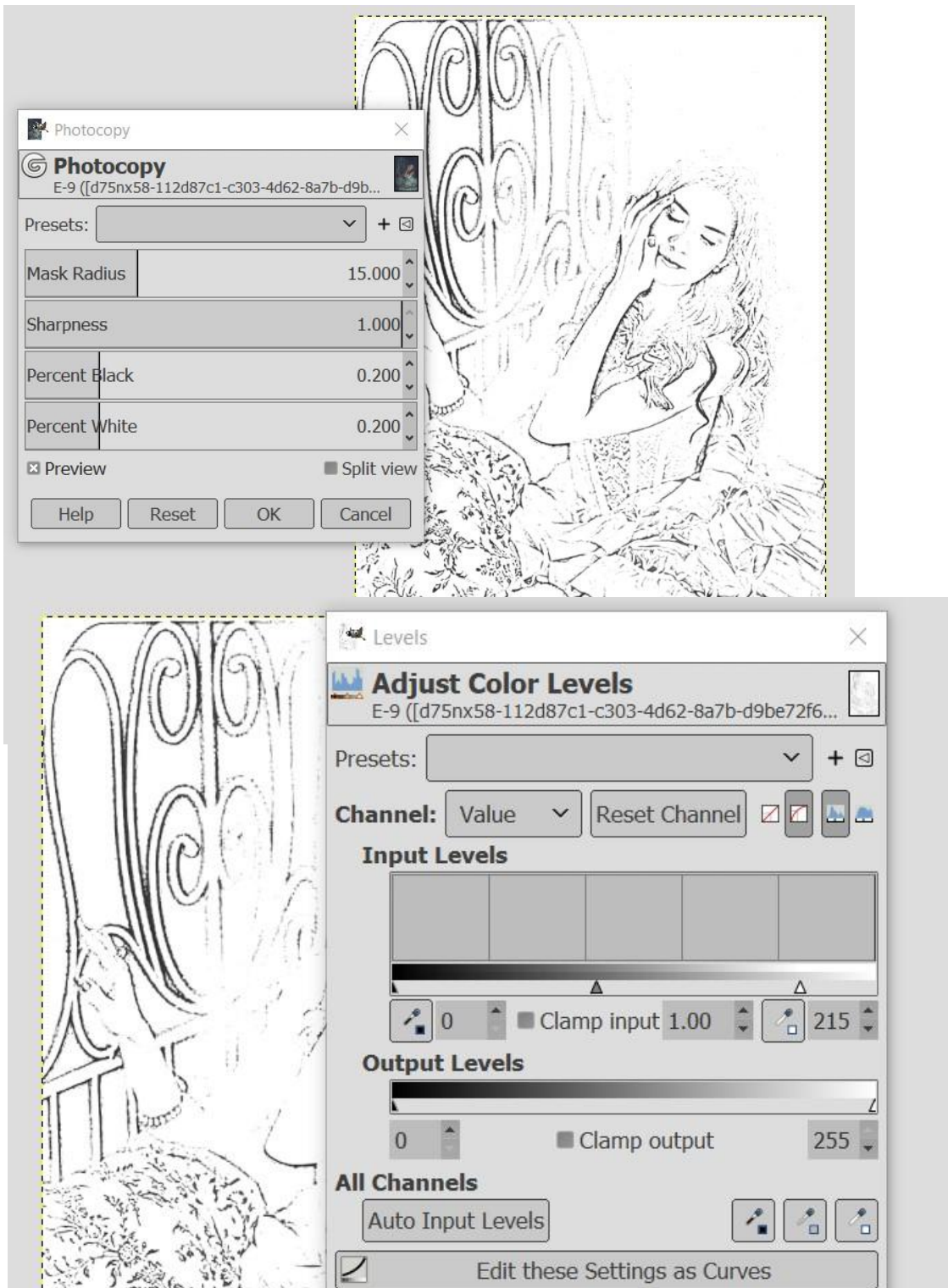


17_ Merge C with D layer and name it **CD layer**.

18_Duplicate the original background photo and set it above CD layer.

19_Name the duplicate layer as **E layer**.

Go to Filters – Artistic _ Photocopy and set these values: **5.0; 1.0; 0.2; 0.2**. I set Mask Radius at 15 because at 5, the lines were too weak.



20_Go to Colors – Levels and set in Input, from **215 to 235** on the right side. Accept.

21_Close temporarily E layer eye.

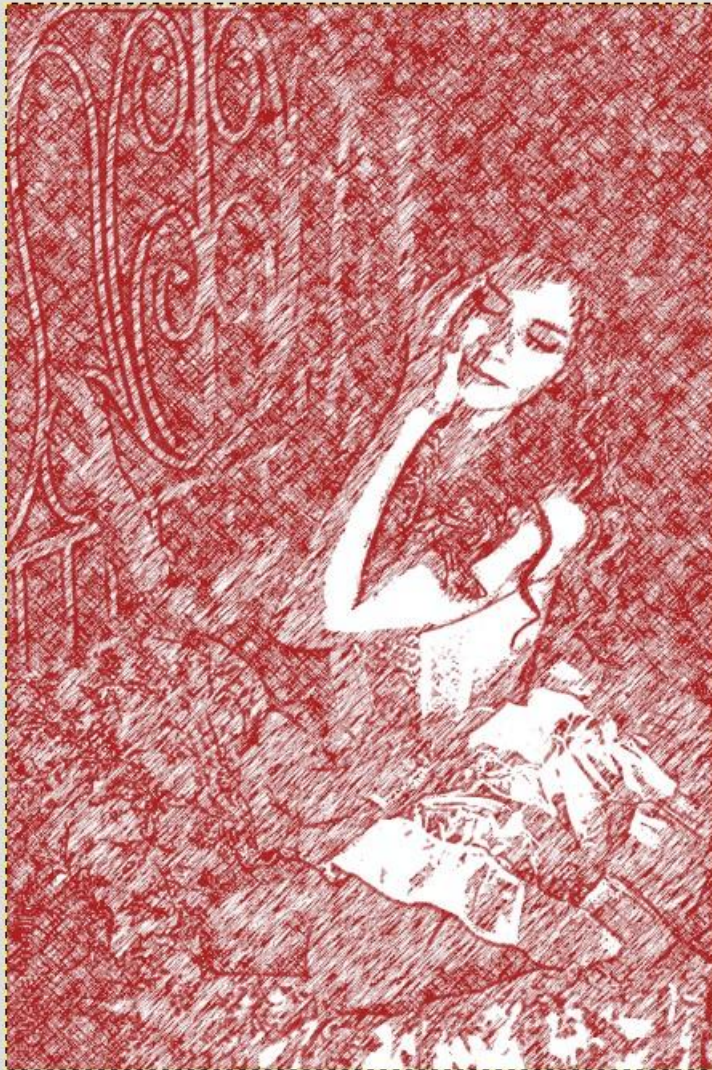
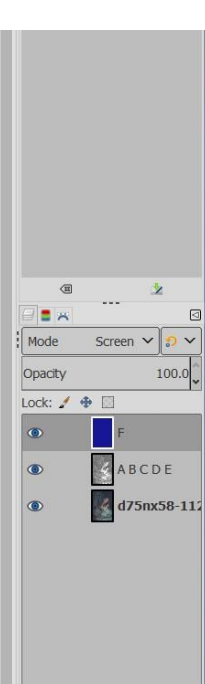
22_Set CD layer at Multiply layer mode and merge the layer with AB layer. Name the resultant layer: ABCD layer



23_Open E layer eye and **set E layer at Multiply** layer mode. **Merge E** with **ABCD** layer. Name it **ABCDE layer** but also you can name it **Ink-Pen Drawing** in Black.

If we like the drawing in Ink colour:

24_Create a new transparent layer (name it F). Fill **F layer with 161696 color** and set this layer at **Screen layer mode** and merge the layer with Ink-Pen Drawing, you get the drawing in Blue color.

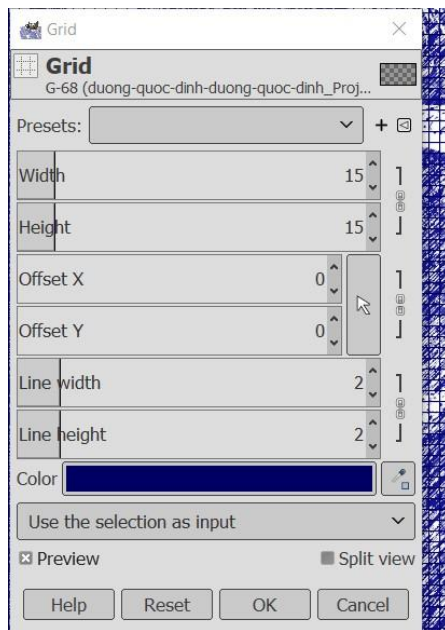


If you prefer other color,
for instance in red ae2020

This will be the result.

If you like to simulate the use of paper with blue grid:

25_ **Create a new transparent layer** (name it G) **Select G layer,**



Go to Filters – Render – Pattern – Grid

Set these values: **16; 16; 0; 0; 2; 2; Color 000064** (you can modify these values, too).
Merge the layer.

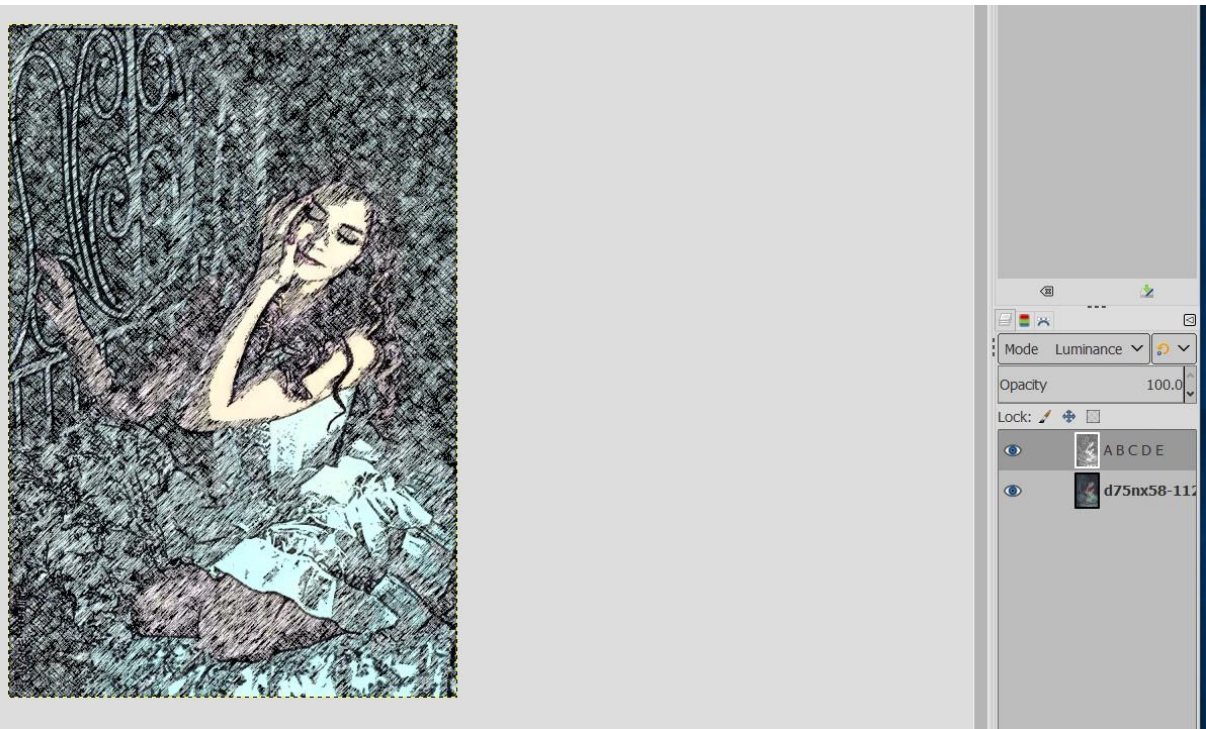
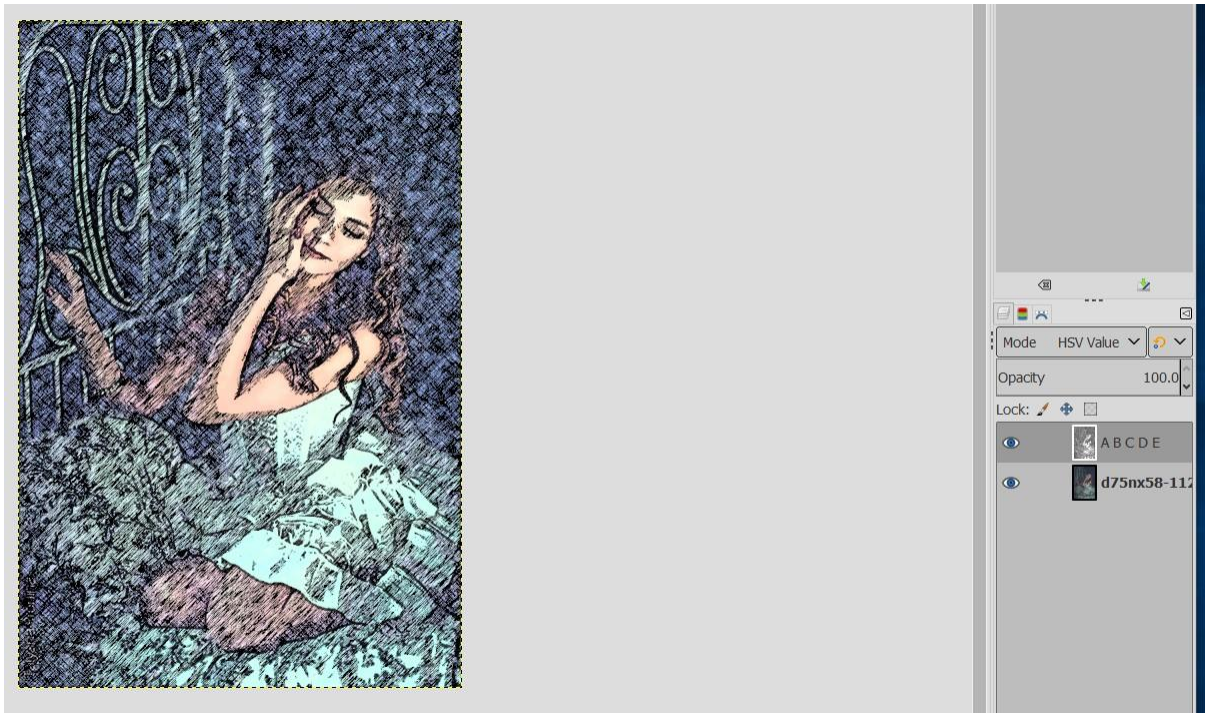


You have got your final image in Ink-Pen Drawing Effect in Blue color on paper effect.

But you have other options:

Other possibilities:

After getting your Black Ink-Pen Drawing, you can play with layer modes.



Enjoy this nice process and a nice Ink-Pen Drawing Effect.

Huge thanks to my friend Dinasset, who has calculated formulas and effects to get everything alright.

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