

Deep Extraction of Manga Structural Lines (Supplemental Material)

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1 Sample Line Drawings



Figure 1: Sample line drawings for synthesizing training pairs.

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2 Sample Manga Screentones

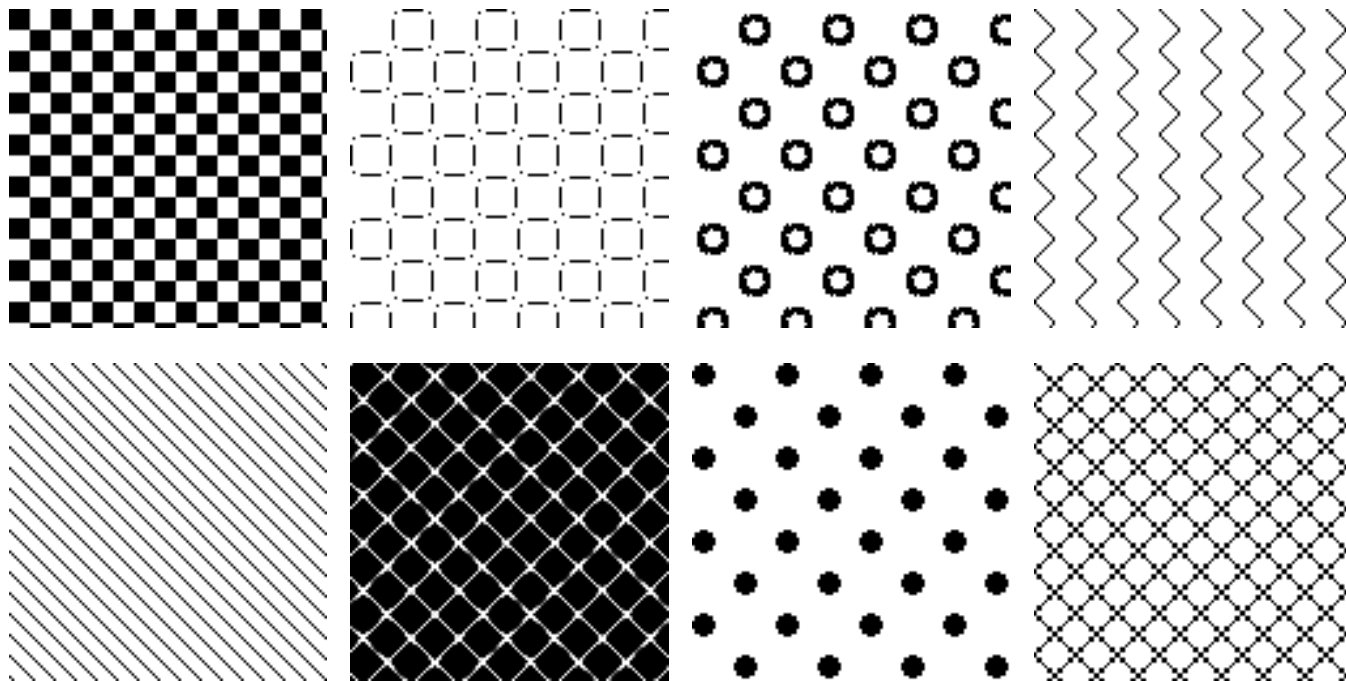


Figure 2: *Sample regular patterns.*

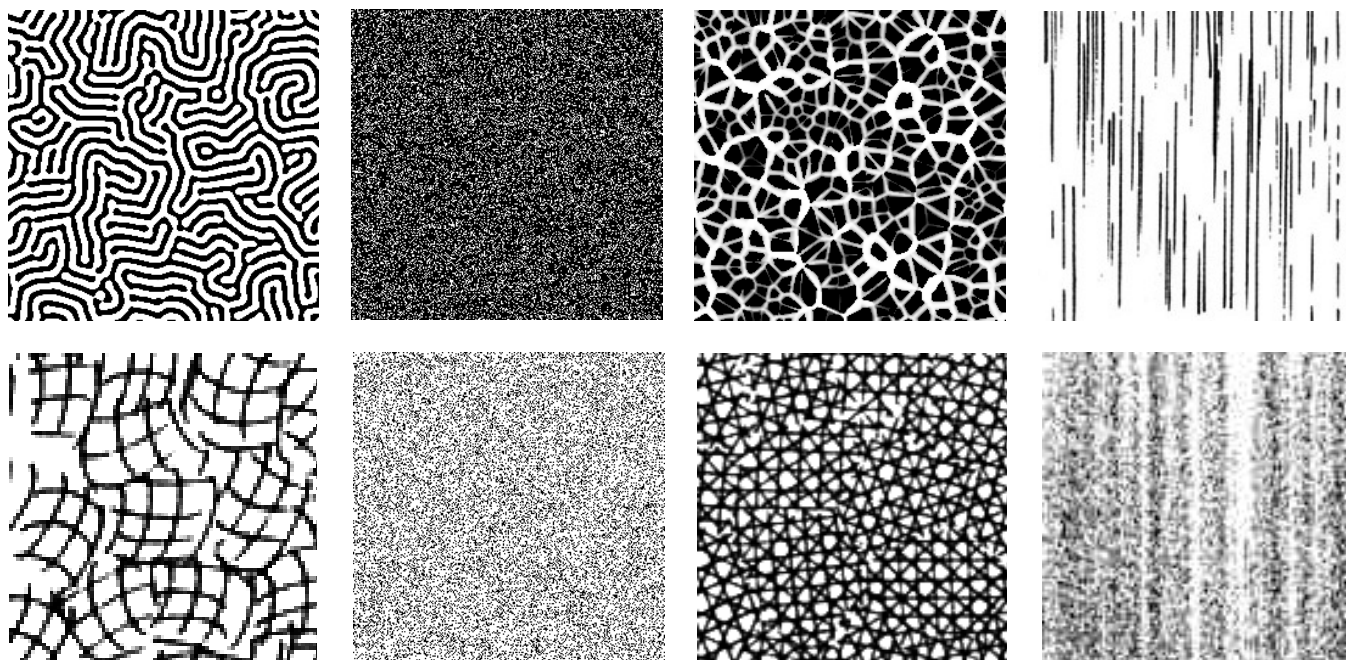


Figure 3: *Sample irregular patterns.*

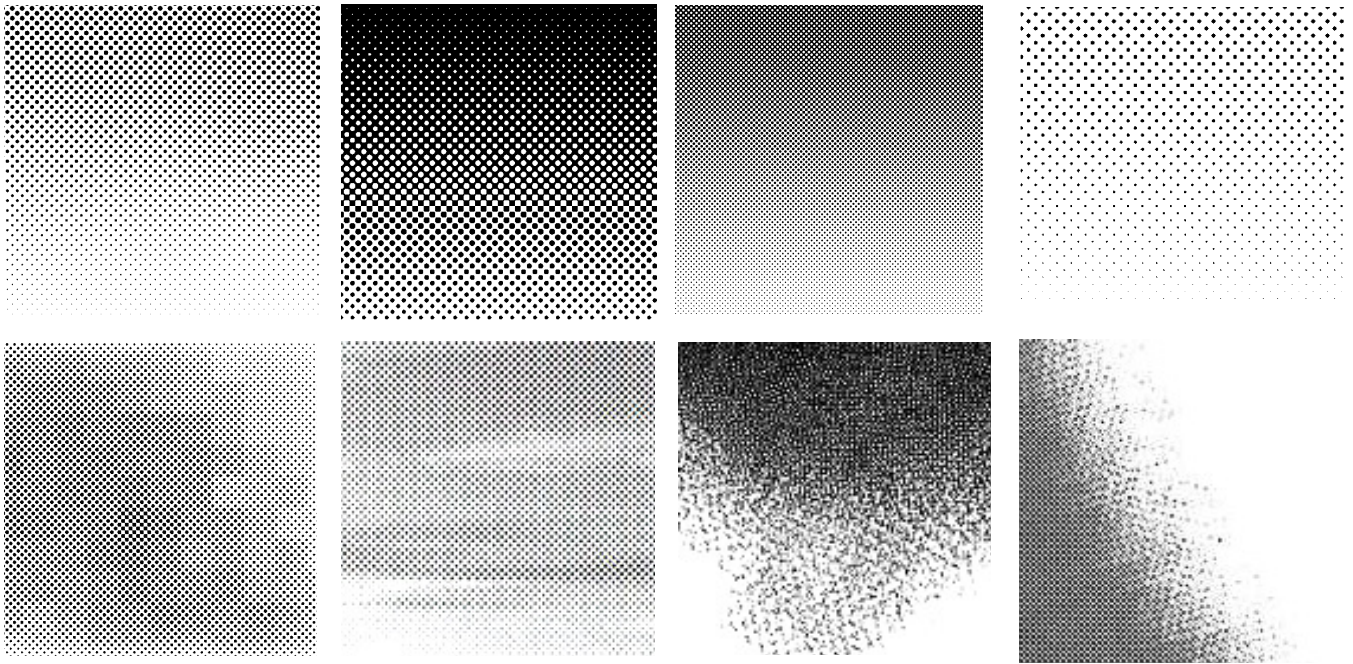


Figure 4: *Sample tone-varying patterns.*

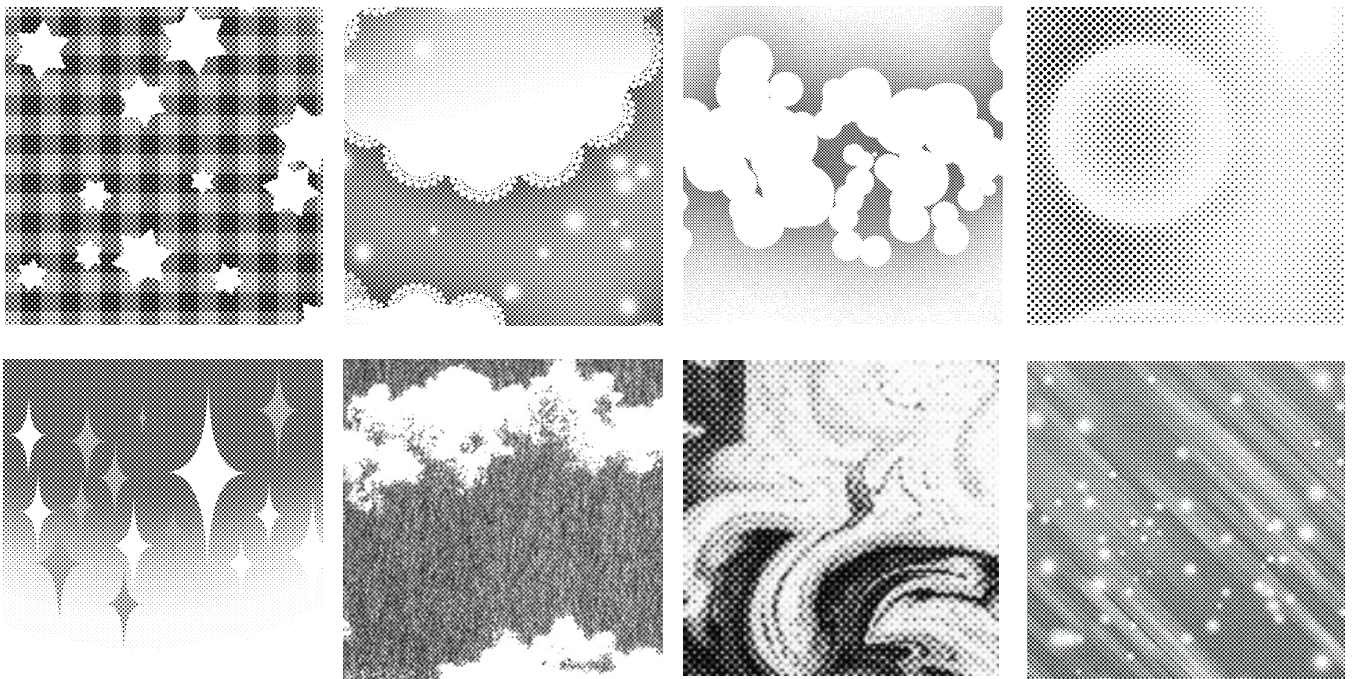
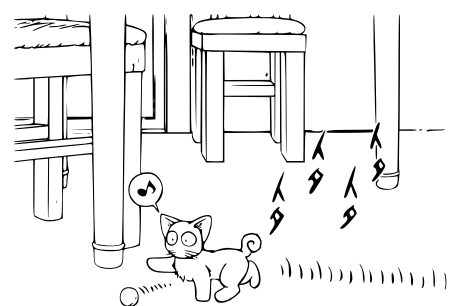
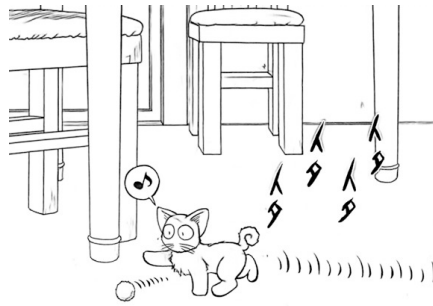
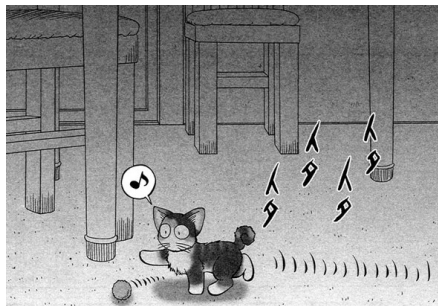
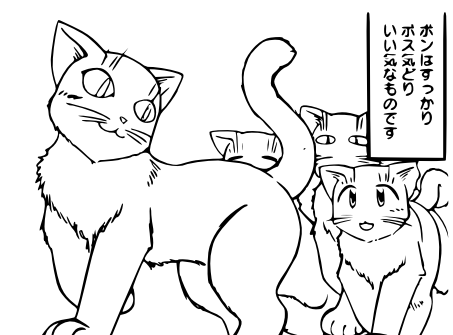
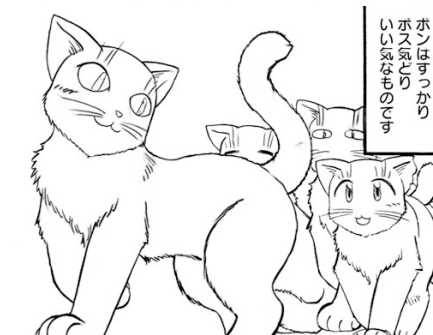


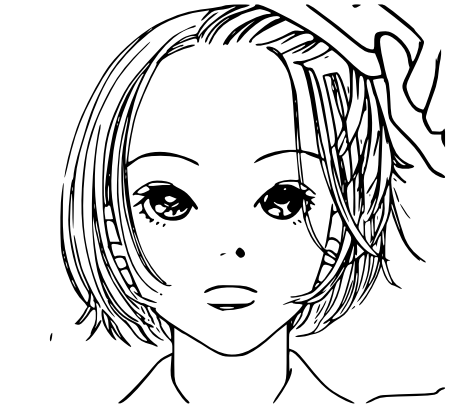
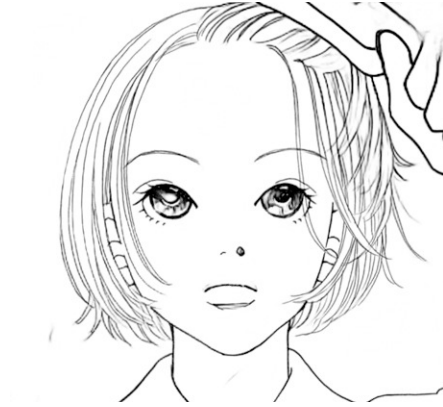
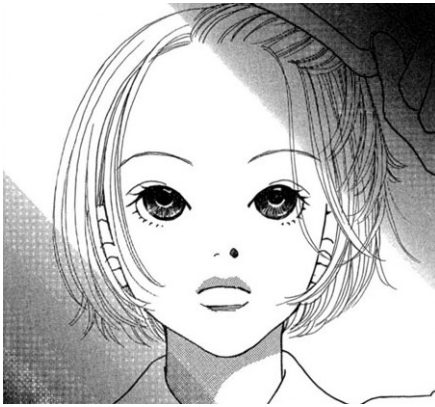
Figure 5: *Sample pictorial patterns. Some of the samples are cropped for better representation quality.*

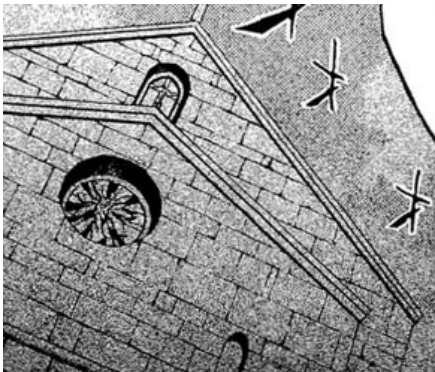
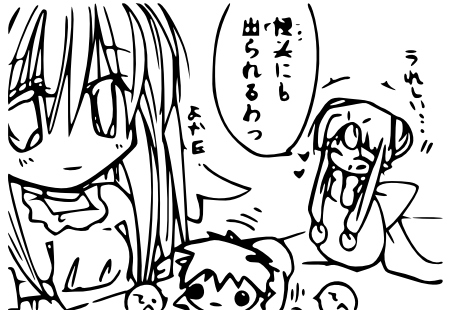
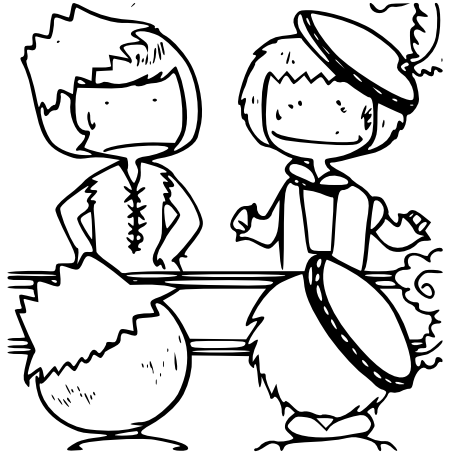
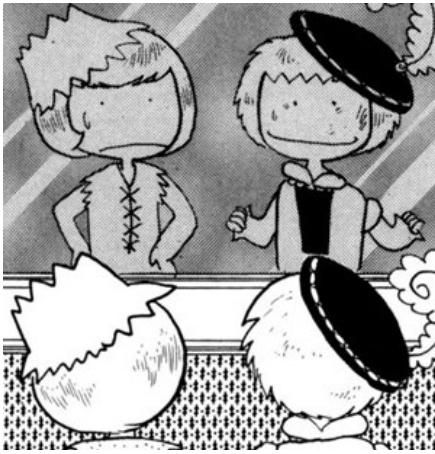
3 Additional Results

For all the following results: the first column shows the input image in grayscale. The second column shows the grayscale output convolved by the CNN. The last column shows our vectorized results. All of the input images below are from the Manga109 dataset [Matsui et al. 2015].











(a) Input



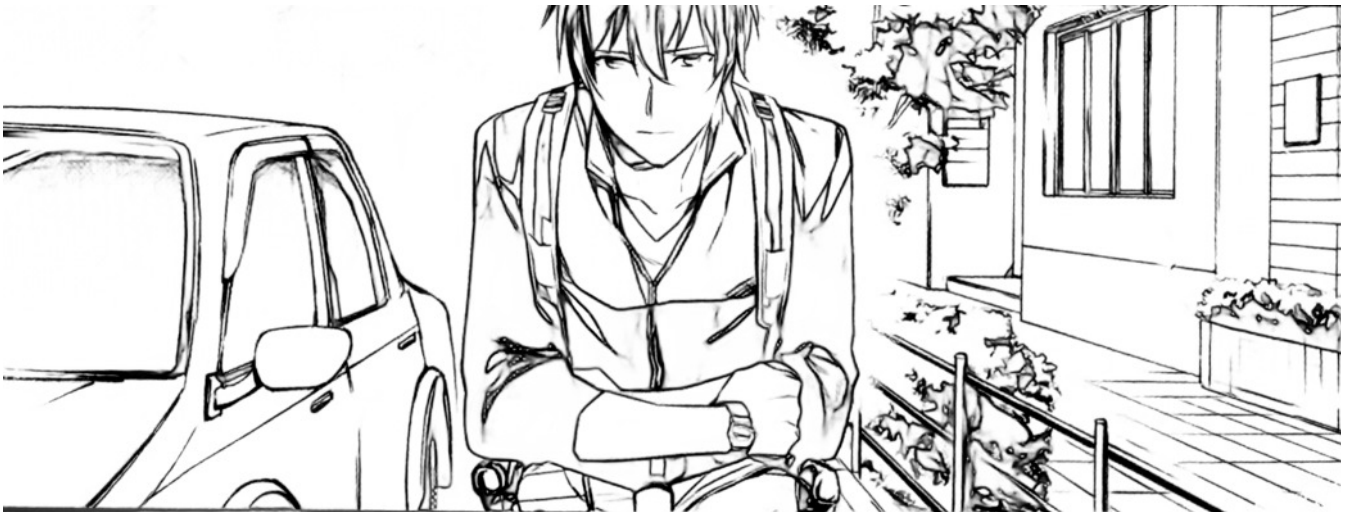
(b) Network output



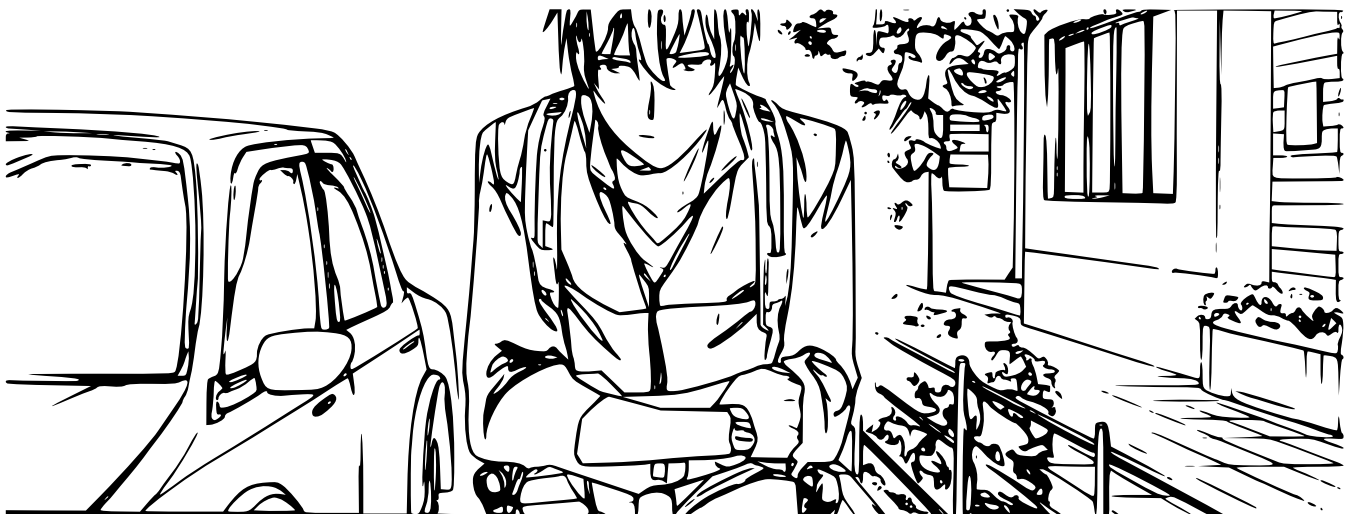
(c) Vectorized output



(a) Input



(b) Network output



(c) Vectorized output



(a) Input



(b) Network output



(c) Vectorized output



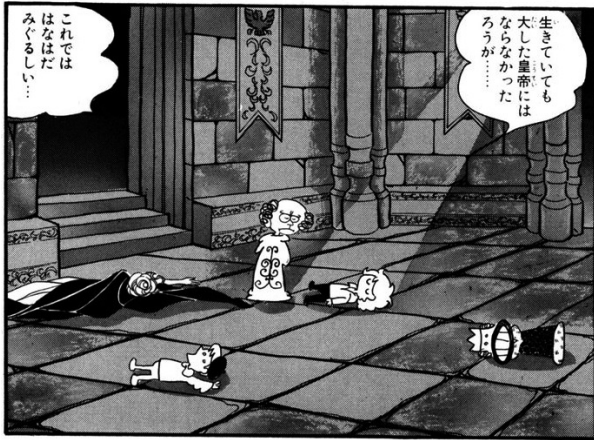
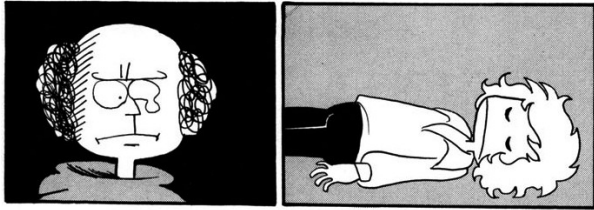
(a) Input



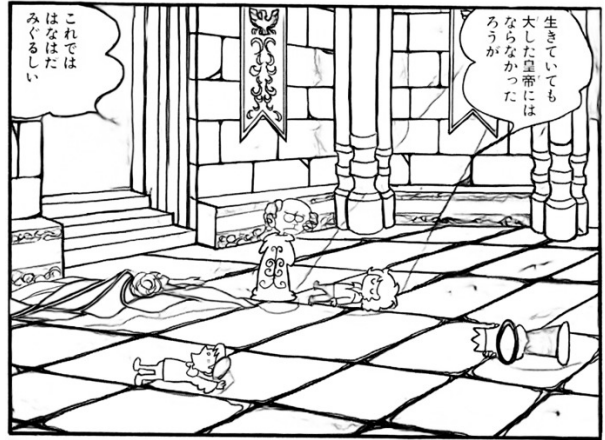
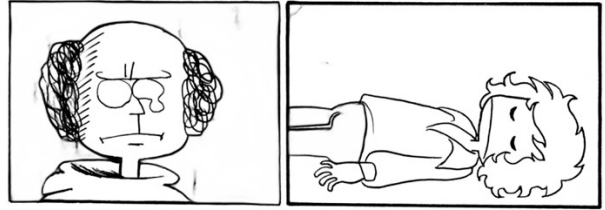
(b) Network output



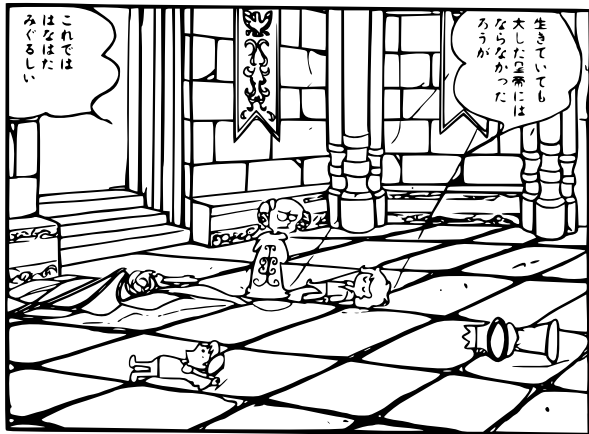
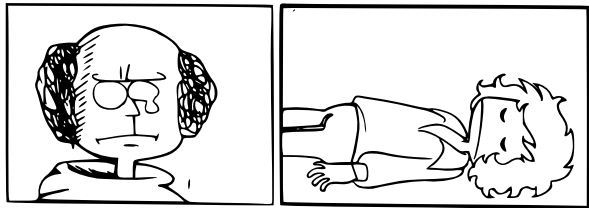
(c) Vectorized



(a) Input



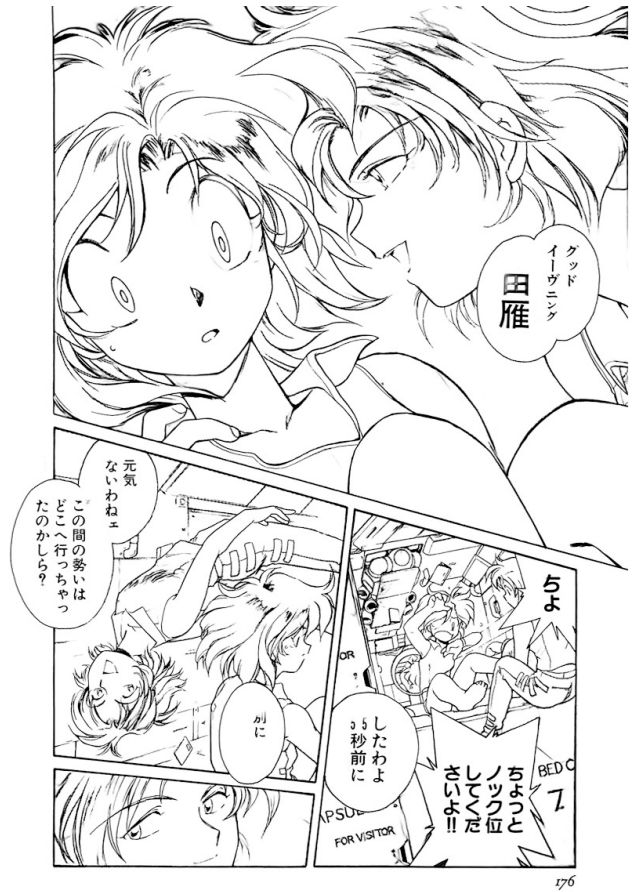
(b) Network output



(c) Vectorized



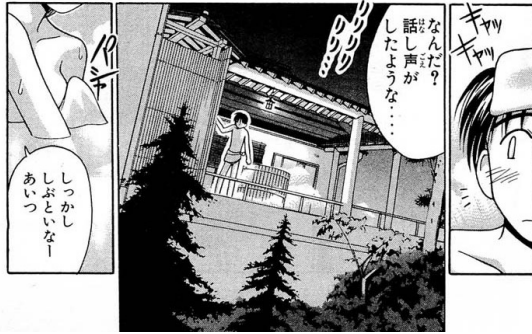
(a) Input



(b) Network output

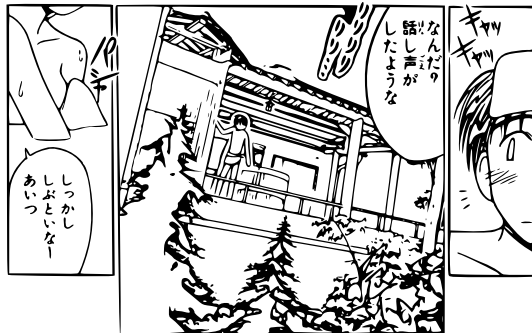


(c) Vectorized



(a) Input

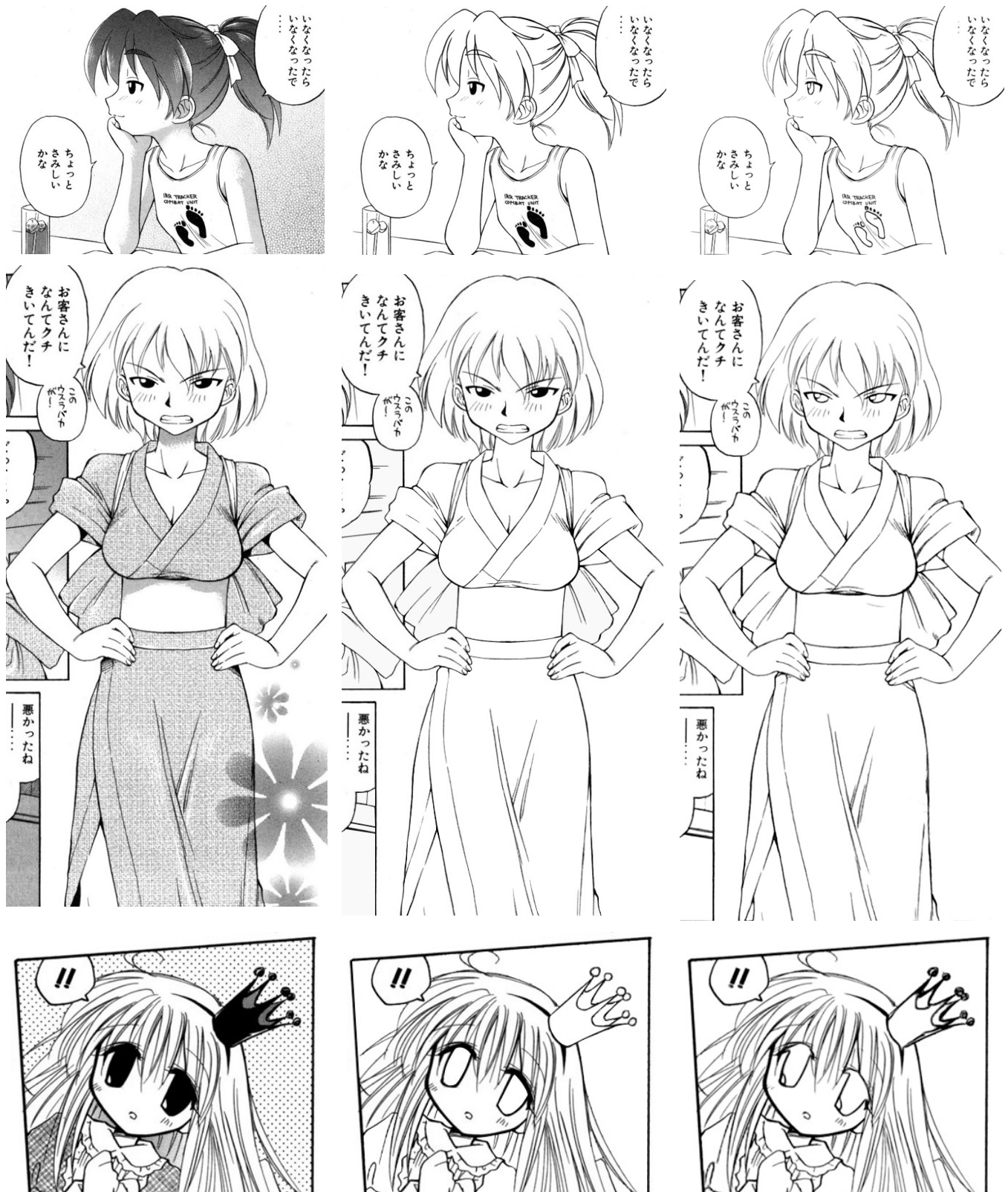
(b) Network output



(c) Vectorized

4 Extracted Results vs. Manually-traced Structural Lines

In this section, we demonstrate a comparison between the extractions results with our method and the manually-traced structural lines. In this case, we may regard the manually traced results as the *ground truths*. The first column shows the input image. The second column shows the manually traced results, while the last column shows our extracted results.





(a) Input



(b) Traced Result



(c) Our Result

Thanks to the authors who produce these great mangas. ©Kobayashi Yuki, Yagami Ken, Kato Masaki, Minamoto Tarou, Akamatsu Ken, Okuda Momoko, Ebihurai, Shindou Uni, Kiriga Yuki, Gasan and Yamada Uduki.

References

MATSUI, Y., ITO, K., ARAMAKI, Y., YAMASAKI, T., AND AIZAWA, K. 2015. Sketch-based manga retrieval using manga109 dataset. *CoRR abs/1510.04389*.