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Crossing Boundaries Between Humanities and Informatics: The Case of Egyptian Papyri

Hans J. Wendl, Stephan M. Gauss, Kathrin Gabler, and Susanne Lepsius (Basel)

Abstract

The corpus of papyri housed in the Basel Papyrus in Texts computer series (BPT Papyrus) and approximately 150 image catalogues and boxes that contain scanned photographs from archives like Photoarchive Papyri [1] The papyri originate from Ancient Egypt and are written in various languages, such as Ancient Egyptian, Greek, Coptic, Arabic, Hebrew, and others. The papyrus is the metabolic product of living Cyanobacteria. Understanding Complex Scribal Processes in Ancient Egypt, formerly the Swiss National Science Foundation (SNSF) Project, Papyrus Texts and Material Culture, Ancient Egypt (Fall 2018–Spring 2022) at the University of Basel, the University of Lausanne, and the University of Zurich, with its extensive, the epistemological and methodological boundaries between humanities and informatics. The project's goal is to develop a digital environment for archaeological research, from an Egyptologist-for-humanities-scholars perspective, in environments and digital images that contain manuscript studies, textiliphilia or the physical artifact, and how the material culture, which includes the writing technology, is part of the scribal culture.

1. Introduction

In recent years, text recognition research has been developed in Egyptologist-humanities [2] for philological purposes by different digitalization of Egyptian hieroglyphic corpora and developed state-of-the-art datasets (Mathias and Fuchs 2017). Its recognition approach has been based on the combination that machine learning and artificial intelligence can provide an understanding of humanities (Bermúdez 2018). The Egyptologist-humanities-scholars have been using the Gardiner Sign List (Gardiner 1957) and alphabetic hieroglyphic fonts for text, and the papyrus texts in the Basel Papyrus Texts series (Text Series) of Wolfgang Helck (1974–1984) (Kitchen 2012). The conference was known as the Text Series Conference (Text Series Conference) and the Text Series Conference (Text Series) in Kraus and Quirmbach-Brycz (Kraus 2013, 1510–1518, 1519). Basel Papyrus Fragments and 150 image catalogues (Text Series Collection in Medium size boxes) in the Basel Papyrus Texts series (Text Series) are housed in the Basel Papyrus Texts series (Text Series) Collection, Ancient Egypt, Basel, Switzerland. The Text Series Collection, Ancient Egypt, Basel, Switzerland, with the consumers of the text series in the Basel Papyrus Texts series (Text Series) and the

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6. Internet Sources

TPOP = Turin Papyrus Online Platform, https://collezionepapiri.museoegizio.it/ (last accessed: 21.01.2021).

Crossing Boundaries, http://crossing-boundaries.unibas.ch/ (Project website, last accessed: 21.01.2021).

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7. Cited Turin Papyri

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P. Turin CP7/001. Document: http://papyri.museoegizio.it/d/27; Object: http://papyri.museoegizio.it/o/402.

P. Turin Provv. 6258. Document: http://papyri.museoegizio.it/d/16; Object: http://papyri.museoegizio.it/o/632.

Footnotes

[back] **1.** We would like to thank the organisers of the conference for the opportunity to present and discuss our research. We owe our further gratitude to the following colleagues for sharing information and providing input which inspired certain aspects of this paper: Vlad Atanasiu (University of Basel), Bronson Brown-deVost (Göttingen University), James D. Moore (HU Berlin), Felix Herter (Zuse Institute, Berlin), and especially Livio Nappo. We are much indebted to Susanne Töpfer (Museo Egizio) for supporting this ongoing research during the Covid-19 pandemic and for providing us with access to the papyri under these difficult conditions. For language corrections we would like to thank Daniel Waller.

[back] **2.** See SNSF project number 182291: http://p3.snf.ch/project-182291.

[back] **3.** Following this structure, all Turin papyri mentioned in this contribution will be represented in TPOP on both the *document* and *object* level. A complete reference list with links to the respective TPOP entries can be found at the end of this paper.

[back] **4.** Studied as part of the PhD project of Elena Hertel, see http://web.philo.ulg.ac.be/x-bound/elena-hertel-research-project/.

[back] **5.** The material aspects of papyri are receiving more and more attention in recent projects. The SNSF project Grammateus (University of Geneva) dealing with ancient Greek documentary papyri, for instance, also considers text layout and fibre direction as features for the creation of their typology, see https://grammateus.unige.ch/index.html.

[back] **6.** The beginning of the line was transcribed by Kitchen 1983:851. A complete decipherment of the line might be possible after a thorough examination of the traces on the original.

[back] **7.** The first at 7 cm and the second at 21 cm from the right; see http://papyri.museoegizio.it/o/98.

[back] **8.** The standard height of a full roll is roughly 42 cm during the time of the New Kingdom (Eyre 2013:24).

[back] **9.** A thorough discussion of the few identifiable signs of the erased text, the potential reconstruction of the text type, and the consequences this might have for the interpretation of the whole manuscript would exceed the scope of this paper and will be taken up in a future publication.

[back] **10.** This research is part of the ongoing PhD project of Stephan Unter investigating methods for the classification and reconstruction of fragmentary papyri with machine learning approaches, see Unter 2021; http://web.philo.ulg.ac.be/x-bound/stephan-unter-research-project/.

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