Julia Margaret Cameron (English, 1815–1879)

Sir John Herschel

1867, printed 1875
Carbon print
Alfred Stieglitz Collection

AIC accession number: 1949.878

Stieglitz Estate number:

Inscriptions: Unmarked recto; inscribed verso, on mount, lower center, in graphite: "7922 Herschill [sic] Cameron"; verso, on mount, lower right, in graphite: "7-1944-332"

Dimensions: 32 x 25.9 cm (image/paper); 38.3 x 31.7 cm (mount)

Print thickness: N/A

Surface sheen: Medium gloss (13.1 GU @ 85°)

Paper tone: N/A

Mount: Original

Mount tone: L*87.35, a*2.86, b*18.11

Ultraviolet-induced (UV) visible fluorescence (recto): None

X-ray fluorescence (XRF) spectrometry:
See below

Fourier transform infrared (FTIR) spectrometry:
N/A

TECHNICAL SUMMARY

This photograph is a carbon print. It is mounted overall to a larger sheet of western cream paper. The title and date of the work have been inscribed on the verso of the mount, together with a registration number from the Philadelphia Museum of Art, presumably added when the print was included in the 1944 exhibition *History of an American: Alfred Stieglitz: "291" and After*. The variation of gelatin thickness on the print itself creates areas of differential gloss between the high- and low-density areas, which are visible in raking light and are characteristic of carbon prints. When the surface of the print is viewed under high magnification, paper fibers are visible beneath the gelatin binder. Black pigment particles are also visible within the glossy binder, as well as slight relief from the carbon process, particularly at the interface of high- and low-density areas of the image. The print does not fluoresce when exposed to long-wave UV radiation. Chromium, iron, and lead were detected using XRF spectrometry. Chromium is used to sensitize the gum bichromate. While iron and lead are not commonly used in carbon printing, the resulting high signals are likely from the processing and material components of this print. Calcium lead oxide or lead sulphide pigments might have been used in the pigment mixture of the image material, since they are light yellowish brown and black-gray respectively.

X-RAY FLUORESCENCE (XRF) SPECTROMETRY

XRF spectral readings were taken from the recto of the work and from the mount when available. The elements listed below have been positively identified in the work; elements in bold have been attributed to the processing of the print.

Print: **Cr**, Fe, Pb

Mount: Ca, Ti, Mn, Zn, Sr

The graph below shows XRF spectra for three distinct measurement areas on the print: the darkest, maximum-density image area (Dmax, purple); the lightest, minimum-density image area (Dmin, green); and the mount, when available (orange). The background spectrum (gray) represents the characteristic contribution of the instrument itself as measured on a Teflon reference and is included in order to discount irrelevant elements from the print's signature. Elements were identified based on the presence of their characteristic peaks. Analysis was performed with a Bruker/Keymaster Tracer III-V+ energy-dispersive handheld XRF analyzer, equipped with changeable Ti and Al filters and a Rh transmission target. Measurements were taken for 120 or 180 LT at 40 kV and 10 µA. The spectrum below illustrates the significant peaks for this print in the energy range from 3 to 16 keV.

Figure 1. (right)
Locations of XRF measurements

Figure 2. (below)
XRF spectra from the Dmax, Dmin, mount, and background signal produced by the analyzer.