Christian Degrigny's STSM
"Application of ENDLESS Metal analytical tools in the context of
Polish Cultural institutions: National Museum, Second World War
Museum and the National Maritime Museum, Gdansk"


Muzeum
Narodowe
w Gdańsku

$<3 \% w t \mathrm{Cu}$
$>3 \% \mathrm{wt} \mathrm{Cu}$

MICORR


By visual inspection


| $\mathbf{N}^{\circ}$ | Objects | MiCorr proposal (metal family) |
| :---: | :---: | :---: |
| $\mathbf{1}$ | Nuremberg plate, $16^{\text {th }}$ c.?, fake? pewter? | Zinc-based alloy with tin coating? |
| $\mathbf{2}$ | German mortar, $18^{\text {th }}$ c.?, Gothic style | Bronze |
| $\mathbf{3}$ | Cu-based mortar, 1567 | Bronze |
| $\mathbf{4}$ | Candle stick | Bronze |
| $\mathbf{5}$ | Reliquary base, gilded copper alloy? | Gilded copper |
| $\mathbf{6}$ | Container, Baroque period, Pb-based? | Pb-Sn alloy |
| $\mathbf{7}$ | Asiatic box | Artificially patinated zinc-based alloy? |
| $\mathbf{8}$ | Two copper-based dragons | Not investigated |
| $\mathbf{9}$ | Box, beginning of the $20^{\text {th }} \mathrm{c}$. | Zinc-based alloy with tin coating? |
| $\mathbf{1 0 a}$ | Plate of the Guild of brush makers | Painted iron plate |
| $\mathbf{1 0 b}$ | Bottom decorations of the plate 10 a | Brass |

MHVN
Muzeum II Wojny Światowej


Quaternary alloy with low conc. of Zn and Sn (below 10\%) and Pb

Relatively pure aluminium sheet
$\equiv \doteq$

Relatively pure aluminium sheet

## ※ MICORR

By visual inspection


Identification of metals using physical properties

Use of MiCorr for complex objects

## Outcomes

- Pleco, DiscoveryMat and MiCorr were used successfully in the three institutions visited;
- All analytical tools can easily be used by conservation staff (curators, conservators);
- Data collection is a fairly straightforward process. Interpretation often requires the support of an expert, at least initially, and expertise is acquired with practice;
- When combined the three tools allow to complete the diagnosis of metal artefacts;
- Other instrumentations can be used in addition (multimeter and Dinolite microscope);
- Collaboration between the different communities (curators, conservators and conservation scientists), fostered by the ENDLESS Metal analytical tools, remains essential to further improve the diagnostic process.


