

Labeculae Vivae. A reference library of stains found on medieval manuscripts

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Stains on manuscripts are signs indicative of their past lives left by time and usage. Reading these signals in concert with conventional information gathered from manuscripts can add to our understanding of the history and use of an object. There is, however, little pre-existing scholarship on the presence and significance of medieval stains as researchers have traditionally underestimated their significance in old books. This project focuses on those very manuscripts that are often overlooked due to heavy soiling and damage, effects that diminish perceived quality and value. We are working on constructing a library of stains by gathering scientific data, drawn from stains found on parchment, paper, and bindings in medieval manuscripts 500-1500 CE. This data will provide a new way for researchers, conservators, librarians, and the public to access information concerning the material makeup of medieval manuscripts, their medieval uses, and new approaches for modern studies. To our knowledge, this is the first interdisciplinary attempt to build a library of medieval manuscript stains using the tools of medieval studies, multi-spectral imaging, chemical analysis, and data science. Our presentation will report on the preliminary results of the investigation, our engagement with the public, broader implications, and demonstrate best practices using the database for conservators, archivists and librarians.

This project, supported by a microgrant from the Council on Library and Information Resources, and run as a preliminary pilot study, aims at providing an identified, open-access database of a number of commonly found stains in order to help researchers answer questions such as manuscript provenance, transmission, material culture, as well as scientific applications for arts questions and the innovative uses of multi-spectral imaging to acquire new knowledge of old objects. Identifying stains present in a manuscript and understanding the relationship between the placement of the stain and its surrounding text will contribute to a higher intellectual and material analysis of medieval culture beyond current analytical approaches to text, illumination, and bibliographical description. Once the results are verified and each type of stain has been identified, others will be able to access the database and verify their own stains against the fixed dataset.

This project is intended for multiple audiences, both scholarly and public. For scholars, conservators and librarians we envision three concrete deliverables. First, our project will model and exemplify a new approach to using scientific technology to research medieval manuscript production and culture. Bringing together multi-spectral imaging experts and humanists offers an opportunity to explore and develop a working model for best practices when engaging in interdisciplinary collaboration. Second, the Library of Stains research project delivers a database for scholars that will provide additional tools for analyzing materiality, provenance, use and preservation; and third, it will document and disseminate a methodological approach for those wanting to work with unknown stains so that researchers can model and replicate our work when faced with an unidentified stain. With data gathered from the multispectral images, it will be possible to create a graphic representation in the form of spectral curves of each identified stain so that when a user seeks to identify a stain in a particular manuscript, an image can be processed and compared to the graphics held in the Library of Stains database. In this way we engage the

scholarly community in an on-going collaboration resulting in the continual growth of the Library and in the open access data it creates.

We envision that scholarly audiences will use our data and methodology to advance knowledge into the provenance of manuscripts, their uses within a historical context, their working environment, their transmission, and their circulation. For conservators and librarians in particular new information will help determine proper storage conditions, as well as health and safety issues, in particular the identification of heavy metal contamination, such as mercury residue in alchemical manuscripts. For librarians and archivists, the results of this project will also deliver a heightened awareness of the value of interdisciplinary research and model for future collaborations that can create new content and context for rare book and special collections.

Finally, this project offers a new way for the public to access medieval manuscripts and medieval studies as an academic discipline. There is an enduring interest in medieval themes as a broad concept within the public sphere. Even if these themes are often caricatures or historically inaccurate, this interest in the medieval period in the public imagination offers the perfect opportunity to invite the public in to experience the academic discipline of medieval studies through an engaging and public-facing project. Accessibility to primary sources through an online database like the proposed library of stains juxtaposed with descriptive metadata will contextualize the project, connect with public interest, and provide value in the form of education. Our focus on public engagement will be supported through the regular dissemination of information on the project to both public and scholarly communities through a variety of social media platforms, including facebook, twitter ([#StainAlive](#)), instagram, flickr, and a blog hosted on the project website. With frequent posts across all formats, we hope to engage and excite both academic and public audiences interested in the medieval world and the lived experiences of medieval scribes, scholars, and readers.