

Contacts that Leave Traces: Investigation into the Contamination of Paper Surfaces from Handling

The contamination of paper surfaces during the process of handling documents is a significant issue for forensic scientists and conservators. In the forensic context, it has been found that polyvinyl chloride and latex gloves would leave handprints on porous and nonporous surfaces after 20 to 40 minutes of wear by a subject. Anecdotally, it has been seen by both forensic practitioners and fingerprint researchers at Curtin University that nitrile gloves can also leave fingerprints on paper after periods of wear. The issue of whether to wear gloves or not when handling documents has also been a matter of controversy in the conservation and archivist community. Prue McKay at the National Archives of Australia carried out some preliminary studies to determine the potential for contamination from gloved and non-gloved hands when handling paper items. However, other than the works mentioned earlier, there is a paucity of published research in this area. A research project has been initiated at Curtin to explore this issue by using a range of forensic fingerprint techniques to investigate the level of fingermark contamination on paper items handled with bare and covered hands. Subsequently, the effect of latent fingerprints on paper items will be investigated using artificial aging. This presentation will give an overview of the background of the methods to be used and present some of our initial results.

ACKNOWLEDGMENTS

The authors thank Terry Kent and Prue McKay for useful discussion concerning this research.

KARIN VAN DER PAL
Department of Chemistry
Curtin University
Bentley, Australia
karin.vanderpal@postgrad.curtin.edu.au

SIMON LEWIS
Department of Chemistry
Curtin University
Bentley, Australia
s.lewis@curtin.edu.au

WILHELM VAN BRONSWIJK
Department of Chemistry
Curtin University
Bentley, Australia
w.vanbronswijk@curtin.edu.au

DR. RACHEL POPELKA-FILCOFF
Department of Chemical and Physical Sciences
Flinders University
Adelaide, Australia
rachel.popelkafilcoff@flinders.edu.au

DR. GREGORY D. SMITH
Senior Conservation Scientist
Indianapolis Museum of Art
Indianapolis, IN
gdsmith@imamuseum.org