MARTA BEŁKOT
(SFRH/BD/149042/2019)

GRACIELA MACHADO
(i2ADS)

Stone paper

2020–22

- Senefelder Stone paper
- Gericault Stone paper
- Stone paper based on animal glue
- Stone paper with black slate
- Senefelder Stone paper patent

Research projects: Pure Print/i2ADS, GroundLab/i2ADS

Researchers: Graciela Machado (IP: i2ADS/FBAUP). Marta Bełkot (SFRH/BD/149042/2019, Cristiana Macedo

Illustrations: Marta Bełkot and Kasia Harciarek

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Created by Aloys Senefelder himself, the inventor of lithography, "stone paper" (also called: carton-pierre, artificial stone, pierre factice, papyrographie) is essentially nothing more than a substitute for the lithographic stone and can be considered, therefore, a matrix. As early as 1814, Senefelder noticed certain disadvantages in lithographic stone, such as its high price point, its fragility and its considerable weight. He then set out to create a composition that could replace it. He worked on his experiments for nine years until roughly 1822 (LORILLEUX, 1889). Senefelder noticed that an oil stain on a lithographic stone spreads and penetrates for a few days, after which it is absorbed and, due to acidification, the stain no longer takes in the ink. This observation was the starting point for his experiments. He soaked the cardboard in linseed oil and then, based on the average composition of Solenhofen lithographic limestone, made a paste with chalk and linseed oil, adding some clay and iron oxide, and spread it on the cardboard. This "stone paper" took 3/4 months to absorb and mature[1]. Unsatisfied with the results, Senefelder kept changing the recipes, trying different mixtures with fat, lime and casein, polished and coated with vitriol.

This process became known as "papyrographie";, and although the pen drawings on these plates were printed by the hundreds for the committee of the Société d' Encouragement, they won no prizes: the coated cardboard or paper stretched and the pulp cracked under the pressure of the press (LORILLEUX, 1889). Senefelder included 15 different recipes in his patent for "papyrographie"[2], although he probably used only one of them. Perhaps he wanted to create confusion so that it could not be

1 Senefelder also tried to replace the paper with zinc, aluminium or wooden plates, which were the starting point for various techniques later developed by many.

2 French patent nr. 1BA1258 and 1BA1258(1) filed in 1819, issued in 1820.

copied, while at the same time trying to improve it and make it a commercial product. Ultimately, this "carton-pierre" recipe didn't work as well as expected, the technique wasn't stable, it didn't work consistently, some white parts could absorb the ink, and the drawing section could possibly fall apart. Senfelder was very attached to this technique, as he wrote in his book The invention of lithography (1821) "This invention will facilitate the introduction of lithography in all places, because one can make the stones himself (…)" He continues: "I desire that soon it shall be spread over the whole world, bringing much good to humanity through many excellent productions, and that it may work toward man's greater culture, but never be misused for evil purposes. This grant the Almighty! Then may the hour be blessed in which I invented it!" (SENEFELDER, 1821). As the result was not convincing, people stopped buying them and his invention was forgotten in less than a year (ENGELMANN, 1839).

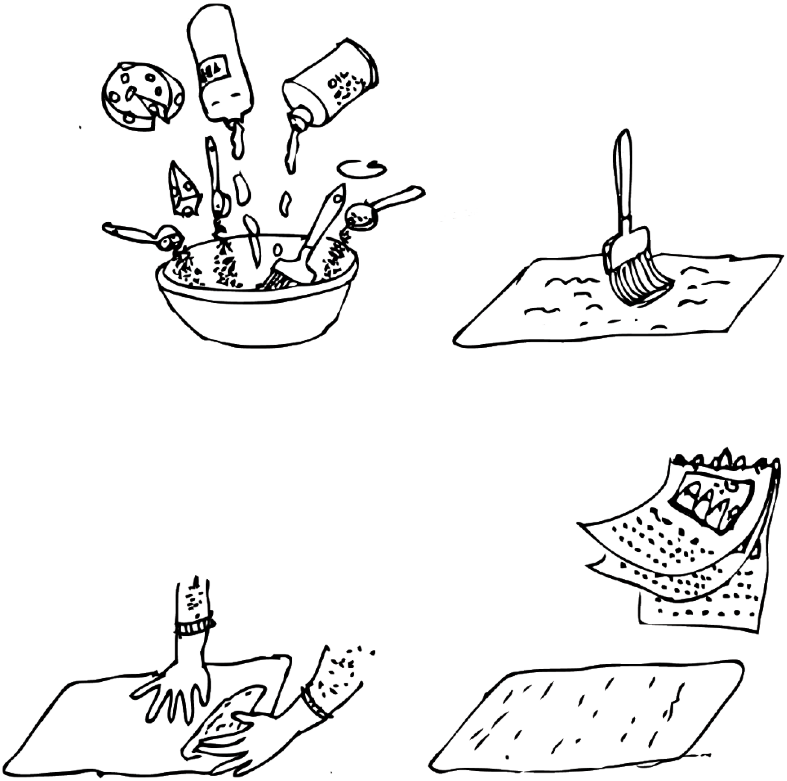
Our first attempt to reproduce stone paper (2019, 2020)[3] was based on Senefelder's improved recipe, in which we adjusted the quantities of substances to allow their homogeneous distribution. The second attempt (2020) was based on the use of animal glues and casein, following the identification of the recipe applied to the support used by Géricault[4]. For the second Valongo Slate Biennial (2021)[5], a series of surface papers were created, together with stone paper,

3 Machado, G., Belkot, M., Costa Brás, S., Lopes, D. (2020). Coated or prepared paper: new grounds where process becomes matter. CONFIA-8th International Conference on Illustration and Animation, Barcelos, Portugal. Online access: 4.02.2023: https://confia.ipca.pt/2020/files/confia_2020_proceedings.pdf

4 Christina Taylor, Georgina Rayner, Christopher Wallace & Katherine Eremin (2020) Géricault's Lion Devouring a Horse Stone Paper Matrix: Technical Study, Journal of the American Institute for Conservation.

5 Consult material produced for the II Bienal de Ardósia de Valongo, to be published by Câmara Municipal de Valongo.

using slate as a pigment and filler. The latest technological works on the theme, within the framework of the SHS project (2022)[6], insist on reproducing Senefelder's fifteen patented recipes, using raw materials from the quarries of Valongo and Arouca, expanding the wide range of colours, layers and areas of observation.



6 Machado, G., Macedo, C. (2022). Papirografia a partir de fotocópia - Volume I. https://hdl.handle.net/10216/141324

Machado, G., Macedo, C. (2022). Papirografia a partir de desenho e fotocópia em papéis preparados - Volume II. https://hdl.handle.net/10216/141343

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