Heinrich Kühn (Austrian, born Germany, 1866–1944)

Portrait of Young Boy with Arm Across Back of Chair (Hans Kühn)

c. 1906
Platinum print
Alfred Stieglitz Collection

AIC accession number: 1949.868

Stieglitz Estate number:

Inscriptions: Signed recto, upper left, on image, in white ink: "HEINRICH / KUEHN"; inscribed verso, center, in graphite: "Hans Kühn"; verso, along right edge, in graphite: "C / 1/4º 1º 3º / 1/2º"

Dimensions: 28.4 x 38.6 cm (image); 29.3 x 39.1 cm (paper)

Print thickness: 0.407 mm

Surface sheen: Medium gloss (4.2 GU @ 85°)

Paper tone: L*85.96, a*3.64, b*18.34

Mount: Unmounted

Mount tone: N/A

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 platinum print on cream paper. The work is unmounted, and there are black margins around the image showing the edge of the negative from contact printing. The artist signed the work on the recto, in white pencil, and on the verso, in graphite. When the surface of the print is viewed under high magnification, the fibers from the paper are visible and the image sits directly on the fibers, with no intermediary binder. Though platinum prints are usually matte, this one is glossy; however, it does not fluoresce when exposed to long-wave UV radiation. Platinum, iron, lead, mercury, and chromium were detected using XRF spectrometry. Common to platinotypes, the residual presence of light-sensitive iron ions could be due to improper washing of the print after processing. The presence of lead could have two sources: while lead could have been used during fabrication of the photographic paper itself, it was also commonly used during the processing of platinum prints, to increase uniform development. The presence of mercury could be the result of the artist's use of mercuric chloride during processing, to create the print's warm tones. Chromium was introduced in the paper during fabrication.

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: **Fe**, **Pt**, Hg, Pb

Mount: Ca, Cr, Fe, 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 2 to 15 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.