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**Convolution Algo:**

I first calculated the image output size based on the kernal size.

Then for each pixel in the output image i calculated the kernal against the same sized pixel frame finally suming the values.

I used two functions for convolution one using a single channel(grayscale) and one using 3channels(Colour) I did this as the edge detection results were very poor when using all three channel using a gray scale improved the result drasticly.

**Edge detection Kernel:**

I chose to use the  3x3 sobel kernel for edge detection

**Blurring**

Gaussian Kernel

I used a 5x5 kernel, using a bigger kernel would produce a more noticeable blur but my algorithm was not very efficient. I struggled on the large 3700x5000 image taking 10minutes to produce.

**Results:**

For the blurred image you will have to zoom in to compare as the images are large and the kernel is small

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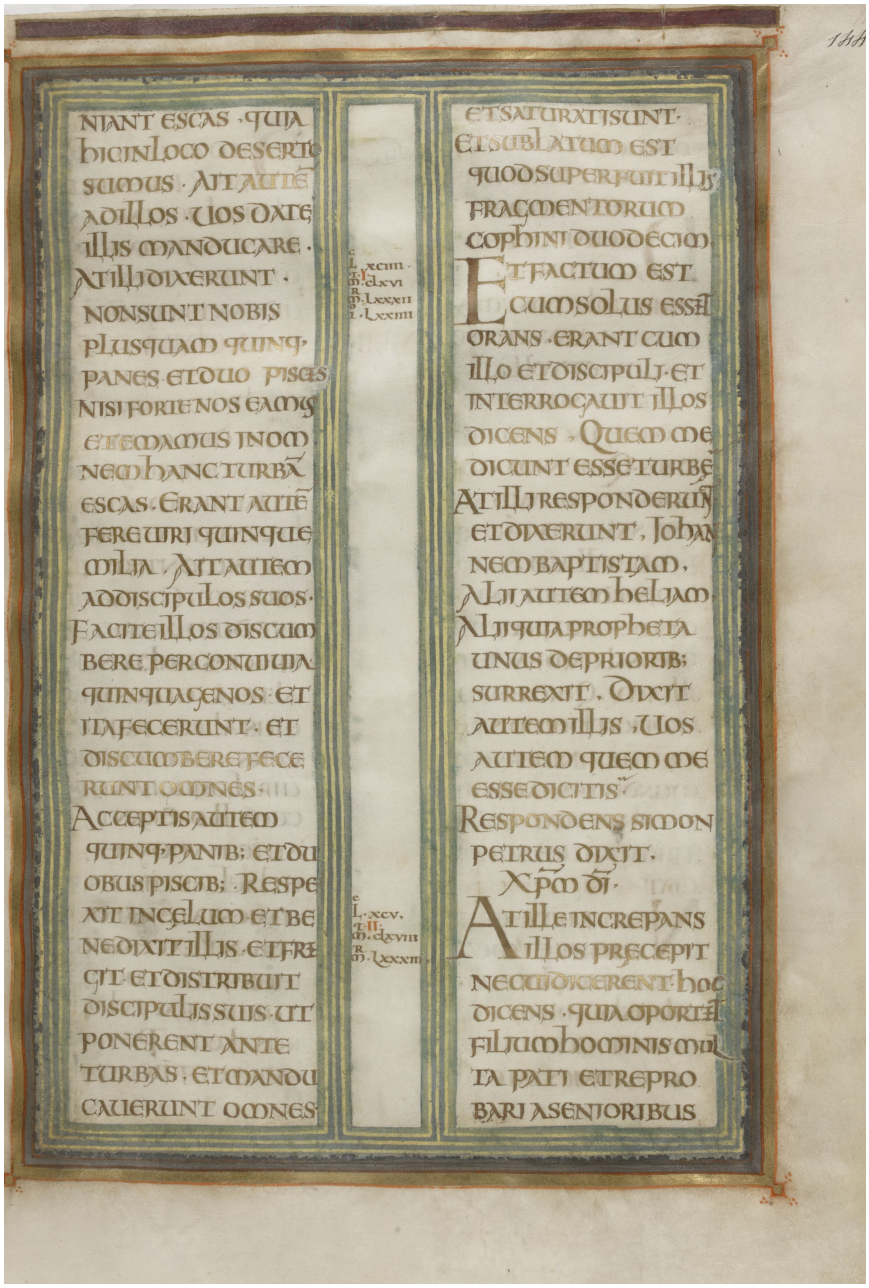

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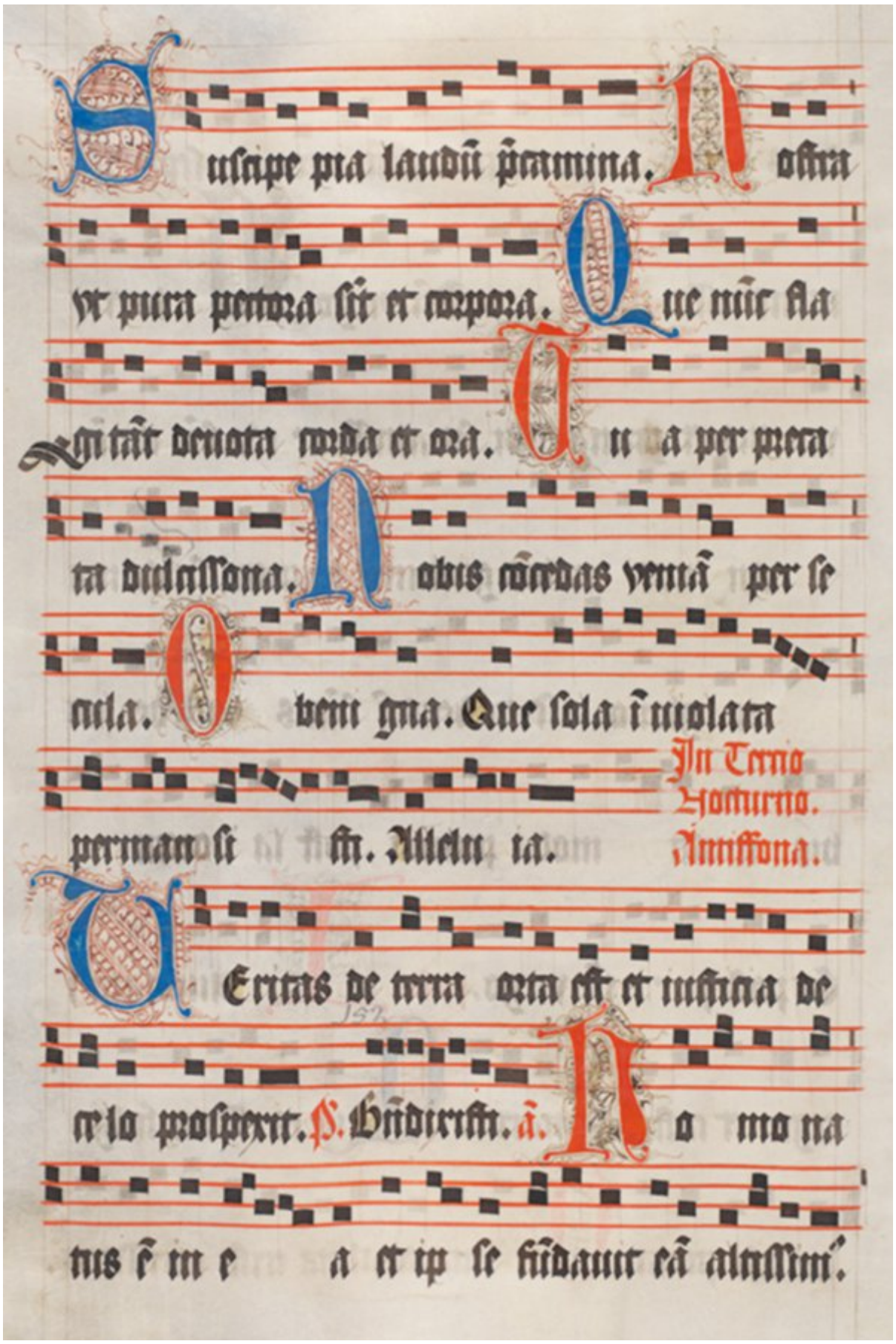

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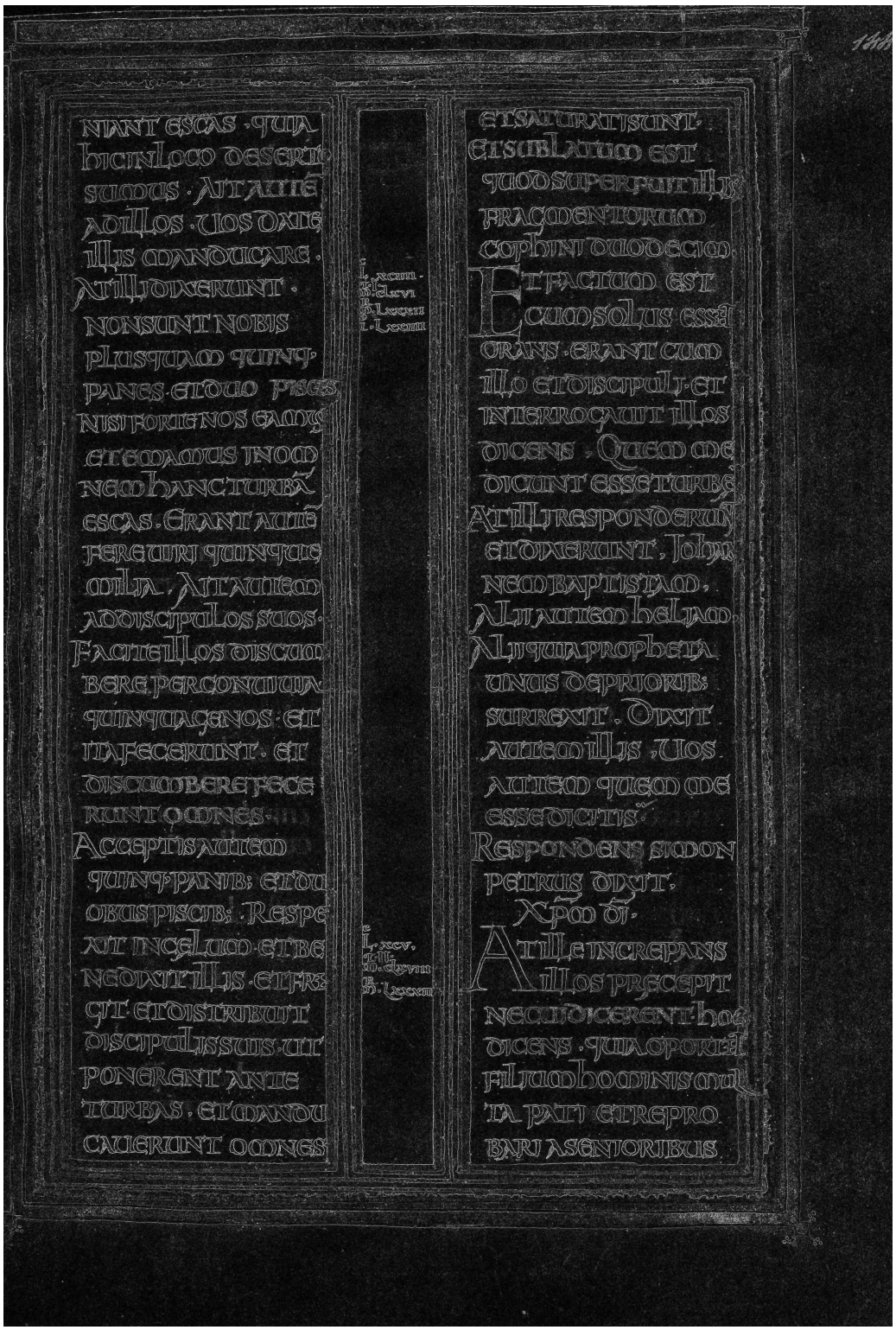

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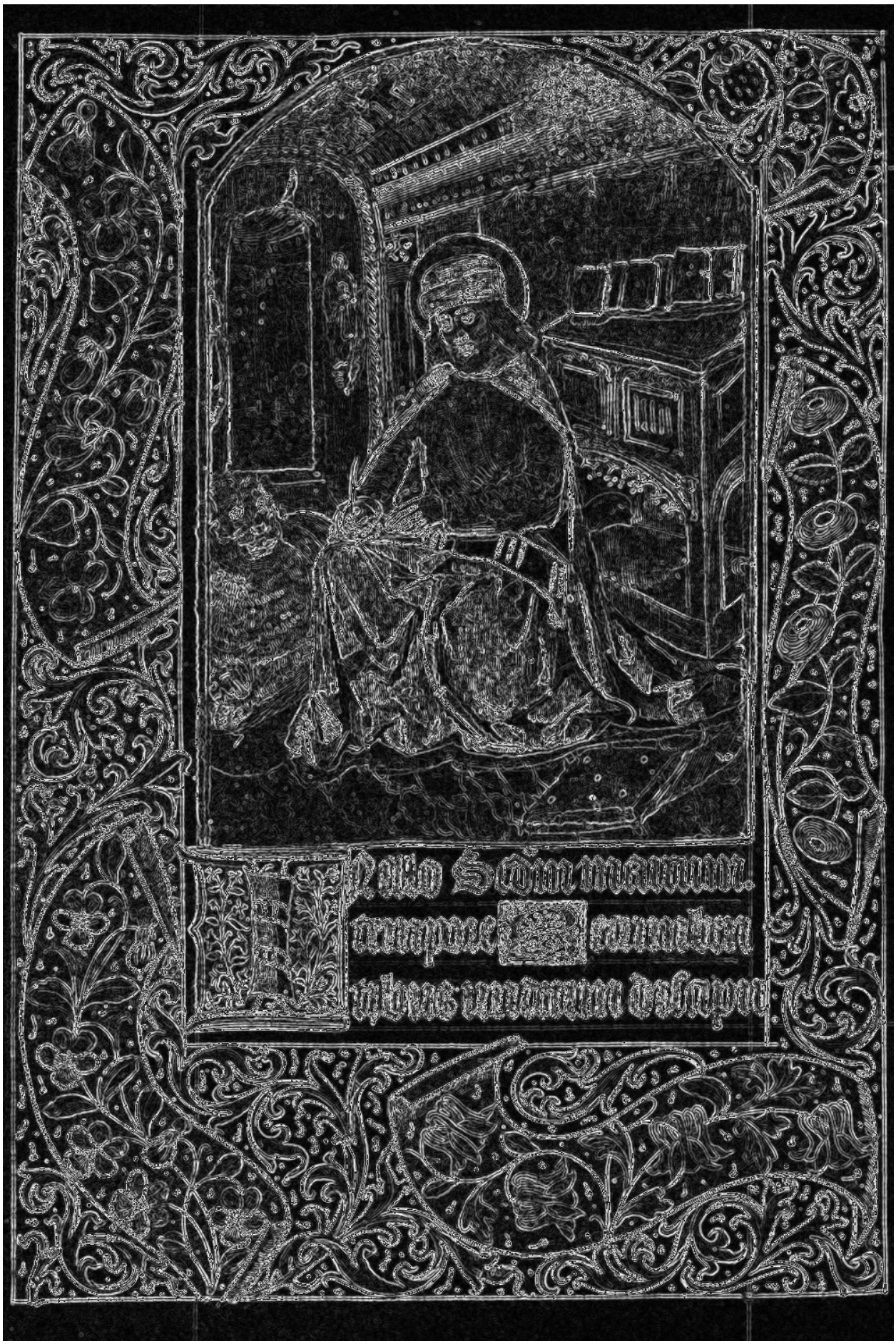

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