

# BAMline meets Dürer and van Eyck: Multidisciplinary investigations of Renaissance silver point drawings

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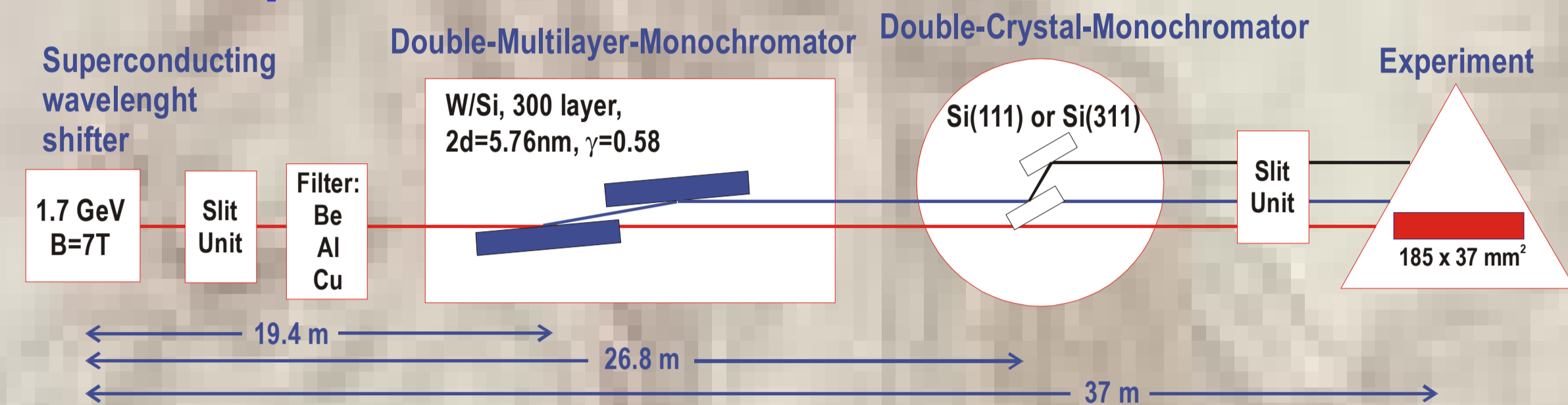
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## Introduction

Physical-chemical analyses of objects of art permits the characterization of artists materials and techniques, supports restoration and conservation strategies, helps to date and to determine authenticity and provenance. In this view, drawings are poorly known because of mainly two reasons:

- investigations must be non-destructive
- few material is deposited on the paper support

## General set-up at BAMline

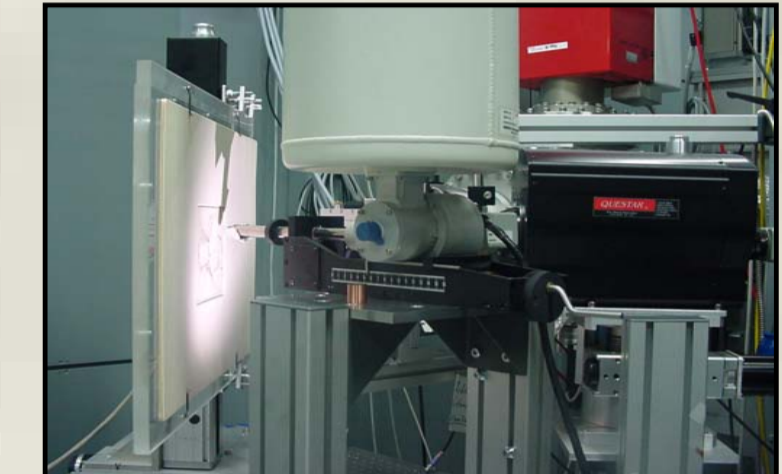


## Aim of the study

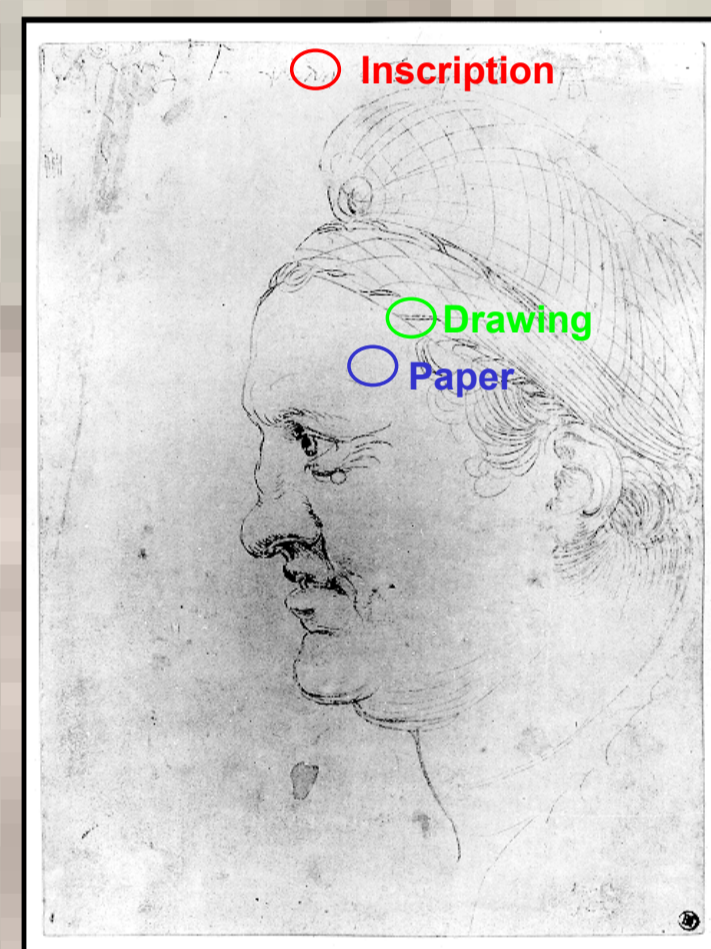
- Analyses using spatially resolved  $\mu$ -SR-XRF of German and Flemish silver point drawings in order to obtain more indications for their authenticity
- Creation of a data base
- Observation of alteration phenomena
- Special interests:
  - comparison between stylus used for the drawing and inscriptions to attribute the works of art more clearly
  - comparative study of the drawings of van Eyck, himself and his school

## XRF set-up for this work

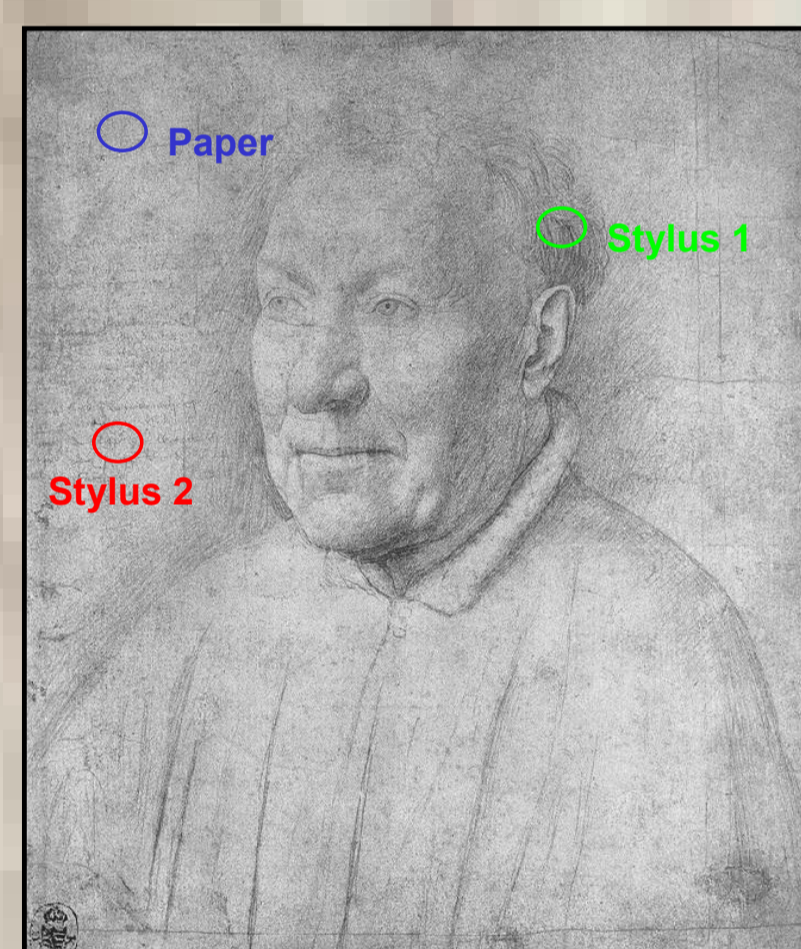
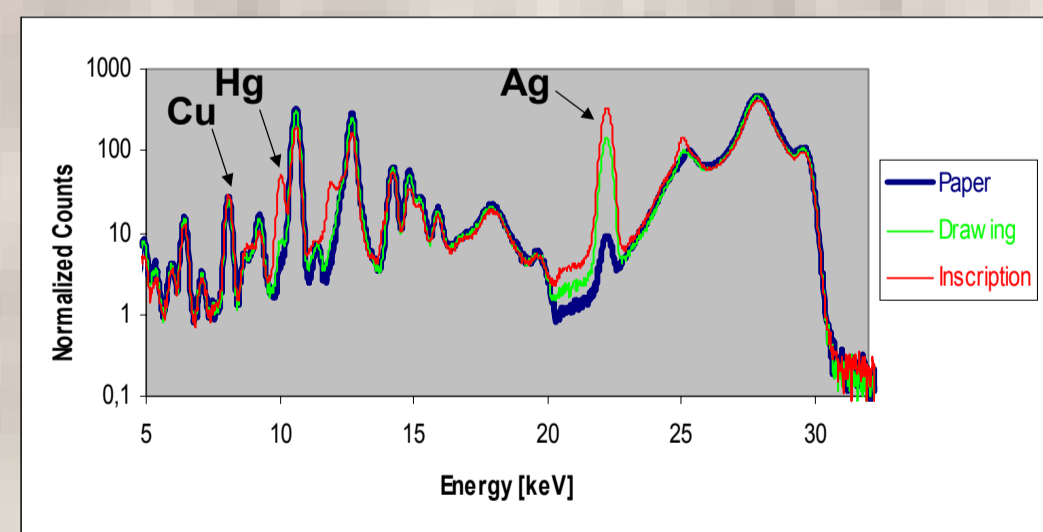
Excitation Energy: 30 keV  
 Monochromator: Double-Multilayer-Monochromator  
 Beam size: 200 x 400  $\mu\text{m}^2$   
 Detector: Si(Li) / HPGe + Al-Filter  
 Measurement time: 300 s



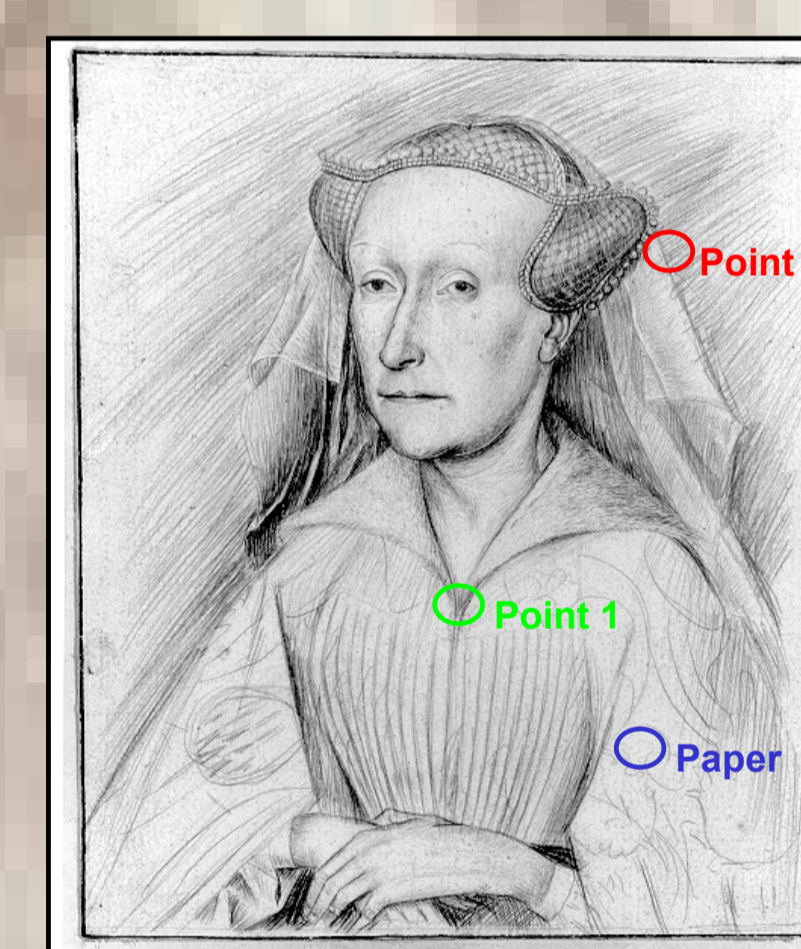
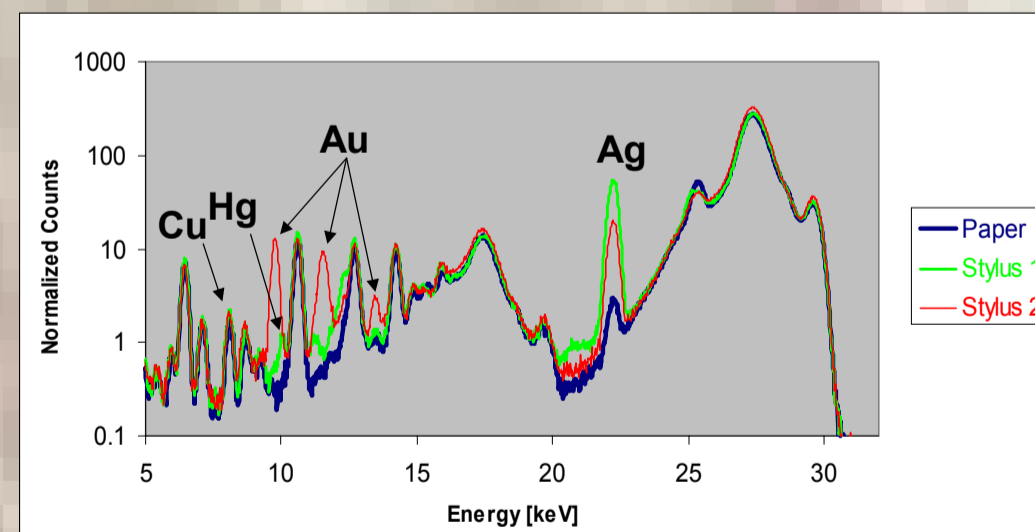
## Examples of silver point drawings



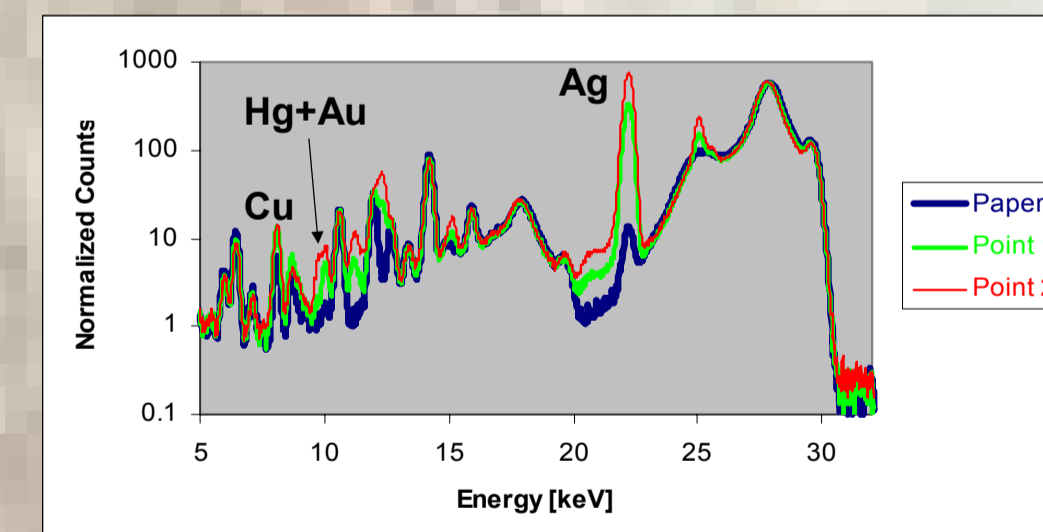
Albrecht Dürer  
 (1471 – 1528)  
 “Willibald Pirckheimer”  
 Kupferstichkabinett Berlin  
 ➤➤➤ Probably the same stylus used for the inscription and the drawing!



Jan van Eyck  
 (bef. 1395 – 1441)  
 “Cardinal Niccolò Albergati”  
 Kupferstichkabinett Dresden  
 ➤➤➤ Probably two different stylus used!  
 ➤➤➤ Origin of gold must be further investigated!



School of van Eyck  
 “Jacobäa von Bayern”  
 Graphische Sammlung  
 Städelsches Kunstinstitut  
 Frankfurt am Main  
 ➤➤➤ Origin of gold must be further investigated!



## Resumé

- Successful analyses of silver point drawings by means of spatially resolved SR-XRF
- Up to 20 points per drawing have been analysed
- Fe, Cu, Zn, Sr, Ag, Au, Hg, and Pb detected in paper, preparation, and stylus
- Silver stylus used in Renaissance: Cu-/Zn containing silver alloy
- Origin of Hg: Alteration phenomenon
- Origin of Au: Unknown at the moment
- Comparison between drawings and parts of drawings enable more precise attribution to certain artist or school
- Quantitative evaluation in progress

## Acknowledgements

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