

Using multispectral imaging to augment digitized West African manuscripts

The Herskovits Library of African Studies at Northwestern University Libraries (NUL) is home to over 3,000 Arabic script materials from West Africa. The size, scope and uniqueness of these collections, along with increasing global scholarly interest, make them a priority for conservation and digitization. In collaboration with curatorial and digitization staff, the NUL Preservation Department has established protocols for capturing multispectral images (MSI) of the collections using a VSC®80 forensic questioned document examination workstation. These MSI – including annotated transmitted IR images of watermarks – are being integrated into the digital repository alongside the digitized West African manuscripts.

Paden 417 (مختصر في فروع المالكية), a copy of the “Mukhtasar” of Khalil b. Ishaq b. Musa al-Jundi, a fourteenth-century handbook of Maliki legal principles, is one of the oldest, largest and most complex manuscripts we have worked on. It includes watermarks commonly found in papers produced for the Islamic market, including variations of the crown-star-crescent motif and the *tre lune*. The VSC®80 allows us to quickly and consistently capture and annotate a wide range of MSI which make visible watermarks, inks, evidence of burnishing, and other materiality of the manuscripts. For this pilot project, leaves of Paden 417 were imaged in visible, raking, transmitted, ultraviolet, infrared, and transmitted IR light. Watermark measurements, chain line distances, and other relevant notations are added to the image during capture.

As of this writing, Paden 417 has been treated, housed, digitized, and VSC®80 images of select pages have been captured. We anticipate that the manuscript and associated MSI will be available in the digital repository by Spring 2025. This talk will include discussion of the digital workflow that supports making these images publicly accessible and explore the limitations and possibilities of local and global AI initiatives.

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