Critical Edition of the New Sinaitic Glagolitic Euchology (Sacramentary) Fragments with the Aid of Modern Technologies

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Project Outlines

St. Catherine's monastery on Mt. Sinai holds the oldest continuously growing and functioning monastic library in the world: ~3.000 manuscripts in 13 languages (4th century onward)

New Findings of 1975: Among them 6 Old Church Slavonic manuscripts of the 10th-11th/12th cent. in Glagolitic script, partly in very bad condition

Most Relevant for our Project:

- *Sacramentarium* ("Missale") *Sinaiticum* (Sin. slav. 5/N)
- *Euchologium Sinaiticum*, new part (Sin. slav. 1/N)
- for comparison: *Psalterium Demetrii Sinaitici* & bifolia with medical prescriptions (Sin. slav. 3/N), etc.

Aims:

=> Computer Aided Philological Analysis of the Manuscripts

=> Critical Editions

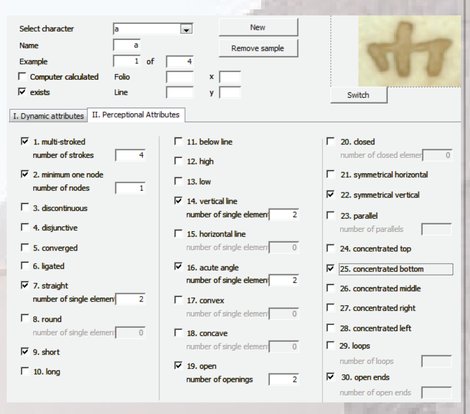
=> Insights into Cultural, Ecclesiastic & Language History

Interdisciplinarity Approach:

- philology
- image processing
- material analysis

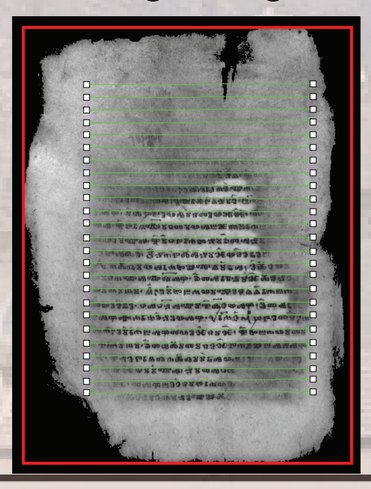
Toolbox for Manuscript Research

- Line Structure and Layout Analysis
- Cut Character
- Calculating Character Features
- Character Database



Future Amendments:

- Storage of Metadata (e.g. coordinates, manuscript information)
- Positioning of Fragments



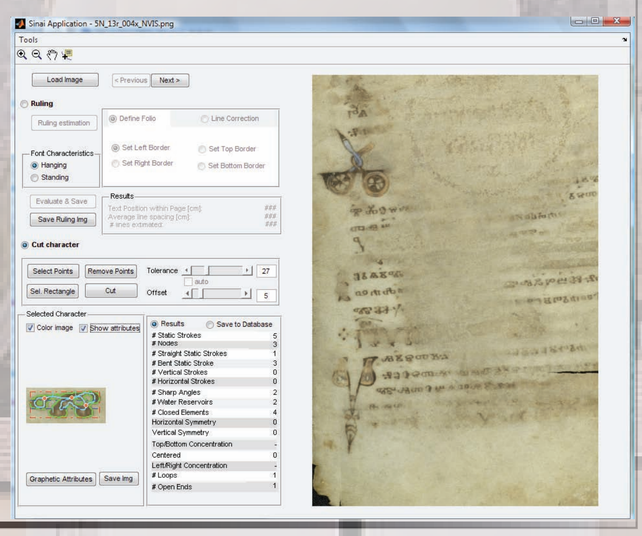
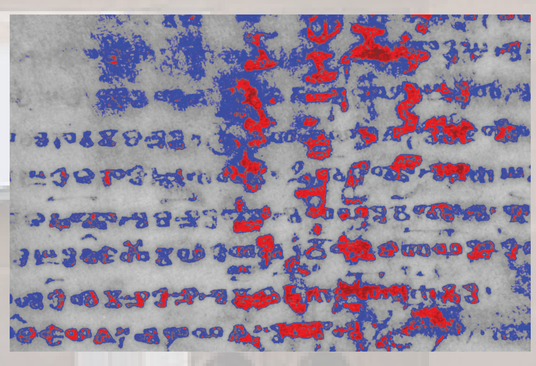


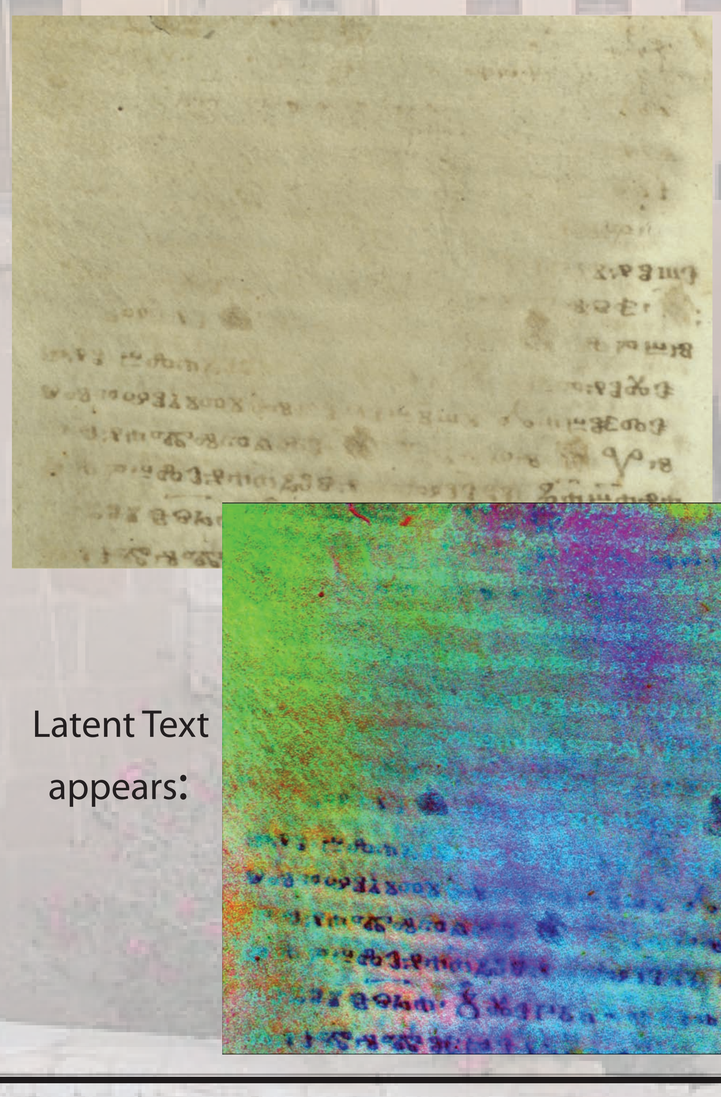
Image Enhancement

- Colour Contrast Tool
  artificial colouring increases the contrast of points of interest, e.g. palimpsest, decorations, "white letters"



- Multispectral Imaging and Principle Component Analysis (PCA) Enhancement

- Character Analysis



Latent Text appears:

Transcript:

Glagolitic Original

Cyrillic Transliteration

Material Analysis

X-Ray Flourescence (RFA) Analysis – shows components of parchment, inks and colours, e.g.:

Text Inks: iron gall

Red: minium (red lead oxide)

Green: containing copper (malachite or verdigris)

Blue: ultramarine (lapis lazuli)

Yellow: organic dye, in few cases: arsenic + sulphur (orpiment?)

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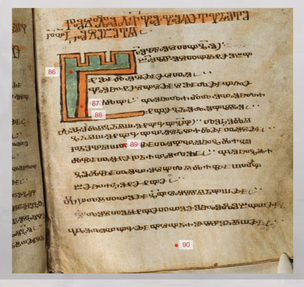

Latest References

MIKLAS, H.; GAU, M.; et alii: "St. Catherine's Monastery on Mount Sinai and the Balkan-Slavic Manuscript-Tradition". In: *Slovo: Towards a Digital Library of South Slavic Manuscripts*. Sofia: 2008. 13-36, 286 (sum.)

MIKLAS, H.; GAU, M.: "New Technical Methods for the Study of Damaged Manuscripts". In: *Sovremennye informacionnye technologii i pis'mennoe nasledie: ot drevnich tekstov k ėlektronnym bibliotekam*. Kazan': 2008. 177-180

http://www.prip.tuwien.ac.at/research/current-projects/sinai/Sinai