Non-Photorealistic Animation and Rendering
David Mould and Pierre Bénard (Editors)

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Drawing Characteristics for Reproducing Traditional Hand-Made Stippling

Additional Material

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Abstract

We contribute an in-depth analysis of the characteristics of traditional stippling and relate these to common practices in NPAR stippling techniques as well as to the abilities and limitations of existing printing and display technology. In our work we focus specifically on the properties of stipple dots and consider the dimensions and attributes of pens and paper types used in artistic practice. With our analysis we work toward an understanding of the requirements for digital stippling, with the ultimate goal to provide tools to artists and illustrators that can replicate the stippling process faithfully in the digital domain. From the results of our study we provide a dataset for use in new example-based stippling techniques, derive a taxonomy of characteristics and conditions for the reproduction of stippling, and define future directions of work.

Categories and Subject Descriptors (according to ACM CCS): Computer Graphics [Computing methodologies]: Rendering—Non-photorealistic rendering

This document contains the scanned-in dataset used in our 2015 NPAR stipple dot analysis [MdSRI15]. As noted in our paper, a skilled fine arts student (fourth year, for whom stippling is part of her education) drew 5 different tones out of a gray ramp, using the three different pens (0.13 mm, 0.2 mm, and 0.5 mm) and three different types of paper (a cold press paper: Canson Watercolor, 370 g/m^2; a medium press paper: Canson Graphics Art, 224 g/m^2; and a hot press paper: Canson Technical Drawing, 160 g/m^2). We then digitized the resulting samples using an Epson Perfection V700 Photo scanner with an optical resolution of 4800 ppi. The images contained in this document have this full resolution of 4800 ppi.

References

[MdSRI15] MARTÍN D., DEL SOL V., ROMO C., ISENBERG T.: Drawing characteristics for reproducing traditional hand-made stippling. In *Proceedings of the International Symposium on Non-Photorealistic Animation and Rendering (NPAR as part of Expressive, June 20–22, Istanbul, Turkey)* (2015), Mould D., Bénard P., (Eds.), Eurographics Association, Goslar, Germany, pp. 103–115. doi> 10.2312/exp.20151183

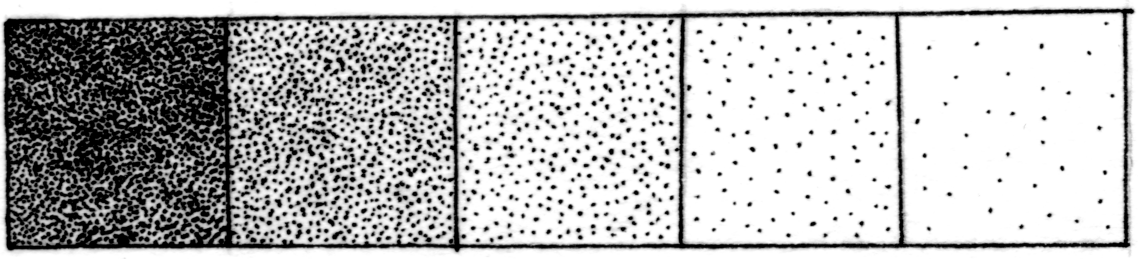

Figure 1: *test_013_cp_4800: 0.13 mm pen on cold press paper*

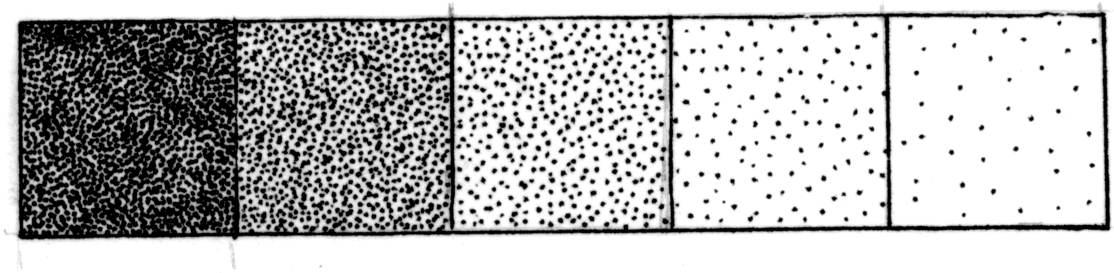

Figure 2: *test_013_mp_4800: 0.13 mm pen on medium press paper*

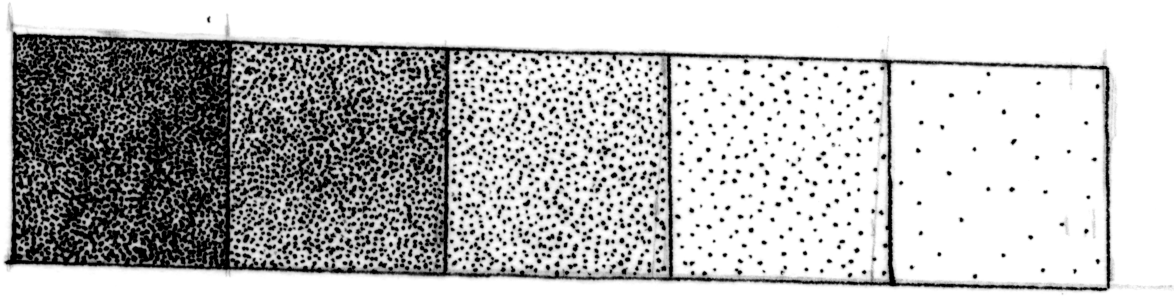

Figure 3: *test_013_hp_4800: 0.13 mm pen on hot press paper*

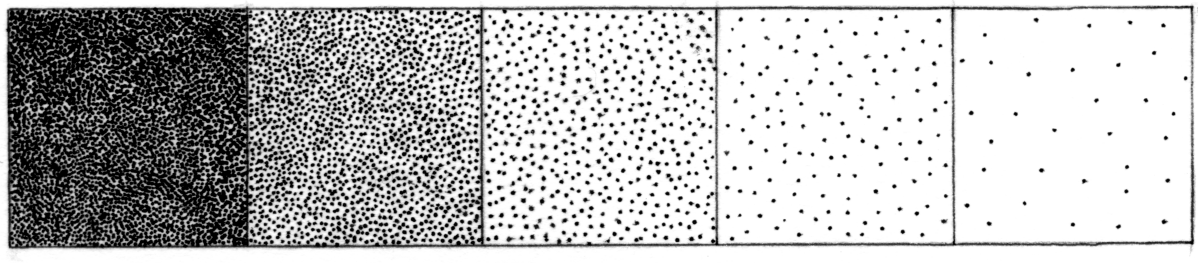

Figure 4: *test_02_cp_4800: 0.2 mm pen on cold press paper*

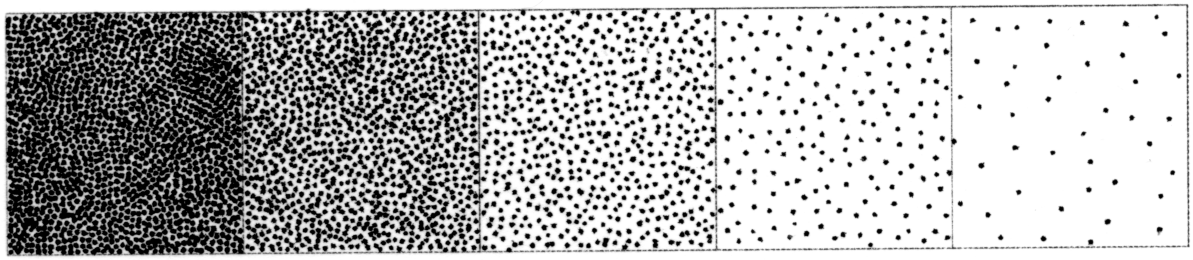

Figure 5: *test_02_mp_4800: 0.2 mm pen on medoum press paper*

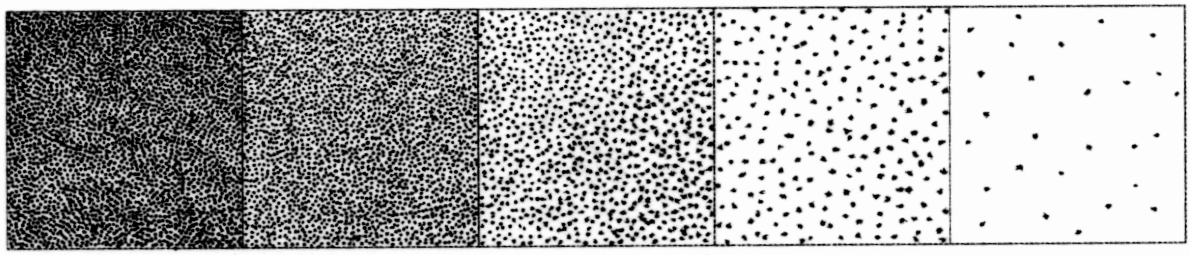

Figure 6: *test_02_hp_4800: 0.2 mm pen on hot press paper*

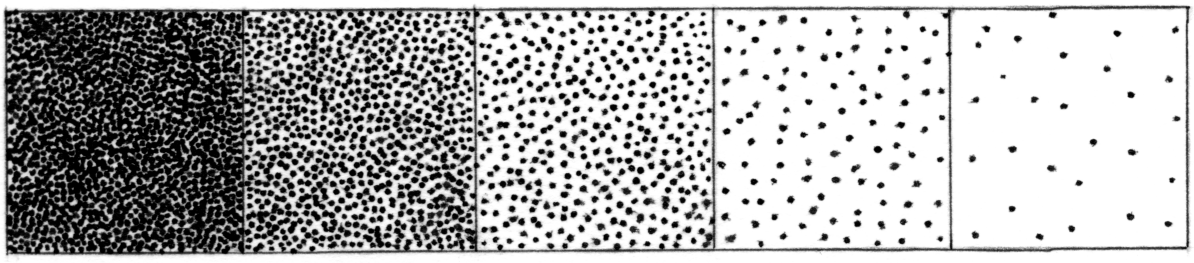

Figure 7: *test_05_cp_4800: 0.5 mm pen on cold press paper*

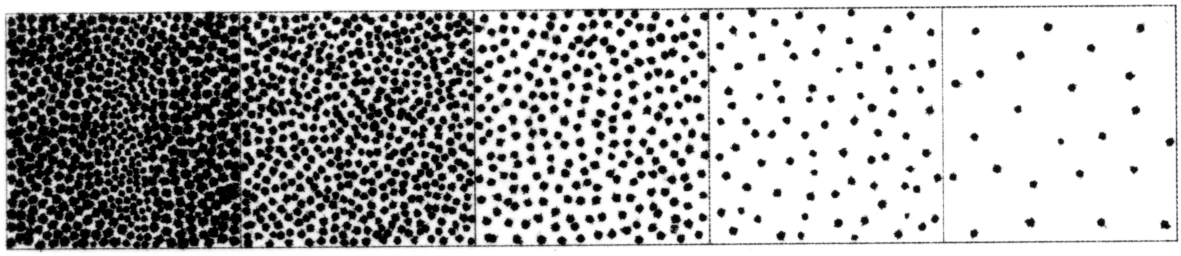

Figure 8: *test_05_mp_4800: 0.5 mm pen on medium press paper*

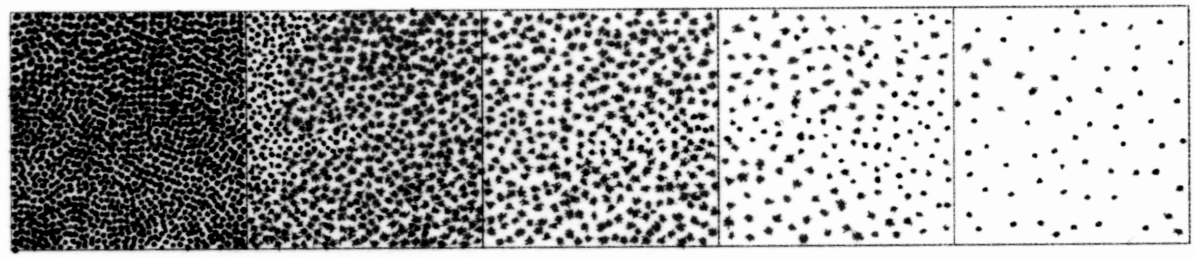

Figure 9: *test_05_hp_4800: 0.5 mm pen on hot press paper*