

# Python and Pandas for Papyrology?

Towards a Stylometry of Family Letters from Graeco-Roman Egypt  
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## HYPOTHESIS

Today's most popular informatic language **Python** can greatly benefit both the **research** and the **teaching** of **papyrology**. It has many advantages:

- Free and open-source
- Well-documented and high-level
- Over 150'00 custom libraries
- Enables nonlinear sandbox workflow, especially in Jupyter Notebook

## CASE STUDY

A **Network Analysis**  
(following CZACHESZ 2016) of **Greek Family Letter** with three libraries:  
**CLTK, Networkx and Pandas**

NAME	PLACE	CENTURY	#nodes	top1degree	degree#	top1betweenness	betweenness#
sb.5;7572	arsinoe	0	86	κε	22	κε	0.852726
p.mich.3;203	arsinoe	2	233	ερχομαι	15	πας	0.477891
p.wisc.2;68	arsinoe	0	63	δραχμας	11	δραχμας	0.416152
p.ox.14;1649	oxyrhynchus	0	128	περιεχω	11	περιεχω	0.548262
p.mich.3;209	arsinoe	2	109	αδελφος	10	αδελφος	0.435603
p.tebt.3.1;816	arsinoe	2	175	πτολεμιοις	10	πτολεμιοις	0.329538
p.mich.8;476	arsinoe	2	169	ου	10	ου	0.427340
sb.14;11899	oxyrhynchus	2	141	οφειλω	9	παρ'	0.374064
sb.8;9882	arsinoe	2	92	δραχμας	9	δραχμας	0.403578
bgu.3;822	arsinoe	0	87	ευρισκω	8	ευρισκω	0.661013
sb.12;10772	oxyrhynchus	3	73	αυτος	8	αυτος	0.438964
p.tebt.3.1;760	arsinoe	3	53	διδωμι	8	γραφω	0.486179
p.tebt.2;417	arsinoe	2	64	φημι	7	φημι	0.567005
psi.4;299	oxyrhynchus	3	104	πας	7	πας	0.356172
p.petr.3;42	arsinoe	0	52	χαίρω	7	χαίρω	0.676094
p.tebt.3.1;768	arsinoe	2	98	παραγιννομαι	6	ταχιστος	0.381966
bgu.1;261	arsinoe	0	90	αυτος	6	αυτος	0.667058
p.petaus.29	arsinoe	2	66	πας	6	λενω1	0.524294
p.ox.58;3919	oxyrhynchus	0	28	δραχμας	6	διαπτεμω	0.456710
sb.26;16578	arsinoe	2	40	αυτος	6	αυτος	0.705026

Want more? Scan the QR code below or visit  
<https://audricwannaz.github.io/>

## RELEVANCE

- Taps the potential of Epidoc XML
- Portable to Epigraphy and to other disciplines in the Humanities

## LITERATURE

István CZACHESZ: "Network Analysis of Biblical Texts."  
*JCH* 3.1-2 (2016), 43-46.

Holger ESSLER and Jeremi K. OCHAB: "Stylometry of Literary Papyri" in: *Proceedings of the 3rd International Conference on Digital Access to Textual Cultural Heritage (DATeCH2019), May 8–10, 2019, Brussels 2019.*

