

HOW TO CREATE PIXEL ART

In thirty 1-bit Illustrations
for the Roland SP-404 MKII sampler



Elisa Andretti

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for the Roland SP-404 MKII sampler



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*To Eliel, may you keep your feelings big
and your imagination wild.*

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Note from the Author.

This book is an invitation to draw.

It is also an invitation to partake a game of selecting, reducing, and interpreting.

This book is a nostalgic exercise, as it goes through the process of creating pixel art. Pixel art can be uploaded to a number of machines with a retro touch, such as the SP-404 MKII, which the illustrations you will find here were originally designed for.

Creating pixel art can be a fun way of looking at something with fresh eyes; it can be accomplished in a short time, and with a high degree of satisfaction, too.

This book is an invitation to relax your eye, and simplify.

This book is about making interpretations of images in a new form, which is in itself an uplifting exercise in meaning finding.

The act of changing medium of expression, i.e. turning a pencil drawing into pixel art, is also very effective in getting over a creative block.

During ten years at Cremacaffè, Andrea and I had the most fun while witnessing those creative transitions. A ballpoint pen sketch can be turned into laser etching, and as part of a physical object it becomes something else entirely.

The object, in turn, creates a connection with the people who make it theirs. Our synth stands and cases have become a tool of the trade for Musicians across the globe, and here is how all our designs kept evolving: through feedback, and subsequent reinterpretation.

Ultimately, this book is a conversation with the Reader, about two things we have deeply at heart: simple joy, and creativity.

What is an Indexed Image?

An indexed image is an image made of pixels, where every single pixel is assigned an index.

“Index” means that the value assigned to the pixel points to a specific position on a color map: i.e. value 1 to the first row, value 2 to the second row and so on.

The color map is often stored with the image itself.

This saves computer memory, as all the information related to color is external to the image you are visualising.

In 1-bit indexed images each pixel is assigned only one binary digit (bit) as pixels are either Black (value 0) or White (value 1).

Contents you will find here.

There are many softwares you can use to turn any picture into a 1-bit image, with varying results. This guide is not about that. I describe here my own creative process, and make it available as a springboard for your own 1-bit art.

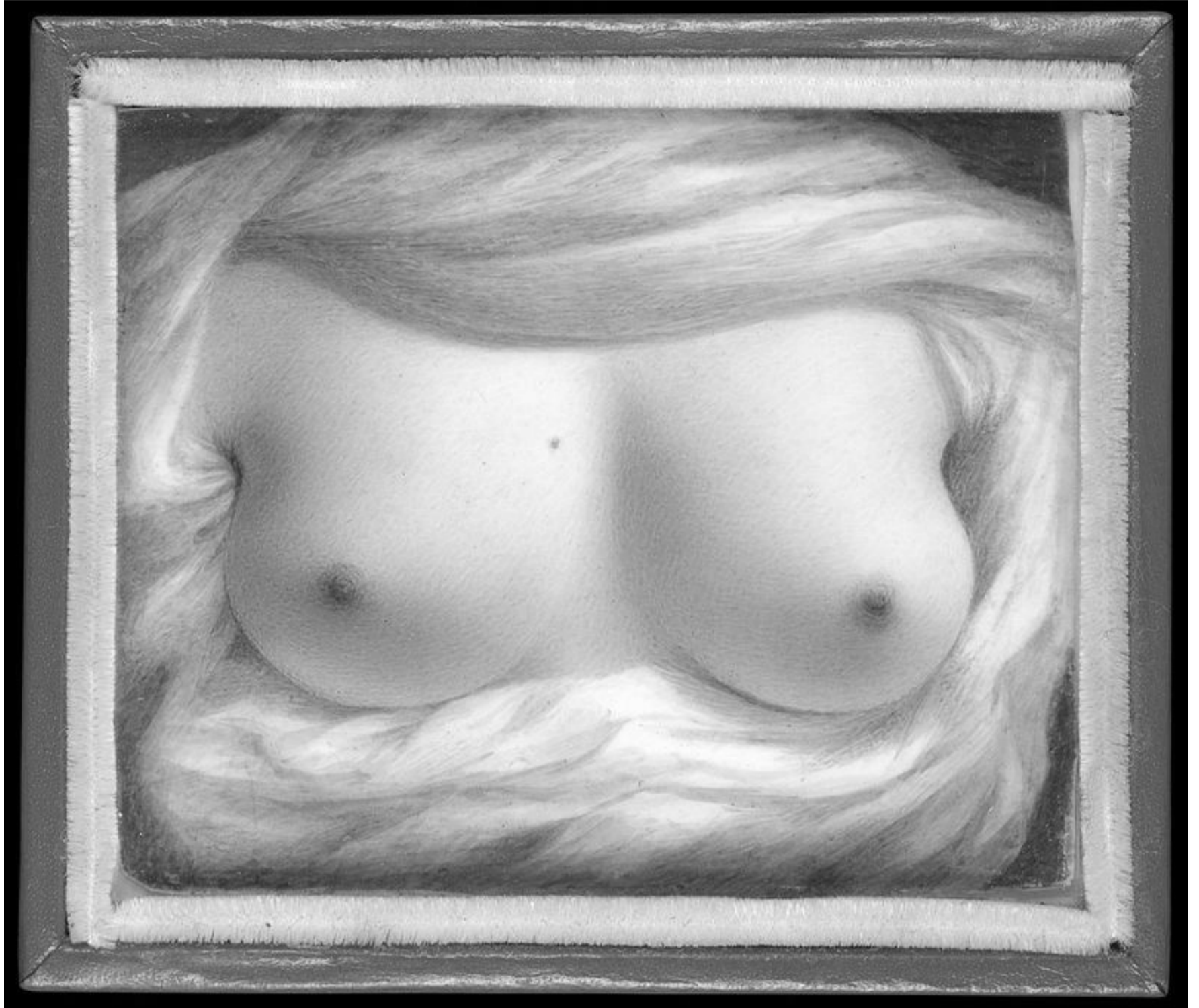
You will find here a step by step analysis of aesthetic and technical choices on a full set of thirty 1-bit original images, arranged by “animated” sequences of two frames (15 animated startup screens for the SP-404 MKII Roland sampler).

If you wish to turn a complex picture into 1-bit mode, this guide will help you speed up the simplification process in an enjoyable way.

I loved this exercise, and recommend it to anyone who wants to stretch out some creative muscles.

Small 1-bit images are very manageable; you get the satisfaction of starting something, and bringing it to completion in a short time. They are also a very effective training for seeking and selecting the essential in what you see.

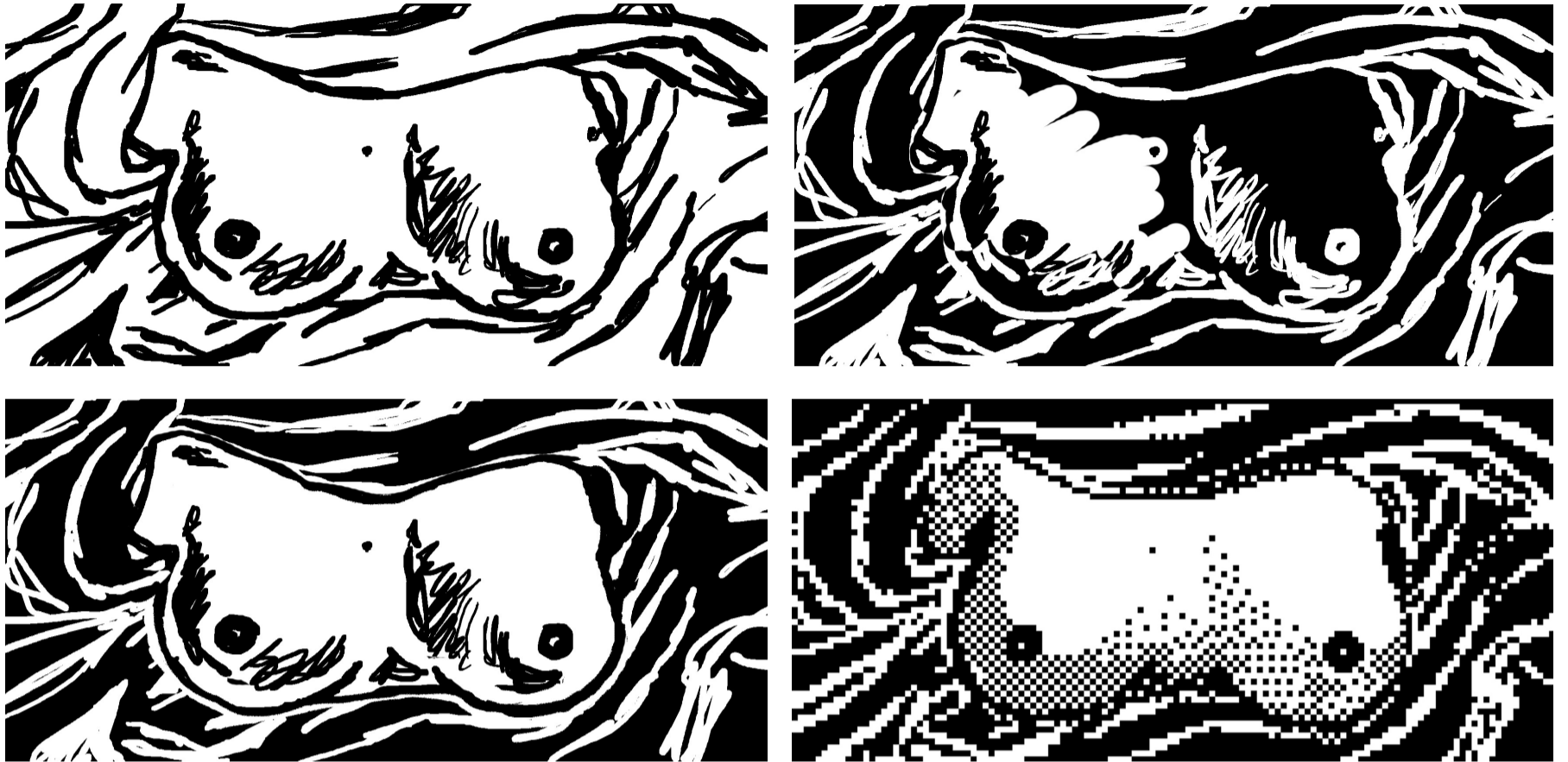
II. Beauty, revealed



Above: picture of the painting by S. Goodridge, 1828; MET, retrieved September 2023, public domain image.

- 1) To turn a delicate shadow play into 1-bit art, I had to trace simple outlines first.
- 2) I copied the tracing layer, used the tool “Invert” on it, then used the “Eraser” to uncover areas showing the skin on the layer below.

II. Beauty, revealed



Interpreting shadows and movement in 1-bit space.

Softer shadows were rendered with black dots, loosely paced on brighter areas. The drape is black, to create a starker contrast, and outlines are much stronger than in the original painting, for a better legibility as a 1-bit image.

II. Beauty, revealed



Revealing Beauty: making of Frame One.

Starting from the spiralling movement of the drape, I imagined a “before” moment with the hand of the Painter herself in focus.

Geometric rigour of Iranian graphic novels is here an inspiration.