

New Light from the East.
Linguistic Perspectives on Non-Literary Papyri and
Related Sources

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Book of Abstracts

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The sound of silence: investigating non-verbal aspects of (im)politeness in Greek letters on papyrus

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Historical politeness is a recent and flourishing field of study. Although it has been applied to ancient cultures over the last two decades, its role in the field of politeness studies is still marginal (see Kádár & Ridealgh 2019: 175-179). Despite a few remarkable exceptions, politeness research in Latin and Ancient Greek predominately focused on the Classical period and its literary sources, and, since turning to ancient documents such as Greek papyri, has been focused exclusively to language and its formulation. This reflects the consolidated trend whereby researchers have always been more interested in the text and the contents of a document, a trend which also affected the idea that politeness is almost exclusively linked to language.

In the last years, this trend has been reshaped thanks to a growing awareness of the (im)polite potential of non-verbal communication, at least in modern languages. This aspect is in fact still dismissed in ancient languages: (in)appropriate non-verbal behaviour counts only one study in Classical sources (Hall 2019 on Seneca's *De Beneficiis*), while it has never been examined in papyrology. This paper aims to consider the non-verbal act *par excellence*, that is silence and absence of communication, in Greek letters on papyrus. To do so, it will be necessary to deal with lost elements of ancient interrelations, for which evidence needs to be collected from written communication (e.g. *P.Oxy.* XXXIV 2728, 5-10: θαυμάζω | πῶς καὶ νῦν, τοῦ Ὁριγένους ἐρχομένου | πρὸς ἐμέ, οὐδέν μοι ἐδή[λ]ωσας [[ου]] περὶ οὐδενός· | ἐπίσταμαι ὅτι πολλὰ β\λαρ/οὔμαι σε· ἀποταγῆ μέρος· | σιγῆ γὰρ παρὰ φιλοσόφο[ις] ἀποκρίσις· μὴ οὖν κάγω | δύναμε μὴ ἀπ[ο]κρίνασ[θ]αι; “I am surprised that even now that Horigenes comes to me you let me know nothing about anything. I know that I weigh heavily upon you. Let part be set aside (?). For among philosophers silence is an answer. Could not I too refuse to answer?”). While private letters on papyrus generally show that not answering a letter was perceived as rude and was often a reason of complaint, the pragmatic role of silence has not been revealed yet. Basing my analysis on Jakobson's six communicative functions of silence (1960) and the work of Ornan-Ephratt, I intend to investigate for the first time the perception and the impact of this non-verbal (im)polite act in ancient interpersonal relationships.

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Tracing digraphia in one word? The case of Coptic letters in Egyptian personal names and toponyms

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Signs of cultural contact may be traced and manifested not only in linguistic, but also in scriptal choices of writers, especially in situations where the linguistic varieties in contact use different or divergent scripts. Following this thesis, scriptal variation in (primarily) Greek documentary papyri from Egypt from the 4th to the 8th century was examined, and led to the collection of a set of texts where very few Coptic letters are found in certain words, usually without a change in language. This paper focuses on these words, which are generally Egyptian personal names and toponyms, in which one or two “Coptic-only” letters can be found (e.g. Παραϣ, ΠιαϨ). This noticeable –at least by modern standards– combination of alphabets within a single word, a minimum trace of digraphia, triggered the investigation of the type of documents these writings appear in, as well as any attestations of Greek equivalents of the names they convey. The linguistic skills of their authors, who are from completely unknown to more familiar, as many of these documents belong to archives such as the ones of Dioscoros son of Apollos or Basilius the pagarch from Aphrodito, are also examined. Finally, the writing and paleography (linearity, superlinear strokes, ligatures) of these letters and words is taken into account. This study presents some preliminary findings on these questions, exploring the possibility of whether such phenomena can be used as additional indicators of the linguistic background of ancient writers, and shed light on the perception of Greek and Coptic alphabets at the time. In this way, the need for and usefulness of a more systematic, multimodal study of scriptal variation, even when the latter is very limited, is highlighted.

Insubordination in Greek documentary papyri: the case of ὄστε independent sentences

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Documentary papyri belong to the most relevant and copious sources for the study of the ancient Greek language. With a wide range of types of texts and a continuity of more than a millennium, they allow us to detect different language changes, numerous synchronic varieties as well as more general linguistic trends in everyday contexts (Dickey 2011; Evans–Obbink 2010). Furthermore, they often include constructions which challenge traditional structure-based linguistic analysis of historical texts.

This paper aims at investigating meaning and function of ὥστε in Greek documentary papyri not in its prototypical function of subordinating conjunction but rather as a discourse particle (Revuelta Puigdollers 2017: 616, 623). Specifically, I will discuss the instances of ὥστε with the moods of independent sentences (i.e. indicative and imperative) found in the documentary papyri. Literary sources document this usage of ὥστε already in the Classical period (Kühner–Gerth 1966 [1904]: 512, 514; van Emde et al. 2019: 531–533).

The analysis covers the Ptolemaic and the Roman periods (i.e. 4th cent. BC – 4th cent. AD). It is based on the material from Mayser (1926), which will be updated systematically using various papyrological databases (e.g. *Duke Databank of Documentary Papyri* and *Trismegistos*), and the data from the study on Greek syntax of the documentary papyri of the Roman period of di Bartolo (2021). Some occurrences from the early Byzantine period will be included as well.

The investigation combines a syntactic, a pragmatic and a sociolinguistic perspective. First, I will show by means of examples that ὥστε occurs with the imperative or occasionally with the indicative in order to convey a result and to express statements, exhortations or commands which strongly depend on the context (e.g. P.Oxy. XIV 1679). In this respect, it does not introduce a subordinate clause but rather it connects two syntactically independent discourse units. In other words, it behaves like a discourse particle, operating beyond the sentence level and contributing to the whole discourse coherence (Bonifazi–Drummen–de Kreij 2016: I.1). Secondly, I will demonstrate that these morphosyntactic independent ὥστε sentences can be explained as a case of insubordination (Evans 2007; Ruiz Yamuza 2021). Therefore, I will address the different factors which have led to this usage (Cristofaro 2016) and compare the instances from the papyri with the ones from the literary sources (Ruiz-Yamuza 2021) and the New Testament (Blass–Debrunner–Funk 1961: 197). Moreover, I will investigate the interface between syntax and pragmatics, considering the construction ὥστε εἶναι in specific everyday documents such as sale contracts and receipts (for the Ptolemaic period see Mayser 1926: 297; for the Roman period see di Bartolo 2021: 92–93). This latter construction can be explained in terms of insubordination as well.

Since insubordination is a widespread phenomenon across different modern languages, I will finally discuss the ancient Greek instances from a cross-linguistic perspective (Evans–Watanabe 2016; Beijering–Kaltenböck–Sansiñena 2019) in order to show that Greek documentary papyri are not only significant sources for detecting synchronic varieties (Bentein–Janse 2021), but also a useful test bench for investigating more general linguistic phenomena which are found in modern as well as in ancient languages.

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Linguistic and graphic strategies of textualization in Greek letters from the Early Arabic period

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In the mid-1970s, Wallace Chafe and his co-workers at the University of California, Berkeley, famously showed a six-minute film (the ‘Pear Film’, with sound but no words) to speakers of

different languages, who were asked to report what had happened in the film (Chafe 1980). This enabled Chafe and his team to comparatively analyze how thought is verbalized across languages, and paved the way for discourse analysis as a field of research. Since then, scholars have gone beyond oral language, looking into how speech and thought materialize into *text* as well (what is called ‘textualization’).

In Classics, most attention so far has gone to literary texts with an oral background, such as the Homeric epics or the New Testament (e.g. Ready 2019). Less attention has been paid to non-literary sources, with the exception of recent work on scribes and dictation (e.g. Evans 2012; Halla-aho 2018), and the corpus of women’s letters (Bagnall and Cribiore 2006). Non-literary sources nevertheless represent an interesting object of study, because – in their capacity of autographs – they present us with an exceptional opportunity to study how linguistic aspects of textualization go hand in hand with graphic aspects, a field of study that has come to be known as ‘multi-modality’ (e.g. Bateman 2008; Kress 2010).

In my talk, I want to approach the issue of textualization through a discussion of multimodal discourse segmentation, as studied in the European-funded project EVWRIT (www.ev writ.ugent.be). While scholars generally seem to agree upon a hierarchical model of rhetorical structure, ranging from smaller units such as the word (group) and clause to large units such as the paragraph (e.g. Buijs 2005; Porter and O’Donnell 2007), and the features that signal them, such as coordinating and subordinating conjunctions and formulaic expressions, much less consensus exists with respect to the levels and means of the visual organization of the text. Focusing on the Greek letters in the eighth-century Qurrah archive (Richter 2010), I will discuss these two types of textual structure, arguing that while there are clear signs of interrelationship and parallel organization, one should not underestimate their independence and respective flexibility.

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In search of glimpses: the contribution of papyri to the diachrony of relative articles

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The use of definite articles as relative markers is a well-known phenomenon in the history of the Greek language.

Relative articles are already present in Archaic and Classical Greek (a) (Chantraine 1984: 129; Probert 2015: 121-123); they are attested in Egyptian ostraka and papyri (b) (Gignac 1981: II, 179-182), more frequently than argued in previous studies (cfr. "ein paar Beispiele" Olsson 1934: 110; "wenigen Belegen" Mayser 1926: II, 60), as well as in inscriptions (Threatte 1996: 331-332); they appear throughout the Medieval and Early Modern period (c) (Holton et al. 2019: 1097-1105) and are preserved in some contemporary Greek dialects, although their syntactic status is debated (Bagriacik 2020: 63-92).

(a) δι' αἰτίην τὴν ἐγὼ ἐν τοῖσι ὀπίσω λόγοισι σημανέω (V BC, Hdt. 1.75)

(b) τὴν χῖρα τὴν δέδωκεν Ἰσᾶς (IV AD, P. Abinn. 22, l.25)

(c) πᾶσαν μου ἄλλην διαθήκην, τὴν ἐποίησα (1523, Cyprus, from Holton et al. 2019: 1100)

A systematic survey of all the instances in the different diachronic stages remains to be conducted: in this paper, I aim to fill this gap for documentary texts and provide a typology of the relative clauses introduced by definite articles in terms of morphosyntax and semantics.

In particular, it will be shown how some common notions concerning the occurrences of relative articles (Kriki 2013: 291-310), such as the constraints on the syntactic function and the

restrictive nature of the clauses, can be redefined with a larger set of data from papyri obtained with the support of digital tools.

Following the growing interest in a sociolinguistic examination of documentary papyri (Bentein 2019), the social contexts of usage will also be accounted: the uncertainty of the scribes in some collected instances, together with their widespread presence in private papyrus letters as opposed to other text types, suggests the connotation of relative articles as a feature of lower registers (“vulgar”, Bakker 1974: 96) in the Post-Classical period.

Moreover, while a number of papyri (e.g. P. Abinn. 6) presents multiple relative clauses marked by definite articles, the linguistic variation between the pronoun ὅς, ἣ, ὅ and the article ὁ, ἡ, τό is also relevant within the texts, where the two relativizers can be alternated (e.g. P. Flor. 2.209). In this regard, I will argue how idiolectal as well as phonetic and formulaic factors affect the choice of the relative article.

Documentary papyri attest linguistic features that can be used or avoided in specific historical and social contexts: by taking into consideration the papyrological material, it is possible to draw a more accurate picture of this relativization strategy in the diachrony of Greek.

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Contact ‘iotacism’

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This paper proposes a reanalysis of the apparent iotacism in Egyptian Greek documentary texts. The phenomenon concerning the raising and fronting of Ancient Greek υ, η, ει, οι to [i] in Modern Greek is well attested in Greek documentary material. As much of this material comes from papyrological sources and was thus located in Egypt, the language contact between Greek and Egyptian-Coptic should be considered as one of the reasons behind the extensive iotacism.

In Dahlgren (2017), I analysed the vowel variation in Egyptian Greek documentary texts. One of the most striking contact-induced effects in Egyptian Greek was the transfer of Coptic consonant-to-vowel coarticulatory patterns onto the L2 Greek used by the Egyptian scribes. Egyptian-Coptic had root-and-pattern morphology and emphasised consonant qualities at the expense of vowels, which resulted in reduced vowel qualities. Word-medially, the Coptic unstressed vowel inventory consisted of /a, i, u, ə/ (Girgis 1966: 73; Peust 1999: 252), with allophones conditioned by the consonantal environment. According to Flemming (2009: 82-84; 92), word-medial schwa is easily adapted to the quality of adjacent consonants. Coptic consonantal coarticulation mostly concerned the front vowels. In native Coptic texts, η could be realised as either /i/ or /a/, depending on the consonantal environment; this phenomenon expanded to front vowel variation in general. An example from Greek loanwords in Coptic, in which the vowel quality is lowered, is the changed quality of the front vowel in αργατης from ἐργάτης. In αργατης, /g/, following /r/, and /a/ in the second syllable, triggered the lowering (Dahlgren 2017: 95-97). An example of a raised vowel quality, /a/ raising into /e/ near a front consonant (/n/), is by ενεκε from ἐνάγειν (examples from Girgis 1966: 73-76). Variation was thus possible along the continuum /i~e~a/, depending on the consonantal environment (e.g. Lambdin 1958: 179; Peust 1999: 228-230). In L2 Greek, (1) μετροπολι from μητροπόλει has the unstressed vowel lowered from the Greek original [ɛ] to [e] because of the bilabial before it. According to Flemming (2009: 82-84; 92), bilabials cause a “trough” effect on adjacent vowels, and especially high vowels are lowered.

(1) μετροπολι < μητροπόλει /mɛtropolis/ (O.Narm. 110)

In Greek loanwords in Coptic with similar variation, the range of variation from /i/ to /a/ in terms of height can be seen especially well in (2). In the example, both vowels are realised as [ɛ] in a misspelling of the Greek loanword for ‘frankincense’.

(2) λEBENOY[c] *lebenous* < λίβανος (P.Hamb.Bil.1, 3rd - 4th cent. CE)

In this misspelling, the first (stressed) syllable’s /i/ was replaced with [ɛ], affected by the following bilabial. Similarly, also the second syllable’s /a/ was replaced with [ɛ], affected also either by the bilabial or the following coronal consonant. These examples show how consonant-to-vowel coarticulation transferred from Coptic phonology caused front vowel variation that looked like iotacism in L2 Greek. I suggest that much of this type of positional variation stems from the contact linguistic situation, while iotacism in L1 Greek was in free variation.

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Researching the Language of the Papyri: Recent Progress and the Shape of the Future

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This presentation considers recent developments in the study of the language of documentary papyri and related sources. I begin with a reflection on the volume *The Language of the Papyri* (OUP, 2010) before moving to the exciting progress made since. I will then focus on some themes that seem to me important for current and future research. These include the potential and dangers of ‘digital papyrology’, the challenge of lexicography, some lingering ‘blind spots’ in research, and the significance of documentary papyri for the larger study of post-classical Greek.

Insubordination in a corpus of early Byzantine Greek letters from Egypt

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Insubordination refers to the phenomenon of a structurally dependent clause functioning as an independent clause (Beijering et al. 2019; Evans 2007). For example, English *if*-clauses are regarded as dependent, yet in *If only I knew what happened!* an *if*-clause comes to be used independently. Insubordination is limited neither to English nor to conditional clauses, but is widely researched, e.g. in modern French, English, and German along with classical Latin (e.g. Banos 2011; Debaisieux 2013; Günther 1999; Lastres–López 2020).

Examples of insubordination in classical Greek literature include ὥστε ‘therefore’ (Ruiz Yamuza 2020), ὅπως in emphatic exhortations (van Emde Boas et al. 2019 para. 38.34), and connecting relatives (e.g. Xen. Ana. 2.3.6). For later Greek, it is generally accepted that ἵνα and ὅτι came to head independent clauses (Hult 1990; Luiselli 1999). In early Byzantine Greek letters from Egypt, insubordination is frequent and appears alongside logical subordination (e.g. P. Kell. 1.63.17–20).

This paper approaches insubordination in postclassical Greek from the perspective of sententiality (Lehmann 1988) and grammaticalization (Hopper & Traugott 2003; Traugott & Trousdale 2010). While insubordination in turn-taking, e.g. in the Platonic dialogues (e.g. Plato, Gorgias, 448e), has its origin in the nature of conversational discourse (Sansinena et al. 2015), insubordination in lower-register writings, such as letters, is often ascribed to colloquial habits (e.g. Gignac 2013). However, the meaning and function of the clause connector varies with the type of clause it combines with, as insubordinate patterns in modern languages show, e.g. French *parce que*, German *obwohl* and English *if* (Debaisieux 2016; Günther 1999).

The paper catalogues instances of insubordination in a corpus of early Byzantine Greek letters and links them to their literary predecessors and counterparts. It discusses the meaning and function differences of insubordinate vis-a-vis subordinate and independent structures. It shows that insubordination moved from a minor pattern in classical literature to a major pattern in lower register postclassical discourse, and is thus not solely colloquial, owing to bilingual interference from Egyptian (Coptic) or redundant in the Greek lexicon-grammar.

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Once again on non-finite complement clauses in non-literary papyri

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A recent article (Bentein 2018: 93) stresses the significance of studying formulaic phrases in non-literary papyri. I analyze in my paper an example of such phrase that is found in (mostly) private letters (and is also mentioned in Bentein 2018); namely, complement clauses dependent of the verb γινώσκω that typically occur after the initial greetings formula. An example is passage (1) below in which a complement clause dependent of γείνωσκε is preceded with a greetings formula “Σαραπίων Σαραπιάδι τῇ ἀδελφῇ πλεῖστα χαίρειν καὶ διὰ παντὸς ὑγιαίνειν”.

(1) Σαραπίων Σαραπιάδι τῇ ἀδελφῇ πλεῖστα χαίρειν
καὶ διὰ παντὸς ὑγιαίνειν. γείνωσκέ με πεπρα-
κότα πρὸς τὸν καιρόν· (BGU 4.1078, ll. 1–3, AD 38)

My corpus contains appx. 250 examples of these expressions that date back to Hellenistic/Roman and early Byzantine periods (3rd century BC–6th century AD) and were retrieved from the Papyrological Navigator (<https://papyri.info/>). I find in my corpus various complementation patterns, including non-finite (participle and infinitive) complements, as well as finite complements introduced by (mostly) ὅτι.

My aim is to discuss some recent claims concerning diachronic changes in expressing temporal relations between governing and complement clauses, as well as the process of the infinitive disappearing (e.g., Keersmaekers 2020: 262, Bentein 2018: 94–95, 104–105; Kavčič 2020). According to Bentein (2018) the former process may have been related to the latter.

First, I argue that the perfect infinitive and the perfect participle are frequently used in my corpus in the function of conveying anteriority, whereas non-finite aorist forms tend to be avoided. Moreover, non-finite perfect forms frequently adopt the function of the perfective past; for instance, when used with time specifications of past events. Based on these data, I argue against the view that non-finite complement clauses tend to be predominantly stative in the periods in question (for a very recent discussion of this issue, see Keersmaekers, loc. cit.).

Second, I discuss the relation between participle and infinitive complements. In contrast to James (2008) and Bentein (2017), who interpret this distinction in pragmatic terms, I draw attention to the process of the infinitive disappearing. I adopt the view that factive infinitive and the participle complements can be used in similar social contexts (cf. Bentein 2017: 33). However, my corpus also shows – perhaps surprisingly – an increase in the use of the infinitive in diachronic terms. This is indicated by statistical tendencies as well as by the type of texts displaying the use of infinitive complements (cf. Stolk 2021).

Finally, I discuss how these data could be accounted for in terms the demise of the infinitive (cf. Bentein 2018: 104–105). I draw attention to the fact that is rarely mentioned in recent scholarly discussions; namely, that despite the demise of the infinitive in Post-Classical and Byzantine Greek, this form also occasionally saw a spread in various functions (cf. Joseph 1983). Therefore, one should not exclude the possibility that the spread of the perfect in Post-Classical Greek, including its common use in the function of conveying anteriority, led to an increase of infinitive complements in my corpus.

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Diminutives in the Greek papyri (and related sources): a corpus-based investigation

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Diminutives, although highly frequent, have received little attention so far in the scholarship of the Greek papyri. Although some studies on the New Testament (e.g. Swanson 1958; Elliott 1970; Watt 2013) and Ancient Greek in general (Petersen 1910, 1913; Chantraine 1933; Grandi 2014) exist, evidence from documentary sources is rarely involved, if not entirely ignored. While collecting a large number of diminutives from the papyri was a daunting task in the past, the availability of XML versions of papyrus texts through the Integrating Digital Papyrology project (Cayless et al. 2013) and advances in Natural Language Processing technology (Keersmaekers 2020) have greatly improved querying possibilities for these texts, so that a large list of diminutive constructions can easily be extracted.

While the advantages of being able to extract a large number of data points are evident, this also raises the need for quantitative techniques to interpret these data. The aim of this paper is therefore to show how data-driven, corpus-based techniques can greatly enhance our knowledge of the development of Greek morphology, as attested in the papyri. It is structured as follows: first, it will show how diminutives (or any other morphological construction) can easily be extracted from the papyrus corpus through the creation of a new, derivational morphological layer. Next, it will discuss how vector based methods to semantics (see Turney & Pantel 2010) can reveal new interesting information about the meaning and usage of diminutive constructions through time. Finally, it will briefly compare the evidence from the papyri with data extracted from related texts, i.e. contemporary epigraphic and literary texts.

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Written standard and varying practice.

Case inflection in the early Arabic documents written on papyrus (622 -912 AD)

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The use of case is often considered one of the hallmarks of Classical (faṣīḥ) Arabic (CAr). Consequently, the lack of case, or a different use of case inflection than the tripartite CAr system, distinguishing nominative, genitive and accusative case, immediately marks a text as non-CAr (e.g. Hopkins 1984, 155). The loss of case is generally put forward as a typical feature of the modern dialects, collectively termed ‘neo-Arabic’ (e.g. Blau 1977; Ferguson 1959). This linguistic change is often attributed to the sudden need for large numbers of nonnative speakers of Arabic to acquire the language following the Arab conquests (Versteegh 1984; Blau 1977). In broad stroke, modern scholars follow their predecessors, the Arab grammarians, in this view. The early tenth century grammarian az-Zağğāğī (d. 950), for example, already stressed the importance of preserving knowledge of Arabic grammar, in particular knowledge of case inflection, in order to fully understand the Quran and the traditions about the Prophet Muḥammad (Versteegh 1995, 164), which were sent down “in a clear Arabic language” (Quran 26:195).

However, closer inspection of different pre-Islamic varieties of Arabic makes it clear that varieties with a reduced case system already existed prior to the conquests (e.g. Safaitic Al-Jallad 2015, 69–71; and Nabataean Diem 1973). It even seems that the language underlying the orthography of the Quranic consonantal text had generally lost nominative and genitive case marking in word final position (Van Putten and Stokes 2018, 158–60).

The early Arabic documentary papyri (7th – 9th centuries AD) are among the earliest attestations of written text from the Islamic period, with material ranging from official letters written in chanceries, to private letters and personal notes for bookkeeping. This makes them a testament to

the development of written practice in everyday documents of their time and gives researchers the opportunity to compare the language of documents written in different linguistic registers.

This material also shows that case inflection is not binary, where a variety has either a full tripartite case system or no case marking at all. Closer inspection of case marking in the Arabic documentary papyri shows that case marking is preserved in different ways, depending on its morphological expression. For example, case marking that is expressed with a long final vowel, such as 'abū (nom.) in construct position, seems to be quite robustly preserved in the material from 622-912 AD (Kootstra forthcoming; pace Hopkins 1984, 155–56). On the other hand, the Arabic Qurra papyri, written in the chancery of Qurra bin Šarīk, who was the governor of Egypt (710-715 AD), show nearly complete generalization of the oblique plural suffix -īn(a) to all syntactic environments (see Diem 1984, 269 for several examples). These findings bring into focus how much is still unknown surrounding the process of standardization of Arabic. Such as where the fully inflected standard comes from, and when and how it exactly developed.

This contribution will investigate the use of case inflection in these documents from the 7th till early 10th centuries AD. It will employ a quantitative approach to investigate the distribution of variation in the nominal case system, and attempt to account for points of variation within a historical- and socio-linguistic framework, producing a fine-grained analysis of how inflection operated in early documentary Arabic. This will shed light on how documentary written practice relates to developing ideas of a Classical Arabic standard in this period.

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Last strongholds of the dative: prepositional phrases in 8th century papyri

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The decay of the dative starting from the Koine (Humbert 1930) has been the subject of numerous studies, which have mostly concentrated on the replacement of the dative by prepositional phrases (Georgakopoulos 2017) or, in the case of clitic pronouns, by the genitive (Stolk 2017). Much less attention has been paid to the retention of the dative within prepositional phrases. In fact, the widespread occurrence of the dative within prepositional phrases slowed down its disappearance: an example is the replacement of the instrumental dative by means of prepositions some of which took the dative, such as *σύν* or, especially in the New Testament (Regard 1918), less frequently in the Ptolemaic papyri (Rossberg 1909: 28; Mayser 1933: 283), *en*. Even the replacement of the latter preposition by *eis* in spatial expressions was comparatively slow. Notably, frequent collocations preserved the preposition along with the dative until Medieval Greek and were the source of a number of Modern Greek adverbs (Horrocks 1997: 217). In our paper we survey the occurrences of the dative with prepositions in Early Byzantine (8th century AD) non-literary papyri from Upper Egypt. The bulk of these texts is constituted by letters from Aphrodito/Kom Ishgau (Bell 1926, Richter 2010). The use of prepositions in this archive is remarkable, as argued by Bentein (2017), who discussed the use of *διά* showing a variety of functions, some of which are no longer attested in Middle and Modern Greek. The prepositional dative occurs with *en*, *σύν* and, much less frequently, *επί*. In the case of *en* and *σύν* the number of formulas, such as *en (tôi) onómati, sùn theōi*, is comparatively high, but other occurrences point toward a more lively use. On the other hand, the prepositions that were increasingly replacing *en* and *σύν*, i.e. *eis* and *μετά*, are not only more frequent, but, importantly, never occur in such formulas (even though *eis* frequently occurs in the place of *en* to indicate locative). We argue that the dative was still preserved only because of its occurrence inside certain constructions, as indicated by the fact that the use of *επί*+DAT is more limited, because this preposition could also take the genitive and the accusative and had no clear association with the dative, as cases had become largely interchangeable already by the time of the Late Koine (Skopeteas 2008: 63). This conclusion is further supported by occurrences of the plain dative, which are virtually limited to constructions containing the verbs *κhráomai* and *dídōmi* and its compounds. Notably, replacement of the dative by *eis* within the argument structure of verbs of giving was fully accomplished only at a much later stage, and Georgakopoulos (2017: 53) describes *eis* as a marginal strategy as late as the 10th century AD.

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Of treebanks and collexemes

Collostructional analysis and documentary papyri

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As it is emphasized in the Call for Paper of the conference, the linguistic interest in documentary papyri and the groundwork to build more advanced digital infrastructures for the exploration of the documents are two of the most vital trends in current papyrology. In particular, in the latter area, morpho-syntactically annotated texts (known as “treebanks”) of papyrological collections are a most recent and significant acquisition. However, the growing interest in digital resources for linguistic analysis has not yet been matched by an equally widespread interest in modern methodologies for corpus-based explorations.

In this presentation I would like to illustrate one of such methods, known as “collostructional

analysis” (Stefanowitsch and Gries 2003; Gries and Stefanowitsch 2004; Gries 2019), and to discuss its relevance for the study of documentary papyri. The talk is based on data from the PapyGreek treebanks (see Appendix; Vierros and Yordanova 2021). Given the limited extension of the collection, the ongoing nature of the annotation process, and the non-systematic selection of documents released, the present work does *not* aim to provide new solutions to linguistic problems. Rather, it is intended as a critical discussion of a methodology that has been fruitfully applied for the exploration of modern corpora, based on a selection of two case studies and data from the PapyGreek treebanks.

Collostructional analysis extends the notion of collocation of traditional corpus linguistics by studying the tendency of certain lexical items to co-occur not just with other lexemes, but also with more abstract constructions. The analysis “always starts with a particular construction and investigates which lexemes are strongly attracted or repelled by a particular slot in the construction” (Stefanowitsch and Gries 2003, 214). Association measures can be employed to quantify this attraction; as in Stefanowitsch and Gries (2003) and Gries and Stefanowitsch (2004), we rely on the *p-value* of the Fisher exact test, with lower values pointing to a stronger association.

Collexeme associations and scores provide a useful bird-eye view on a construction and may serve to single out peculiar lexical usages that are in need of close study.

Collexeme	Nr. imp	Nr. other	Association (p-value)
ῥώννυμι	173	89	1.26E-109
εὐτυχέω	49	5	1.05E-42
ἐπιμελέομαι	40	16	3.72E-27
γιγνώσκω	26	29	5.60E-12
πέμπω	46	114	7.57E-11
ἀσπάζομαι	35	75	8.44E-10
ἀποδίδωμι	37	110	2.60E-07

Table 1: Collexemes most strongly associated with the imperative

Collexeme	Nr. imp	Nr. other	Association (p-value)
λαμβάνω	5	143	0.9997
ἀξιόω	1	73	0.9997
εὐχομαι	1	75	0.9998
εἶμι	17	326	0.9999
γίγνομαι	5	156	0.9999
ὕγιαίνω	2	121	0.9999
χαίρω	1	298	1.0000

Table 2: Collexemes less strongly associated with the imperative

Collexemes associated with the imperative are a well known object of study for collocation analysis (Stefanowitsch and Gries 2003; Olmen 2019); Leiwo (2010) and Dickey (2010) have highlighted important pragmatic aspects in the use of imperatives in some collections of papyrological materials. The most (and less) strongly associated collexemes of the imperative form, as reported in Tables 1 and 2, confirm the interests of a pragmatic investigation of the documents in the treebank. With many preserved documents centering on concrete requests, it can be expected that the directive function, which is prototypically associated to the imperative, dominates (see e.g. πέμπω in Table 1). However, the most frequent collexemes point rather to different types of illocutive acts (Searle 1976), such as the expressive (ῥώννυμι, εὐτυχέω).

Collexeme	Nr. ὅτι	Nr. Acc.+Inf.	Association (ὅτι)
οἶδα	15	1	3.46e-13
γιννώσκω	18	8	2.28e-11
λέγω/εἶπον	17	11	1.97e-09
ἀκούω	6	1	2.81e-05
νομίζω	5	4	2.90e-03
ὁράω	3	1	7.97e-03
γράφω	14	44	0.0128
ἔχω	1	15	0.8969

Table 3: Collexemes distinguishing between construction with ὅτι and Acc. + Inf.

Gries and Stefanowitsch (2004) have extended collocation analysis to study how collexemes associate with each member of a pair of constructions. This methodology (called ‘distinctive-collexeme analysis’) can be illustrated with the case of the Greek verbs that, in our treebanks, alternate between accusative and infinitive and the construction with the conjunction ὄτι (Bentein 2017). The list of collexemes, together with their association scores with the ὄτι construction, is reported in Table 3.

This last example can be used as a starting point to discuss the limitations of collocation analysis that were pointed out by Gries 2019.

Appendix: overview of the corpus

The data reported in the tables were obtained from the PapyGreek corpus, developed in the context of the project *Digital Grammar of Greek Documentary Papyri* (ERC-Starting Grant 2017). The data were downloaded from: https://papygreek.hum.helsinki.fi/annotated/export_data/export/reg (retrieved on June 29, 2021). The downloaded files included 397 texts, 3,120 sentences and 44,275 tokens. Figure 1 and 2 report some basic statistics about the documents in the dataset.

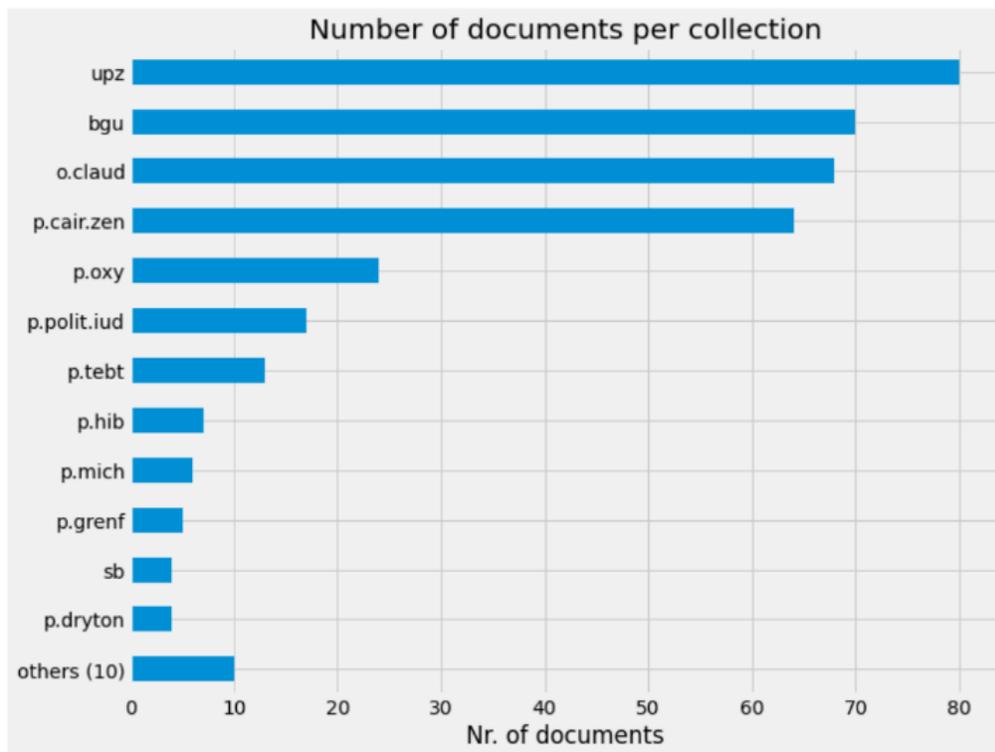


Figure 1: Documents per collection

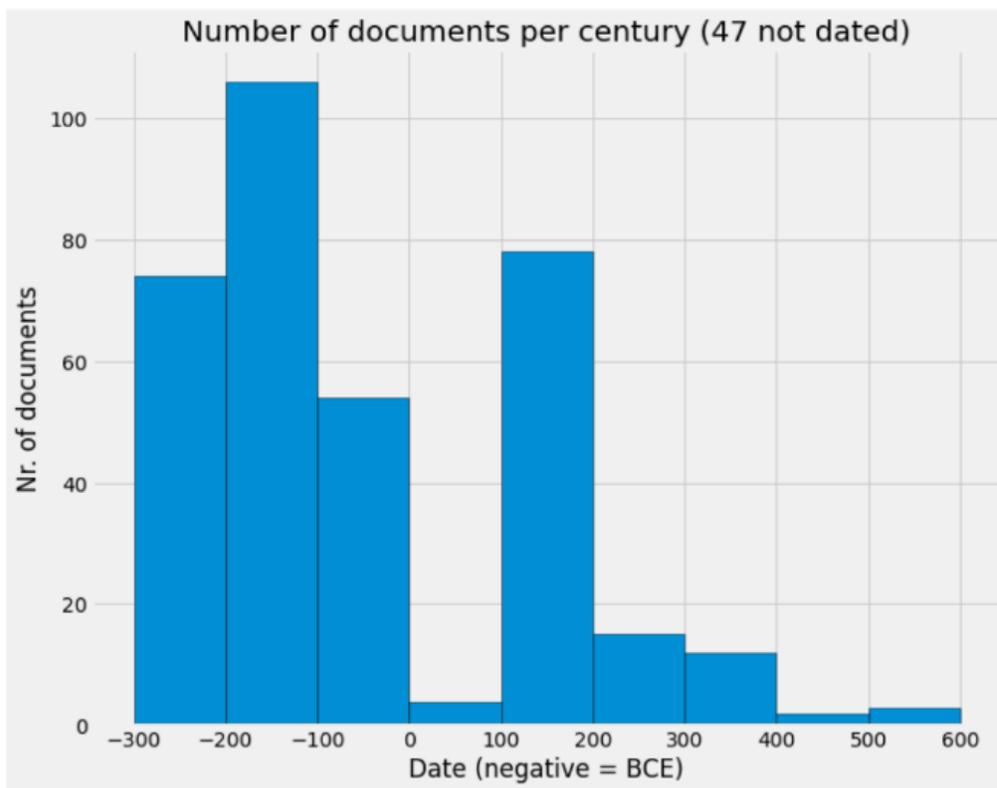


Figure 2: Documents per century. Chronology based on the metadata of the PapyGreek files

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Communicating in High-Register Greek in Private Papyrus Letters of the Roman Period of Egypt

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The presentation deals with high-registered linguistic choices found in private correspondence on papyri dated to the Roman period of Egypt (31 BCE–330 CE). Our main focus will be on locating and grouping the efforts of the ancient writers to embellish their texts, so that they become more effective and more attractive to recipients. Hypercorrection, use of abstract notions, intertextual references and quotations are examples of such efforts. Our aim is to offer an overview of these linguistic choices and to explore their function in request letters on papyrus.

Regional Loanwords in Latin Papyrus Documents: Some Case Studies to Explore Latin-Greek Bilingualism and Language Contact in Egypt

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Latin-Greek bilingualism and language contact in the East are an expanding research area thanks to the edition of new texts, the development of a copious bibliography from the perspective of both the Greek and the Latin language (Adams – Janse – Swain 2002; Adams 2003; Evans – Obbink 2010; Halla-aho 2003; Marganne – Rochette 2013; Leiwo 2018) and the activity promoted by ERC projects, such as PLATINUM (ERC-StG 2014 636983 – PI M. C. Scappaticcio).

Vocabulary is one of the areas most exposed to language contact in both directions (Greek → Latin, Latin → Greek), and is the object of renewed attention (Biville 1989; Adams 2003: 441–72; Dickey 2012, 2018; Filos 2006, 2010). Specifically, scholars are interested in identifying criteria for establishing the linguistic identity of words and expressions of foreign origin in the ancient sources, since it is a well-known fact that borrowing, code-switching, and interference reside on a continuum which has a synchronic and a diachronic dimension (Gardner-Chloros 2009; Mullen 2013).

In the present paper these issues will be addressed from the perspective of the Latin language by focusing on some Greek words in Latin papyrus documents from Egypt suiting the label of regional loanwords, namely local terms imposed in a specific area in the Latin of

language learners and bilinguals speaking a variety of dialects (not necessarily Egyptian ones) or of first-language speakers of Latin and which had no reception in the Latin lexicon (Adams 2003: 443–59). These words are regionalisms in a very broad sense, since in Egypt there is not an established Latin population (Adams 2003: 527:641; on the regional diversification of Latin see Adams 2007). One will discuss a case study for each of the three subgroups in which regional loanwords can be further categorised, basically depending on the existence of a Latin equivalent and the degree of fluency in Latin of the scribe/ author of a text.

The words have been selected based on a census of all the Latin and Latin-Greek papyrus documents within the project PLATINUM. They will be investigated combining (socio)linguistics with philology, papyrology, palaeography, history, and archaeology in order to: 1. propose a new meaning of an already known word based on linguistic and extralinguistic factors, especially the archaeological context (*potamit*[- - -], *P.Tebt.* II 686 *recto* fr. *b* l. 12); 2. analyse a new word derived from a new reading and the consequences on modern lexicography (*pagarcha*, P.Mich. inv. P. 4014 ll. 7, 10: Pedone 2020: 16 in place of *pagarchia*, read by Robert Marichal in *ChLA* V 292); 3. highlight that the vocabulary of a document can be Graecising in different ways (*aneglogistae*, *calamiae*, *tritum*, *ellenio*, *ChLA* X 412) and to examine the factors responsible for this aspect; 4. reflect on how modern dictionaries, which not always record these terms, can better elucidate their presence.

Illustrating how and on what factors Greek-Latin language contact operates in the micro-contexts will help us understand the dynamics of the spread and the use of Latin alongside Greek in certain environments of the multilingual Egypt.

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Spelling variation of technical terms in the Greek medical papyri

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The Greek papyri dealing with medicine to some extent form a homogeneous corpus of technical texts. They encompass different genres (literary treatises, reference handbooks, collections of recipes, single prescriptions, private letters about health matters, official reports of medical inspections) but share common linguistic and paralinguistic strategies to convey their specialised knowledge. Moreover, they share further linguistic features with the other texts written on papyrus, either documentary or (para/)literary: κοινή Greek forms, to which even Ionic Hippocratic texts are sometimes adapted; usual phonetic phenomena such as iotacism; common scribal mistakes or irregularities. Though the preceding aspects have been or are being investigated, at different levels of detail (e.g. Andorlini 2017; Reggiani 2019; Maravela-Reggiani forthcoming; Reggiani forthcoming), there is a peculiar topic that deserves deeper attention: the variant spelling of specific technical terms, often of extra-Greek origin (ζμύρνη / ζμύρνη, ζίγγιβερ / ρίγγιβερ, πέπερι / πίπερι, ψιμίθιον / ψιμύθιον, ὀποβάλαμον / ἀποβάλαμον), which pose interesting questions from the perspective of both language history and editorial representation. In fact, one is always uncertain whether “regularising” or not such cases: and, if so, which version should be the standard one? It is in the digital edition of such texts that the problem arises even more, and the current solutions seem partially insufficient to cope with it. The proposed paper will discuss the matter from the said double viewpoint: linguistic and editorial.

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Wishes in the papyri and the Post-Classical reorganization of the wish system

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Recent years have seen a welcome increase of studies dealing with the morpho-syntax of the verbal system in Post-classical Greek papyri (Markopoulos 2009; Leiwo 2010; Evans & Obbink 2010; Bentein 2016; Rafiyenko & Seržant 2020; Bruno 2020; Koroli 2020). These studies ideally make use of corpus-based methods of analysis which provide quantifiable generalizations about the periods in question instead of historical snippets (la Roi 2020: 229-233). Wishes in the papyri have not had the benefit of such attention, which means that for now one unfortunately still has to rely on the remarks from partial grammars (e.g. Mayser & Schmoll 1970; Mandilaras 1973; Gignac 1976).

Therefore this paper provides a corpus-based analysis of counterfactual wishes in the Ptolemaic and Roman papyri using digital tools such as Trismegistos words, papyri.info and the EVWRIT database. As I will demonstrate, using these tools we can immediately rectify claims from existing grammars on wishes in the papyri falsely suggesting that ἐβουλόμην was the only counterfactual wish option available (Mayser & Schnoll 1970: 227), since counterfactual wishes with other past indicative verbs exist as well (e.g. ἤθελον (P. Col. Zen. III VI 2), ὄφελον (P.giss.apoll. XIII 10 or on ostracon O.Did.435.7) and ἠύχομην (P.Erasm. I VI 4)), each with their own historical trajectory and distribution.

After discussing the historical development of these counterfactual wishes, I will broaden my scope and contextualize their diachronic distribution with, on the one hand, the broader distribution of wishes more generally in literary texts and papyri, and, on the other hand, with what I call the reorganization of the wish system in Post-Classical Greek. As I argue, the image of an irrelevant wish optative in decline (e.g. Mandilaras 1973: 287) does not do justice to the complexity of the wish system in Post-Classical Greek (cf. McKay 1993; Evans 2003), since the system undergoes many different changes which interrelate with each other, for example, the creation of a new insubordinate wish with εἶθε γὰρ by fusing two variants, the renewal of the counterfactuality of insubordinate wishes with ἄν because ὄφελον lost its counterfactuality (A. Thom.100.7-10: ὡς εἶθε ἢ τοῦ θανάτου βία εἰλήφει ἄν; La Roi 2021), the creation of an insubordinate ἵνα wish (la Roi 2021) and the increasing fossilization of the wish optative (as witnessed by its limitation to certain verbs, functions and aorist aspect).

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A Quantitative (High-)Register Analysis of Greek Papyrus Letters (I–IV CE)

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The development of computer-based programs has helped make quantitative statistical analyses more accessible to corpus linguists in the last few decades, including those whose research incorporates ancient texts. While it is, perhaps, a notorious truism among scholars of ancient languages, particularly Ancient Greek and Latin, that surviving texts simply do not contain the same quality of intra- and extra linguistic metadata, much figurative blood has been drawn from stones in the last decade by studies that have utilised modern approaches. Indeed, Porter and O’Donnell (2010: 287–311) demonstrated in the *Language of the Papyri* the value of building and analysing a representative, annotated corpus of papyri, giving especial emphasis to a register-based approach in their brief study. Measuring register in documentary papyri is not impossible since many texts have the potential to yield to us at least some of their situational characteristics, and for a not insignificant number—particularly those that have survived as part of archives—we can tag for parameters (e.g. relationship between interactants) that have the potential to reveal more about the people involved in composing and writing them.

To a selected corpus of about 1,500 letters (private, official, and business) I will apply Biber's and Conrad's (2009: 40, 68) extended situational characteristics, insofar as they are pertinent to documentary papyri of the first four centuries CE (e.g. personal stance, communicative purpose), to produce data from which we can identify and analyse different registers. I will then correlate these analyses with selected grammatical and lexical comments from the Atticistic lexica of Phrynichus and Moeris, with the aim of measuring more closely the register of these papyri and seeing how certain high(er)-register usages relate to their characteristics, including those pertaining (where available) to the people who composed and wrote these documents (e.g. scribal literacy).

The results of this study demonstrate that some papyri which have been traditionally described as low-register (or 'informal'; cf. Markopoulos (2009: 16)) in fact contain both intra- and extra linguistic features that may be seen as high-register. Finally, to represent these results, I will propose a different classification for register vis-à-vis Greek papyrus letters, one which does not place them entirely within the lower end of the continuum, but rather, captures the intra-registerial variation present within single documents.

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Corpora and correctness: spelling variation in an educated papyrus

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Linguists working on Ancient Greek papyri are fortunate to have access to large quantities of digital (meta)data, including linguistically annotated transcriptions (e.g. Sematia (Vierros & Henriksson 2017); Trismegistos Words (Keersmaekers 2019)). This allows large-scale empirical studies (e.g. (Depauw & Stolk 2015)) possible. At the same time, papyri are often fragmentary, isolated, and poorly documented. Smaller-scale work on papyrus archives (e.g. (Nachtergaele 2013)) is therefore crucial to extracting maximum socio-linguistic information from the limited co(n)text.

Though both illuminating, these strands are often pursued separately. In this paper, I show how

larger-scale corpus analysis can deepen understanding of an individual, decontextualized text, and vice versa. I do so by analysing the spelling of P.Coll. Youtie 2 66 (TM 20885, P.Oxy. 47 3366). This document, of circa 258 C.E., contains two drafts of a petition to the Roman emperors Valerian and Galienus, plus a letter asking for help ensuring they receive it.

The text contains three hands. The hand that writes the letter and makes interlinear corrections to the second draft may well belong to the sender, Lollianus (Parsons 1976 pp. 411–2). Lollianus was a public grammarian appointed by the city of Oxyrhynchus: an educated figure referred to as such (σχολαστικοῦ scholar.gen.sg., r 2.36). Given the likely presence of learned autograph revisions, there has been linguistic interest in document at different levels: from style (Miller 2008 pp. 42–7) to clause-level rhetorical structure (Luiselli 2010) and spelling corrections, which are sometimes itacistic: writing <ει ei> for normative <ι, i>, and vice versa (Stolk 2018 p. 694).

Despite these non-normative corrections, all the hands are remarkable for their normative use of adscripts. Adscripts are ways of representing etymological long vowel diphthongs /a:i, ε:i,o:i/ graphemically, using the digraphs <αι ai, ηι ēi, ωι ōi>. In the Greek of Egypt, /a:i, ε:i,o:i/ had merged with /a, e, o/ by the 2nd century B.C.E. ((Clarysse 1976 p. 150); cf. (Mayser & Schmoll 2011 pp. 95–6, 114–5) for variants implying lack of phonemic quantity alongside loss of glide, and (Mayser & Schmoll 2011 pp. 39–44, 46–50) for <η, ει, ε> ~ /e/). In the Roman period, adscript spellings were historical, optional, and prestigious (Buchanan 2019). They were also pragmatically restricted. In correspondence, <V̄i> spellings are largely fossilised in formulaic datives in opening greetings and delivery instructions (Clarysse 1976 pp. 150–1).

By comparing adscripts in Lollianus' petition to their use in a curated corpus of correspondence from Roman-era Oxyrhynchus (c. 750 texts, 50–350 C.E.), I show that spelling is very much a part of Lollianus' communicative desire to impress. Analysis of the corpus shows that adscripts are generally even more functionally restricted than Clarysse suggests, being largely confined to o-stem masculines. Lollianus' petition, by contrast, uses adscripts consistently throughout the document, including in highly atypical positions (a-stem substantives; word-internally in verbal prefixes and suffixes). The few contemporary parallels for adscripts in these environments (e.g. SB 22 15708 = TM 25933; P.Oxy. 18 2192 = TM 29029) also contain co-textual evidence of high-register usage.

Corpus comparison thus reveals that an interesting text is atypically learned in a previously overlooked manner. Working from text to corpus, the qualitative association between non-dative adscripts and education suggests new ways of exploring the sociolinguistic implications of spelling variation. Qualitatively, the coexistence of itacism with atypically extensive use of prestige <V̄i> supports corpus patterns which suggest that <ι>-<ει> variation was socially tolerated in many circumstances, with <ει> sometimes viewed as a higher-register alternative.

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Fluctuations in the spelling of morphemes in Greek documentary papyri

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As a result of phonological merger in the spoken language (Mayser & Schmoll 1970; Gignac 1976), the production of spelling in the Greek written language is not straightforward with multiple graphemes representing a particular phoneme (Protopapas & Vlahou 2009). Since also many Greek morphemes are distinguished by only one grapheme, linguistic study of the changes in morphology or morphosyntax in the papyri often depends on the exact spelling of the forms that are being studied. For example, the interchanges of the graphemes <ο>, <ω> and <ου> may impact our understanding of the use of cases in the second declension, while interchanges of the graphemes <ο> and <ω> may affect our interpretation of the use of indicative and subjunctive. It is important, therefore, to understand the possible mechanisms in the production of these spellings. How does the writer select a grapheme to represent a particular sound in morpheme position?

According to the ‘dual-route model for spelling’ (see e.g. Barry 1994), spelling is produced using two different methods: following the ‘lexical’ method, spelling could be retrieved directly from the orthographic lexicon during language production, while following the ‘non-lexical’ method, the spelling is assembled by phoneme-to-grapheme conversion, relying on the writer’s knowledge of general spelling patterns in the language. Skilled spellers can use more detailed knowledge, for example of the position in the word or the morphological status of the linguistic unit, in order to produce infrequent phoneme-to-grapheme correspondences (Perry, Ziegler & Coltheart 2002). Although positional or morphological awareness could be applied to produce morphological endings more systematically, analogies with a superficial perceptual similarity are most easily made (Behrens 2017).

The way in which frequency and analogy affect the spelling of morphemes could help, for example, to explain a typical phenomenon in documentary sources, namely the “fluctuation between case endings expressing the same function in the same syntagm” (Brixhe 2010: 239). Mixed constructions, such as θεῶν τῶν παντοκράτορα instead of θεὸν τὸν παντοκράτορα ‘God the Almighty’ (P.Oxy. XVI 1880; 427) or τῷ θεοσεβεστάτου πατρὶ ἅπα Δωροθέου ‘to the most pious father apa Dorotheos’ (P.Oslo inv. 1555; V-VI) are regularly attested in papyri from Egypt. These constructions may seem odd from a morphological or syntactic perspective, but could be explained by taking into account the comparative frequency of paradigmatic endings. In this paper, I will try to explain the variation in the spelling of morphemes in the documentary papyri with the help of these cognitive principles.

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Everyday occupations in Roman and Late Antique Egypt: Linguistic variants and their social implications

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Everyday papyrus documents from Egypt record various occupations which have gained scholars' attention. For example, Casarico (1983), Drexhage (1991) and Diethart (2005) have focused on the significance of the compounds *-πώλης* and *-πράτης* indicating various jobs in Hellenistic, Roman and Byzantine papyri, while Wipszycka (1965) and Battaglia (1989) analyzed the professions appearing in the textile and bakery industries respectively. The starting point for this paper is an updated list of quotidian occupations attested in papyri from Roman and Late Antique Egypt which constitutes part of the research deriving from the ERC-project "Everyday writing in Greco-Roman and Late Antique Egypt: A socio-semiotic study of communicative variation (EVWRIT)". Occupational titles are found in a variety of documents such as contracts, lists, registers and accounts related to economic transactions, while in some cases they are also used as personal identifiers (for example in private and business letters, marriage and divorce contracts etc.) denoting social status and revealing diverse aspects of the individuals' life.

This paper aims to present the results of ongoing research on common professions in a considerable number of papyrus documents from the imperial and early Byzantine period with focus on their variants (lexical and morphological) and their social and gender implications. For

example, the use of the terms *didaskalos* and *deskalos* signifying the occupation of teacher appear to be differentiated in regard with the gender of the person (cf. P.Mich.VIII 464 for a woman teacher called *deskale*). In addition, the use of synonyms such as *oinopoles* and *oinoprates* in papyri from the same period could be further discussed in terms of the type of the document and the social context in which each word appears (for example: agentive role, social status and social distance, cf. Bentein, 2017). Late antique papyri give also evidence of rare terms for some well-known jobs, such as *manceps* (= baker) and *krampitas* (= probably gardener). Since the need of taking into account both text and social context has become generally accepted during the last decades, new digital tools have been further developed for the study of specific corpora and their linguistic and social metadata. I am planning to discuss how tools such as the database of EVWRIT could contribute to the better utilization of papyrus documents in order to build up a lucid picture of the Greco-Roman society and offer a new perspective towards the study of the Greek language in the matter of variation. In the opinion of Halliday (1978:104), “variation in language is the symbolic expression of variation in society: it is created by society and helps to create society in its turn”.

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The language of the magical papyri

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The corpus of the *Greco-Egyptian Magical Formularies*, offers a wealth of linguistic information that has never before been properly exploited. After having reedited this corpus in the Chicago project “Transmission of Magical Knowledge”, a natural step is to explore the possibilities that a full examination of such an interesting corpus of texts offers from the point of view of linguistics, including language contact in Egypt, literary Greek in the magical papyri, use of Egyptian in its different scripts, and lexical issues. I will present a survey of these possibilities, to later focus on a specific example provided by two of these formularies, and the possibilities of an in-depth analysis of the corpus.

The popularity of the articular infinitive in Greek documentary papyri

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Using the definite neuter article in turning the infinitive into a head of a noun phrase was a feature in Classical Greek already (van Emde Boas *et al.* 2019, 601ff.), but the use of this so-called articular infinitive has been noted to experience a significant rise in frequency in the written Koine (Horrocks 2010, 94–95; 129–130). This was in contrast to the decreasing use non-finite complements, such as the accusative and infinitive -construction (see, e.g. Joseph 1983, Bentein 2017; 2018). Rafiyenko and Seržant (2020, 11) called for further studies as regards the use of the articular infinitive in more colloquial registers of the Koine.

In this paper I will analyse the use of the articular infinitive using two digital corpora of Greek documentary papyri including morphosyntactic annotation: smaller semi-manually annotated PapyGreek Treebanks dataset (Vierros and Henriksson 2021), where we can find approximately 100 attestations of the articular infinitive starting from the 3rd century BCE, and a selected part of a larger, automatically annotated Duke-nlp corpus (Keersmaekers and Depauw, in press), where 3600 attestations are found. The data supports the earlier observations that the articular infinitive was most commonly used with a preposition. Interestingly, quite often the articular infinitive also has a subject, so that the attested formulation was, in fact, an articular accusative and infinitive -structure. I will explore the occurrences of the articular infinitive in respect of its chronology, context, text type and in which syntactic functions it was used and discuss its role within the evolving system of finite and non-finite complementation of postclassical Greek.

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From Greek to Arabic: Loanword Usage in the Late Coptic Letters of the 10th/11th cent.

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With the Arab conquest in 642 CE, a trilingual situation emerged in Egypt, with Arabic first complementing and later replacing Greek and Coptic as language of administration, law, and private correspondence. Yet for the first centuries of Arab rule, the language of Coptic documentary texts remained surprisingly conservative. Apart from a very small number of nouns borrowed from Arabic, some faint reflections of Arabic phraseology and the occasional appearance of Arab officials, we barely find any traces of the contact with the Arabic language and culture in the Coptic documentary record before the middle of the 9th century.

This evidence might seem particularly puzzling as the Coptic lexicon is very much defined by its contact with Greek and, thus, appears generally open to the inclusion of elements from another language. But one has to keep in mind that Greek had also been used in Egypt for centuries until it found its way into the Egyptian lexicon.

In the Coptic documents of the tenth and eleventh centuries, the situation has notably changed. There we find an ever-increasing number of Arabic loanwords, including not only nouns, but also verbs and even occasionally conjunctions. Within the corpus of late Coptic legal documents, this development coincided with a pronounced reduction in the usage of Greek loanwords as Sebastian RICHTER (2008, 73–74) has shown.

While it seems likely that the language of the late Coptic letters would mirror the development of the contemporary legal documents, this issue has yet to be proven. The paper will, therefore, investigate the usage of Greek and Arabic loanwords attested in late Coptic letters and how it might have changed in a diachronic perspective. Particular attention will be paid to type and token frequencies in respect to the parts of speech and the semantic fields from which the loanwords are derived.

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Twigs and boughs: ordering patterns of noun phrases with multiple modifiers

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Investigations of the ordering of the elements in the NP have been performed predominantly through literary texts and within the works of a single author. This paper, based on these existing studies (Bakker 2009, Devine & Stephens 2000, Dik 1997) examining the different approaches towards explaining word order, aims to provide an overview of the different patterns that emerge across time and across genres in noun phrases with multiple modifiers. I will approach the problem on two axes:

1) the interaction between the heaviness principle (the tendency to place constituents in an order of increased complexity) and the saliency principle (the placing of constituents in order of decreasing saliency);

2) comparing two corpora of a very different nature: the literary Ancient Greek Dependency Treebank corpus and the PapyGreek corpus of documentary papyri, consisting of letters, petitions, and contracts.

I will highlight some of the problems that arise in handling qualitative methods in an automated framework and trying to apply approaches traditionally developed for literary texts to documentary materials.

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