

Supplementary material for the paper “Painting by Feature: Texture Boundaries for Example-based Image Creation”

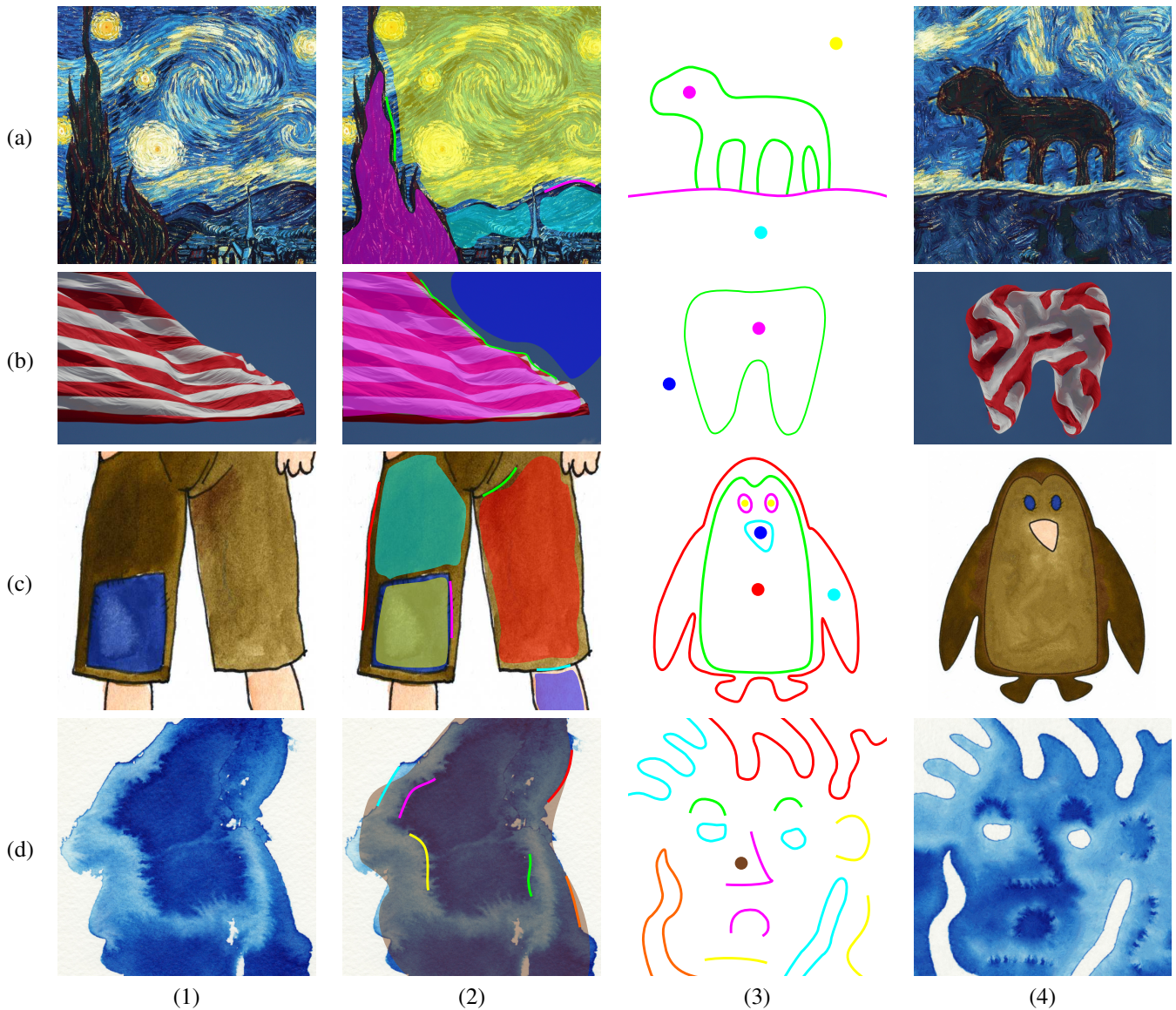


Figure 1: Additional results of interactive example-based painting: (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top-bottom): (a) Vincent Van Gogh; (b) Sam Howzit via flickr; (c) Anifilm, clipartsy; (d) bittbox via flickr

References

GUO, C.-E., ZHU, S.-C., AND WU, Y. N. 2007. Primal sketch: Integrating structure and texture. *Computer Vision and Image Understanding* 106, 1, 5–19.

HERTZMANN, A., JACOBS, C. E., OLIVER, N., CURLESS, B., AND SALESIN, D. H. 2001. Image analogies. In *Proceedings of SIGGRAPH 2001*, 327–340.

SUN, J., YUAN, L., JIA, J., AND SHUM, H.-Y. 2005. Image completion with structure propagation. *ACM Transactions on Graphics* 24, 3, 861–868.

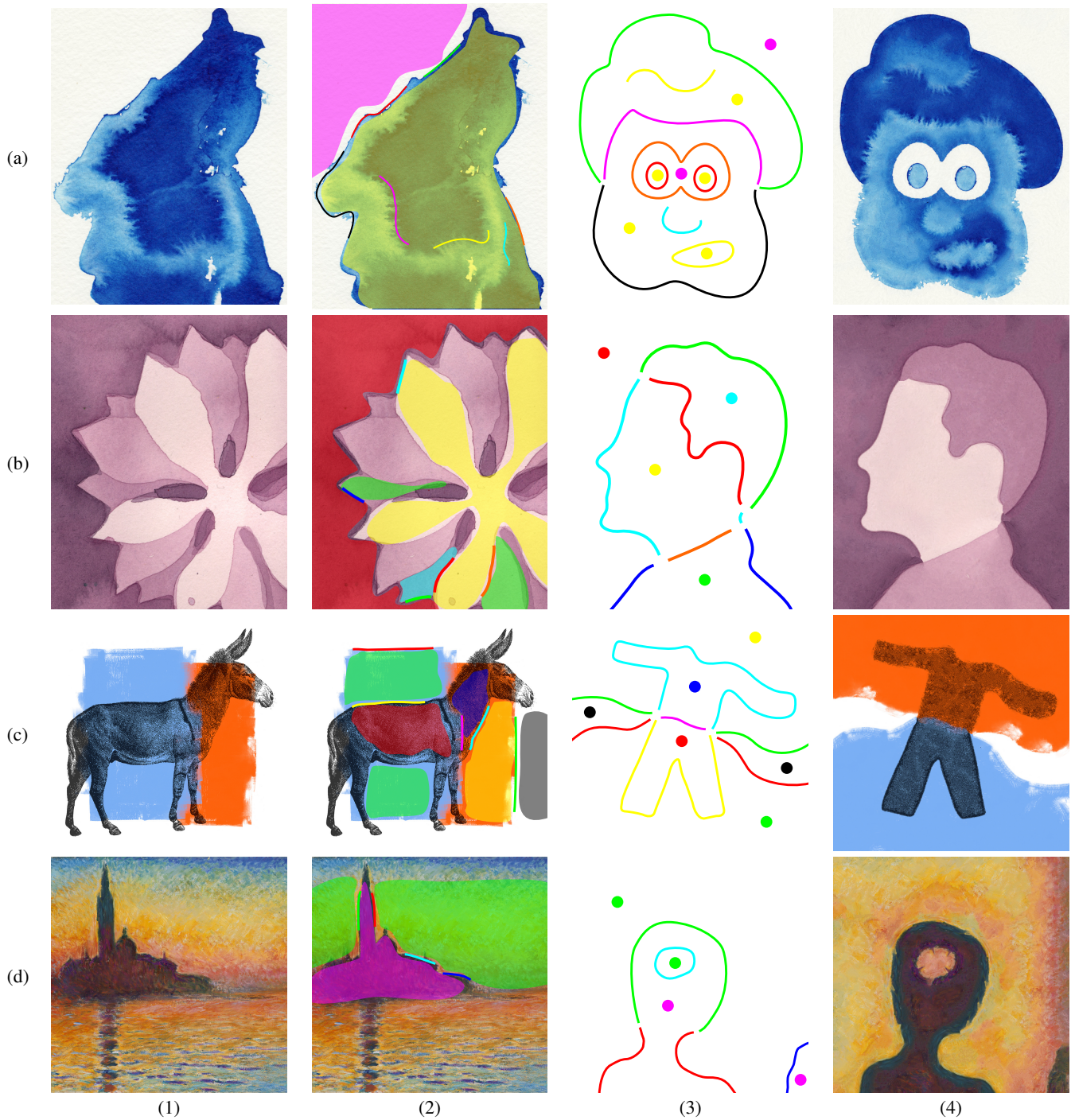


Figure 2: Additional results of interactive example-based painting: (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top-bottom): (a) bittbox via flickr; (b) Martina Cecilia via deviantART; (c) Georgia Democrats via flickr; (d) Claude Monet



Figure 3: Additional results of interactive example-based painting: (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top–bottom): (a) Andrea Garcia via flickr; (b) Nicolas Bonneel via flickr; (c) rmkoske via flickr; (d) Pavla Sýkorová. Result copyright: (c) CC-BY-SA Jakub Fišer

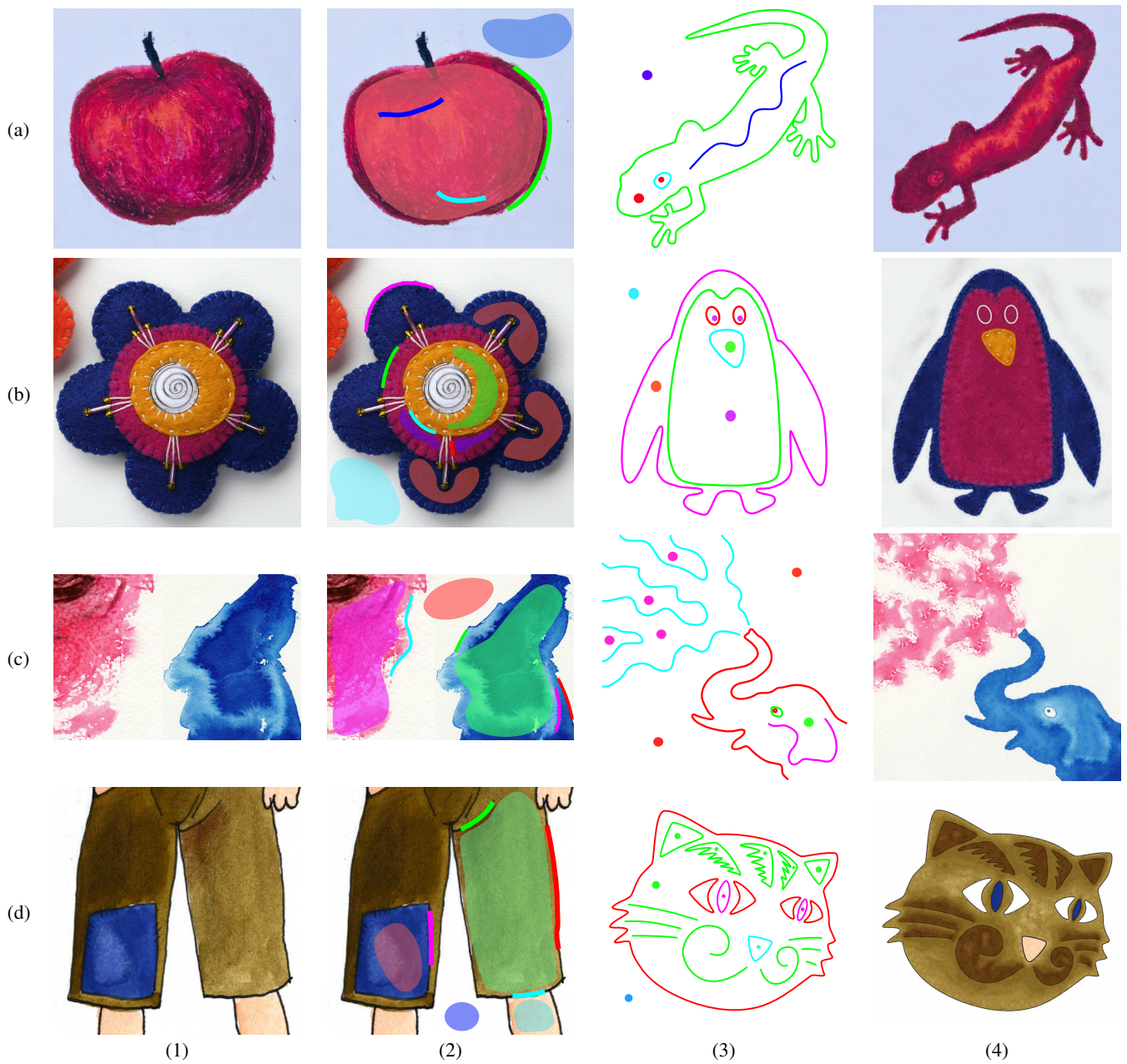


Figure 4: Fully annotated sources and resulting images shown in the main paper (Figure 1): (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top–bottom): (a) Sarah G via flickr, fzap via OpenClipArt; (b) Pavla Sýkorová, clipartsy; (c) bittbox via flickr, papapishu via OpenClipArt; (d) Anifilm, Pavla Sýkorová



Figure 5: Fully annotated sources and resulting images shown in the main paper (Figures 2, 7 and 12): (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top–bottom): (a) Wednesday Elf – Mountainside Crochet via flickr; (b) Hrishikesh Premkumar via flickr; (c) Paul Cézanne (top); (d) Vincent Van Gogh, Kaldari via Wikimedia Commons

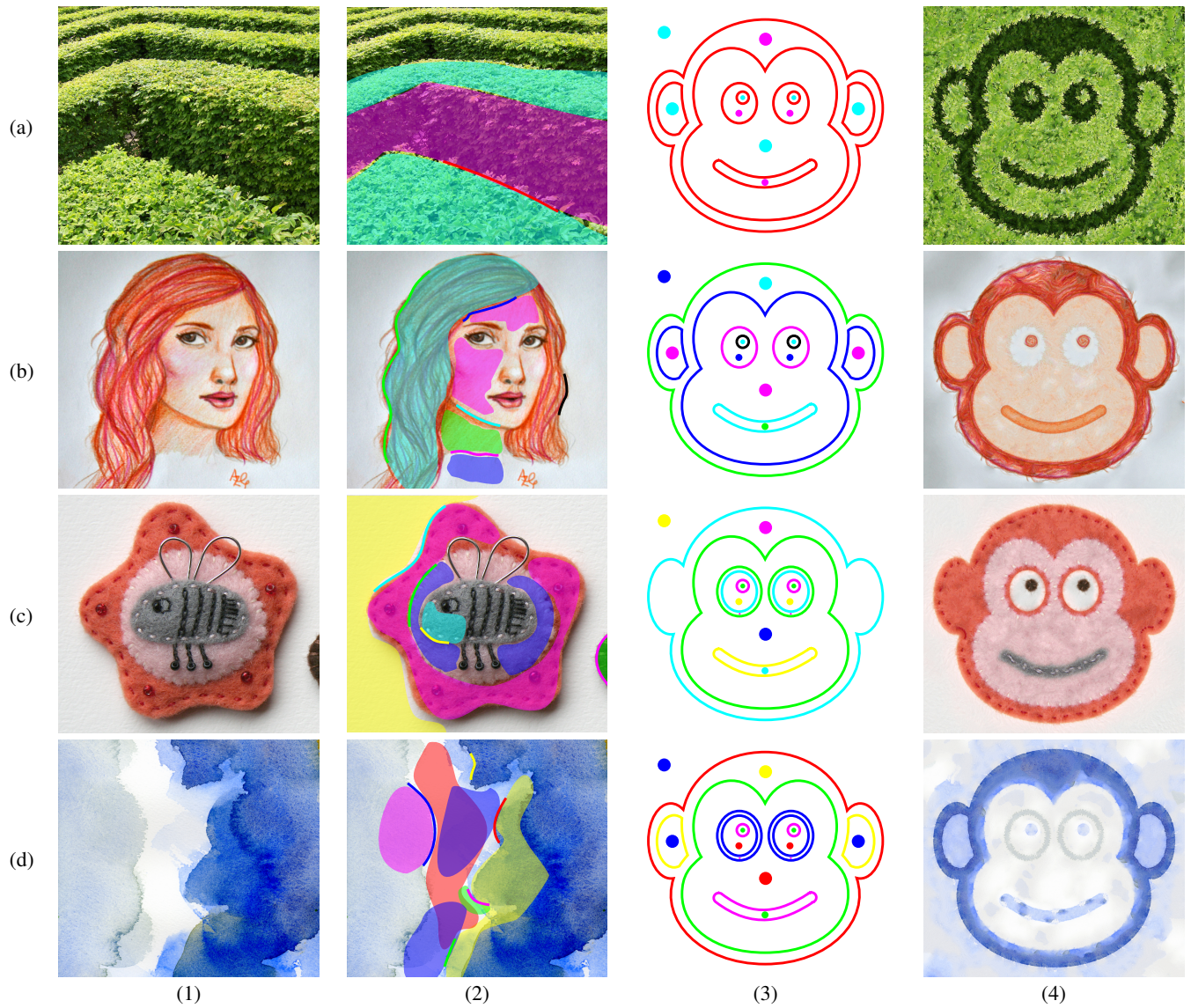


Figure 6: Fully annotated sources and resulting images shown in the main paper (Figure 11): (1) source image, (2) source image with annotations, user-selected line and area features, (3) target strokes (lines) and fills (dots) correspond to the previous input selection, (4) resulting image. Source credits (top–bottom): Martouf via OpenClipArt (monkey head vector image); (a) Joe Shlabotnik via flickr; (b) Andrea Garcia via flickr; (c) Pavla Sýkorová; (d) Alessandro Andreuccetti via deviantART

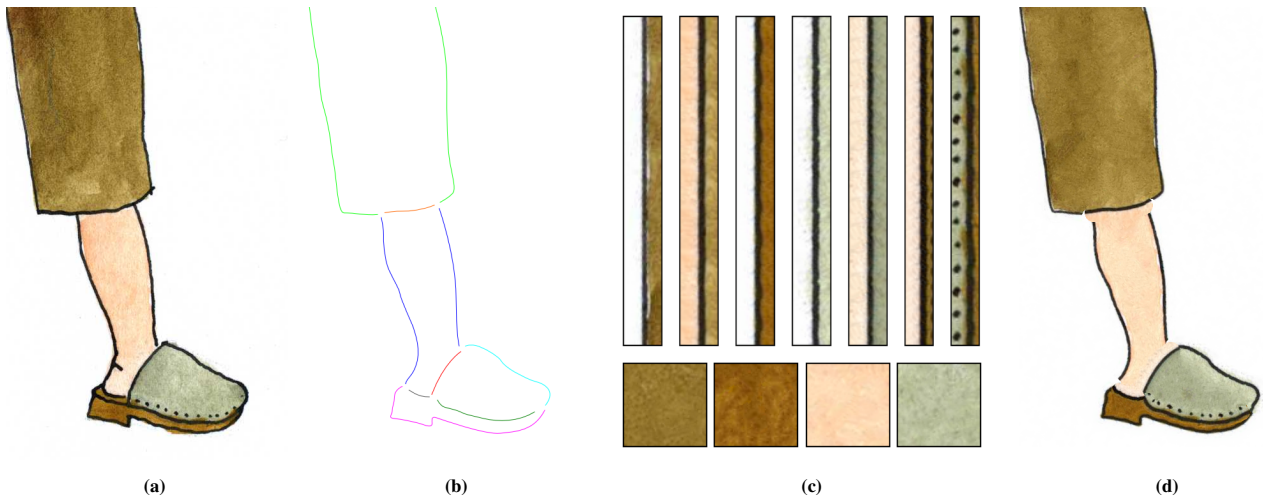


Figure 7: An application to image compression in spirit of [Guo et al. 2007]: (a) The original image, (b) Image vectorized by tracing, (c) The saved representative samples of individual features, (d) reconstructed image. Source credit: Anifilm

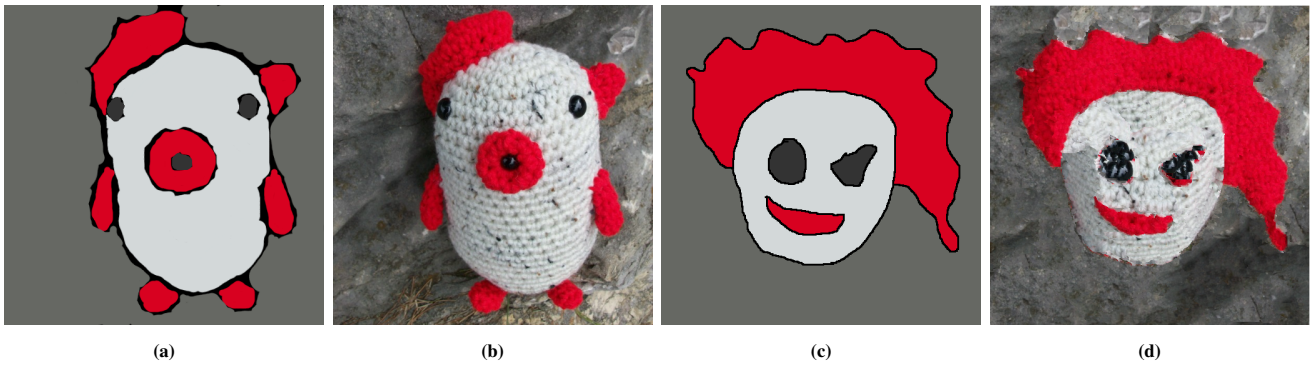


Figure 8: For completeness, we present the full input to create the results by Image Analogies [Hertzmann et al. 2001] shown in Figure 2b of the main paper: Given the pair (a,b) and the sketch (c), Image Analogies creates the result (d) in such a way that the relation between (a) and (b) is the same as for (c) and (d). Both sketches (a) and (c) have been hand drawn. Source credit: Wednesday Elf – Mountainside Crochet via flickr

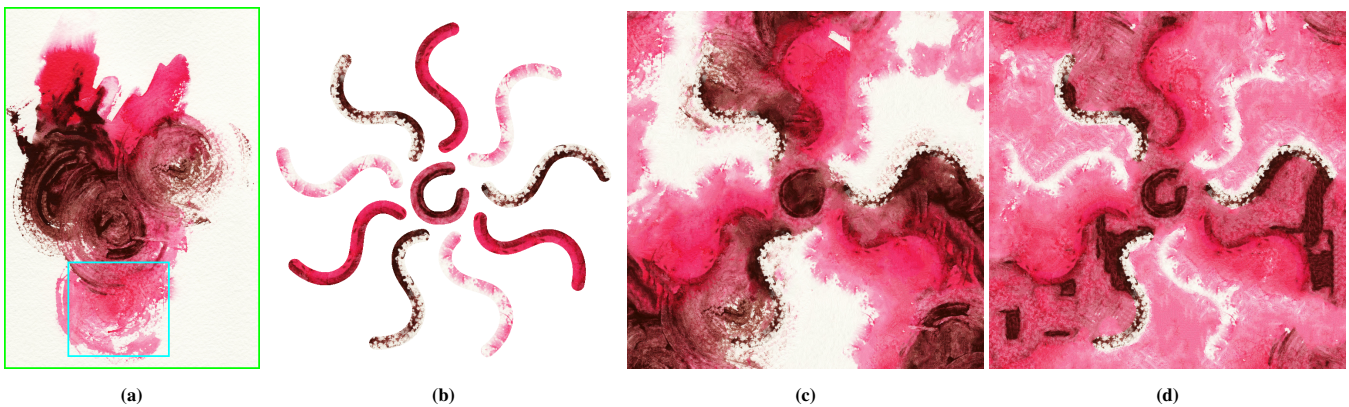


Figure 9: Fill tool interaction with open brush strokes. (a) Source image with delineated area features. (b) Linear features specified by the user. Result of the the fill tool: (c) when the whole image was taken as a source [green rectangle in (a)] and (d) when only a small portion of it was used [cyan rectangle in (a)]. Note how the absence of suitable area features in the restricted source caused less pleasing result (d). Source credit: bittbox via flickr

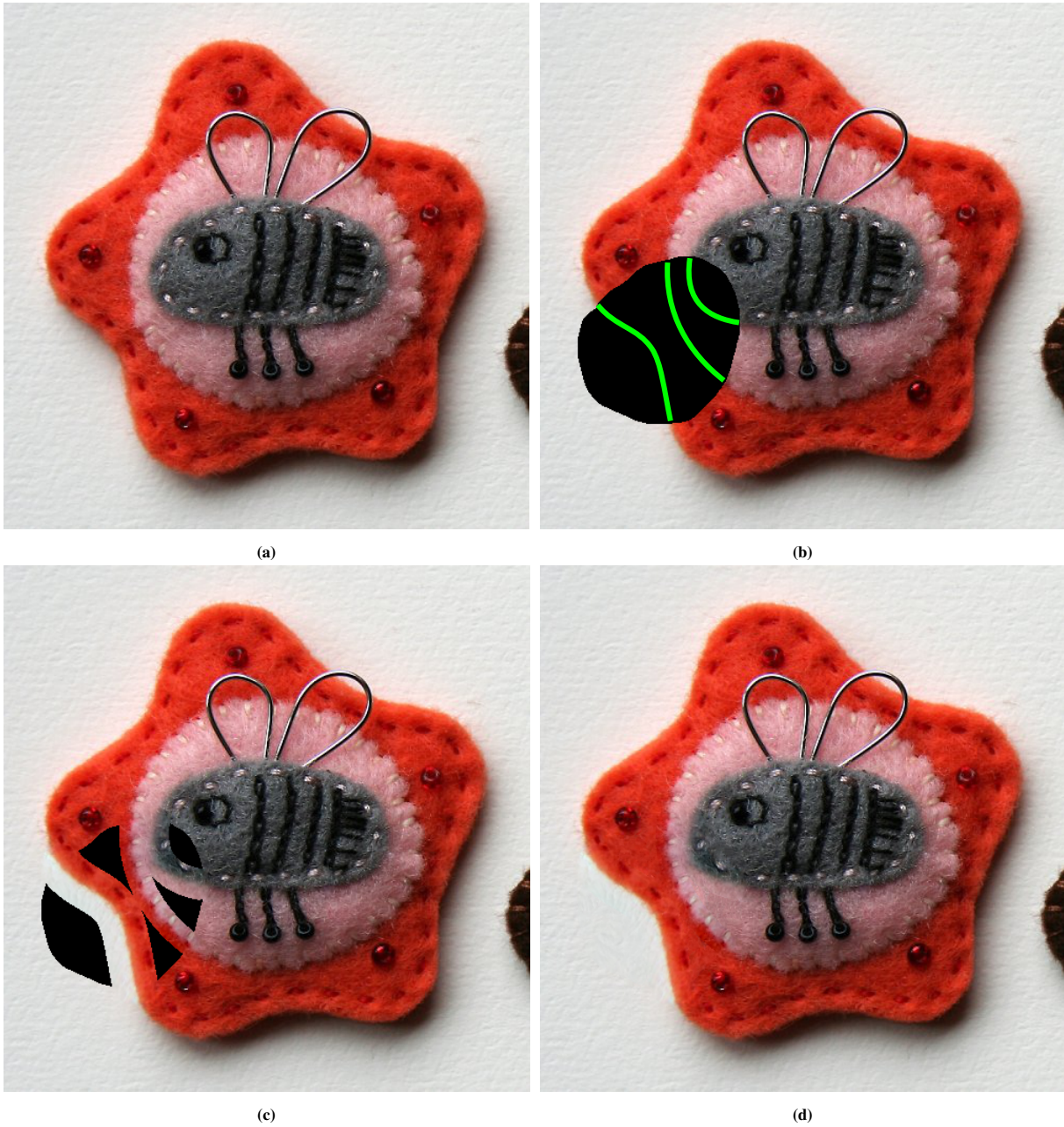


Figure 10: An example of potential application of our proposed approach in the context of image inpainting, in a similar way to Sun et al. [2005]: (a) original image, (b) artificial hole for inpainting with green curves representing line features we want to preserve, (c) intermediate result with our line feature synthesis, (d) final result after filling in the unknown regions with our fill tool. Source credit: Pavla Sýkorová