

Rays of Language

**Linguistic Perspectives on
Non-Literary Papyri and Related Sources**

Edited by **Klaas Bentein & Marja Vierros**

HUP HELSINKI
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Counterfactuals in the History of Greek: Aspect, Modality and Typology (2025). In his research, Ezra applies the most recent insights from linguistic typology, historical pragmatics and historical linguistics to the study of the history of Greek, Romance and Indo-European languages. His research interests are tense-aspect-modality, clause combining and morphosyntax, with recent publications focusing on counterfactuals, habituais and insubordination.

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Nicola Reggiani teaches Papyrology at the University of Parma. His main research interests focus on the edition of Greek papyri from Ptolemaic and Roman Egypt, ancient medicine and its papyrological sources, linguistic issues in Graeco-Roman Egypt, the digital tools for papyrological research, and the modern reception of ancient Egyptian themes. Among his most recent publications, the collective volumes

Papiri da Tebtynis pubblicati dal Seminario di Papirologia dell'Università di Parma (P.Tebt. VI) (2025) and *Digital Papyrology III: The Digital Critical Edition of Greek Papyri: Issues, Projects, and Perspectives* (2025), and the monograph *Donne oltre il silenzio. Alle radici antiche della violenza di genere: testimonianze dai papiri greco-egizi* (2025, co-authored with Fausto Pagnotta).

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Marja Vierros is a Professor of Classical Philology in the Department of Languages at the University of Helsinki. She is a specialist of ancient Greek linguistics and Greek papyrology. She was the Principal Investigator of the project 'Digital Grammar of Greek Documentary Papyri' (2018–23; European Research Council Starting Grant no 758481). She worked as a postdoctoral scholar in two projects funded by the Academy of Finland in 2012–2018 and spent the academic year 2012–13 as a Visiting Research Scholar at the Institute for the Study of the Ancient World (New York University). She received her PhD in 2011 and published the book *Bilingual Notaries in Hellenistic Egypt. A Study of Greek as a Second Language* in 2012.

CHAPTER 1

Introduction

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1.1 Background

It has been nearly twenty years since the conference ‘Buried Linguistic Treasure: The Potential of Papyri and Related Sources for the Study of Greek and Latin’ was held at Christ Church, Oxford (30 June 2006–2 July 2006). In the edited volume that resulted from that conference (Evans and Obbink 2010a), the organisers noted that while the linguistic significance of Greek and Latin papyri had been recognised ever since non-literary papyri became available to scholars in large quantities, research on the texts had not progressed much after the groundbreaking work of Adolf Deissmann (Deissmann 1901, 1911) and his followers, culminating in Edwin Mayser’s (1906–1970) grammar of the Ptolemaic papyri. Similar observations were made in other, contemporary studies: Arthur Verhoogt, for example, noted that while ‘it is not often that a language can be followed in this detail in writing for a period of over one millennium’, the attention of linguistic specialists to the material had been ‘relatively minimal’ (Verhoogt 2010, 67).

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Significant advances have been made in the past decade, perhaps most visibly in the area of digital humanities: digital tools such as the Duke Databank of Documentary Papyri and Trismegistos have been expanded and further developed, now also including linguistic functionalities, and new tools have become available that facilitate accessing and studying specific corpora, their metadata and their linguistic and graphic characteristics, including PapPal, PapyGreek, and Synallagma. Now that the field is developing so rapidly and extensively, it has been suggested that the twenty-first century will come to be known as ‘the century of digital papyrology’ (Reggiani 2017, 9–10), after the example of the ‘century of epigraphy’ (the nineteenth century) and ‘the century of papyrology’ (the twentieth century).

Considerable progress has also been made in terms of linguistic groundwork properly speaking. A number of areas identified by Evans and Obbink as ‘key issues for future research’ (Evans and Obbink 2010b, 9–12) have been addressed in recent studies, such as scribal norms and practices (e.g. Halla-aho 2018; Stolk 2020; Vierros 2019), linguistic diversity and language contact (e.g. Leiwo 2020; Vierros 2012), and syntactic and other types of linguistic development (e.g. Bentein 2017; di Bartolo 2020). Other important topics that have been explored during the past years include lexicography (e.g. Torallas Tovar 2020), phonology (e.g. Dahlgren 2017), linguistic levels and varieties (e.g. Evans 2015), and rhetorical strategies and politeness (e.g. Papathomas and Koroli 2014). A number of edited volumes, dedicated partly or solely to the language of the papyri, have appeared (e.g. Bentein and Janse 2020; Bentein, Janse, and Soltic 2017; Dahlgren, Leiwo, and Vierros 2024; Leiwo, Halla-aho, and Vierros 2012), and funds for several projects (small- and large-scale) about the language of the papyri have been awarded.¹

The main aim of this volume is to provide a platform that continues the discussion on the language of the papyri, giving scholars an opportunity to present the results of ongoing research; to propose new approaches, theoretical discussions, and methodologies; and to introduce new projects, data repositories, tools, or corpora. In doing so, we also want to stimulate critical reflection on what has been achieved so far and where we would like to be headed in the future. Important questions in this regard are how far ‘the language of the papyri’ as a field of study focusing on Greek and (to some extent) Latin sources should extend to other languages, including, most significantly for the

field of papyrology, Coptic and Arabic; and, more broadly, how far it should seek to relate itself more explicitly to other fields of study, such as epigraphy and paleography.

1.2 Description of the volume

The contributions to the volume—all of which deal with linguistic aspects of non-literary texts—are divided into four main thematic parts, to take into account the different approaches that are followed by individual authors. The four parts, presenting different levels of language, will build into a comprehensive view of the manifold issues involved in language variation and language use in those historical sources that have survived directly to the present day. The papyrological data gives an exceptional diachronic perspective from which to study language in documentary written sources.

The first and largest part of the volume is dedicated to the related issues of multilingualism and scribal practice, with authors paying close attention not only to interactions between the different languages used in Egypt, but also to the way in which individual writers (scribes) varied their writing practices in each of these languages. Sonja Dahlgren ([Chapter 3](#)) reanalyses iotacism in Greek documentary texts from Egypt, by looking into contact between Greek and Egyptian-Coptic as one of the main reasons for the phenomenon. Spelling variation is of relevance to the contribution of Nicola Reggiani ([Chapter 4](#)), as well, which focuses on the different ways in which technical terms—often of non-Greek origin—are written; Reggiani draws his data from Greek papyri dealing with medicine, which, to some extent at least, form a homogeneous corpus of technical texts. Alessia Pezzella ([Chapter 5](#)) approaches the question of language contact by looking into the ways in which Greek words are integrated in Latin papyrus documents from Egypt, for which she proposes a categorisation into subgroups. Fokelien Kootstra-Ford ([Chapter 6](#)) concentrates on Arabic documentary sources, more specifically variation in case inflection, which she approaches from a historical sociolinguistic point of view, confronting developing ideas of a Classical Arabic ‘standard’ with documentary written practice.

While all of the chapters in the volume are in a broad sense ‘corpus-based’, two contributors present findings on the basis of extensive linguistically tagged corpora. Alek Keersmaekers ([Chapter 7](#)) starts the second part of the volume with a contribution about diminutives in Greek

papyri. Such forms have seldom been studied in the past, despite (or because of) their frequency. Keersmaekers shows how new digital methodologies have greatly improved our ability to collect and study these forms, comparing their usage in papyri to other corpora. Marja Vierros ([Chapter 8](#)), too, studies the usage and development of a linguistic feature, the so-called ‘articular’ infinitive, of which the frequency of appearance and popularity in later Greek has been under discussion since the nineteenth century. She has combed through data from digitally annotated corpora, which has enabled comparisons between the language of the documentary papyri, literary prose texts, and the New Testament.

The third part of the volume brings together papers that focus on the syntactic insights that can be gained from studying Greek non-literary papyri. Ezra la Roi ([Chapter 9](#)) discusses the occurrence of the optative; although this form has been pronounced dead or dying, la Roi finds that its use is actually remarkably stable and consistent in the papyri. Victoria Beatrix Fendel ([Chapter 10](#)) deals with the phenomenon of ‘insubordination’—the main-clause use of a generally subordinate form looking into the occurrence of the (former) subordinators ὅτι and ἵνα from a sentence- and discourse-grammatical point of view. Jerneja Kavčič ([Chapter 11](#)) makes syntactic observations about a type of language that is generally avoided in linguistic analyses, namely formulaic language; in particular, she looks at variation in complement structures included in the so-called disclosure formula.

In the fourth and final part of the volume, contributors take a broader, pragmatic point of view towards the language of the papyri, by looking at texts in their entirety, and situating them in the socio-historic context of writing. Amphilochios Papatthomas and Aikaterini Koroli ([Chapter 12](#)) outline the different linguistic ways through which ancient writers could embellish their texts, exploring the socio-pragmatic function of such features in request letters. Marianna Thoma and Klaas Bentein ([Chapter 13](#)) outline the occupational designations that can frequently be found in economic and administrative texts, and to a lesser extent also in informal texts, by categorising them into a number of occupational groups; they then show how occupation—traditionally considered in terms of ‘meta’-data—can be considered as a source in its own right for historical sociolinguistic study. Giuseppina di Bartolo ([Chapter 14](#)) pursues a discourse-analytical approach to understand better how individual particles as well as particle combinations contribute to discourse segmentation in Greek private letters.

The four parts of the volume are preceded by an introductory chapter by Trevor V. Evans ([Chapter 2](#)), one of the editors of the previous volume on ‘the language of the papyri’ (Evans and Obbink 2010a), in which an overview is given of the present state of research and suggestions are made for future progress in the field.

Notes

- 1 Including the two projects in the context of which this book was planned and the ‘New Light from the East’ conference was held in 2022, Digital Grammar of Greek Documentary Papyri (PapyGreek), University of Helsinki (www.helsinki.fi/en/researchgroups/digital-grammar-of-greek-documentary-papyri) and Everyday Writing in Graeco-Roman and Late Antique Egypt: A Socio-Semiotic Study of Communicative Variation (EVWRIT), Ghent University (www.ev writ.ugent.be). Both projects have received funding from the European Research Council (ERC) under the European Union’s Horizon 2020 research and innovation programme (Grant agreement no. 758481 (PapyGreek) and no. 756487 (EVWRIT)).

Online resources

Duke Databank of Documentary Papyri, <https://papyri.info/browse/ddbdp/>.
 PapPal, www.pappal.info/about.
 PapyGreek, <https://papygreek.com/>.
 Synallagma, <https://synallagma.tau.ac.il/ArtlidHomepage.aspx>.
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CHAPTER 2

Researching the language of the Greek papyri

Recent progress and the shape of the future

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Abstract

This chapter considers recent developments in the study of the language of Greek documentary papyri. I begin with a reflection on the ‘Buried Linguistic Treasure’ conference (Christ Church, Oxford, 2006) and the related volume *The Language of the Papyri* (2010), before moving to the exciting progress made since and the vast potential for future development of the research field. I will then focus on some themes that seem to me important topics for consideration in current and future research. These include the challenge of lexicography, the potential and dangers of ‘digital papyrology’, and some lingering ‘blind spots’ in research.

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2.1 Introduction

Language-focused research on Greek documentary papyri is by no means a new phenomenon, but has developed with remarkable speed in recent years.¹ The ‘New Light from the East: Linguistic Perspectives on Non-Literary Papyri and Related Sources’ online conference of February 2022 provided a powerful demonstration. It is especially exciting to observe so much fresh talent engaging from a linguistic perspective with the problems and potential of these ancient documents. This bodes well for the future of the research sphere.

The following treatment aims to look both forward and back (though not far back). The editors of the present volume have consciously linked their work to a 2006 conference, ‘Buried Linguistic Treasure’, which the present writer co-convened at Christ Church, Oxford, and to the volume of studies that gathering generated, *The Language of the Papyri* (2010). It seems timely, therefore, to offer here some reflections on these endeavours, which should serve to highlight the pace of recent progress.

The future appears full of promise for further growth of the field and enrichment by extension of the larger study of postclassical Greek in general. On the other hand, there will always be challenging shoals to navigate. The documentary papyri will never be an easy environment for linguists. Accordingly I want here also to offer some brief observations on issues that seem to me to need careful consideration as we move forward.

2.2 Reflections on the ‘Buried Linguistic Treasure’ conference and *Language of the Papyri* volume

By the early 2000s the idea of a conference on the language of Greek and Latin papyri was exercising my mind. While pursuing doctoral research on the Greek of the Septuagint at the University of Sydney in the 1990s I had discovered a personal fascination also for documentary papyri. My main influences were John Lee, my supervisor, and the early work of our compatriot James (Jim) Adams on the Latin letters of Claudius Terentianus.² From a linguistic perspective the vast potential of these papyri still seemed barely to have been tapped, despite the achievements of previous generations.³ New material continued to be published, and research tools and methods were constantly developing.

I was conscious of important new research being pursued, often by scholars operating more or less in isolation. In 2001 I had commenced what has become a long-term study of the language of individuals in the Zenon Archive as a Research Fellow at Macquarie University. Among other things this brought me into contact with Willy Clarysse of KU Leuven, and I began at once to derive rich benefit both from his brilliantly insightful scholarship and from his astonishing generosity to an unknown junior colleague from the other side of the world. Then in February 2004 I took up an appointment at the University of Oxford as Assistant Editor within the team producing the *Dictionary of Medieval Latin from British Sources*. This fortuitously allowed me great scope to act on my plan, as Oxford offered an especially promising environment for hosting the kind of conference I envisaged.

Once settled in my new role I began approaching likely speakers and exploring funding sources and suitable locations. There were at that time no large-scale research teams working specifically on the language of the papyri, such as those funded in the 2010s at Macquarie, Ghent, and Helsinki.⁴ On the other hand, there were a number of individuals at various career stages who were engaged in relevant work. It was not hard, aiming for quality and inclusivity, to compile a list of possible participants, and both the idea and Oxford itself proved sufficiently attractive to bring together the group I had in mind. The project was supported by Dirk Obbink, at that time directing the Oxyrhynchus Papyri project, who enabled the conference to be held at Christ Church and acted as co-editor of the resulting volume. Also invaluable was the advice and guidance of Jim Adams (All Souls College) and of Alan Bowman and other colleagues at Brasenose College (of which I had become a member in 2005).

‘Buried Linguistic Treasure’ was held over three days (30 June–2 July) in the English summer of 2006. It featured 16 presentations from scholars based at 13 institutions. The speakers were Willy Clarysse (Leuven), Mark Depauw (Leuven and Cologne), Eleanor Dickey (Columbia), Trevor Evans (Oxford), Panagiotis Filos (Oxford), Hilla Halla-aho (Helsinki), Patrick James (Cambridge), Peter Kruschwitz (Berlin), John Lee (Macquarie), Martti Leiwo (Helsinki), Raffaele Luiselli (Florence), Brian Muhs (Leiden), Matthew O’Donnell (McMaster Divinity College), Stanley Porter (McMaster), Ian Rutherford (Reading), and Francesca Schironi (Harvard). Anna Morpurgo Davies, then recently retired from the Chair of Comparative Philology at Oxford,

opened the event, and other luminaries enriched the experience by serving as session chairs, namely Jim Adams, Alan Bowman, John Lee, Fergus Millar (Oxford), John Tait (University College, London), Dorothy Thompson (Cambridge; President of the International Association of Papyrologists), and Andreas Willi (Oxford).

That the venture had hit its mark was immediately apparent. A highly congenial atmosphere was created by the blend of established academics and newer faces who attended (among them Marja Vierros). In fact I have attended few conferences over the course of my career that have matched 'Buried Linguistic Treasure' in collegial spirit and human warmth. The papers and formal discussions were engaging and complementary. There was a buzz of enthusiastic conversation in the tea breaks, and scholars approaching the material from primarily historical or literary perspectives seemed to find the content as stimulating as the linguists. Not even the competing drama of a FIFA World Cup reaching its quarter-final stage and the seemingly inevitable demise of the England team in a penalty shootout with Portugal on our second afternoon could distract the participants for long. There seemed to be a general feeling that we were involved in something valuable and full of potential for future development.

Be that as it may, the moment captured at 'Buried Linguistic Treasure' would probably have had limited impact without the related volume that followed. This brought the work of the conference to much wider attention both within the discipline of papyrology and more generally among classicists, biblical scholars, and others. All the presenters contributed chapters, and we were also able to include an additional chapter by Anastasia Maravela-Solbakk (Oslo), who made contact with me in the wake of the conference, along with a general introduction from the editors. Most of the editing process was accomplished under the expert guidance of Hilary O'Shea and her team at Oxford University Press, after my return (in 2007) to Australia to take up a continuing post in what was then the Department of Ancient History at Macquarie University. The book, titled *The Language of the Papyri*, appeared in 2010.⁵

Taken together the studies provide a good sense of the state of relevant research at the time, focusing on various aspects of diachronic change, synchronic diversity, and language contact. They also illustrate the importance of close interaction between linguistic and other types of analysis (for instance, onomastic, prosopographic, and

palaeographic) in approaching papyrological data. The volume showcases then-current problems and methods and the overall promise of the field.

‘Buried Linguistic Treasure’ and *The Language of the Papyri* marked a stage in our collective scholarly journey. I do not mean to overstate their significance, but think it fair to claim they also played a role as a catalyst. In combination they harnessed and fostered an energy that has led to other conferences, projects, and outputs.⁶

2.3 The shape of the future

The evolution of this sphere of research over the ensuing years has been astonishing. ‘Linguistics and papyrology,’ as one seasoned observer remarked to me recently, ‘have found one another at last’. That comment, for all its lighthearted tone, conveys a sense of the progress made. I now want to shift my focus to the current situation and the glimpses it offers of the shape of our field’s future.

The introduction to *The Language of the Papyri* itself offered a set of suggestions for future research, proposing a range of topics felt to deserve special attention. These included reassessment from a linguistic perspective of traditional papyrological terms and concepts, genre and register, bilingual interference, natural diachronic change, levels of education, and syntax (in general), while the importance of exploiting technological advances was also stressed (Evans and Obbink (2010), 9–12). Progress has since been achieved on all these fronts, but the *Rays of Language* collection also manifests renewed and productive interest in the more ‘traditional’ focus areas of orthography and morphology. What becomes ever clearer is that important work waits to be done both on understudied or completely fresh topics and on those treated in detail by earlier generations of scholars. We can reasonably conclude that we are still at a point where any avenue of linguistic research on the papyri is likely to yield exciting results.

At the same time some issues are emerging that seem to me to threaten our momentum and effectiveness. In this sphere of research, energy and enthusiasm need always to be balanced against due caution. I want to address here one major (and generally neglected) desideratum and to urge care in relation to some other aspects of our work. The following topics ought at least to be held in mind by our community of researchers as we move forward.

2.3.1 The challenge of lexicography

Lexicography is a large elephant sitting quietly in the corner of the room at every conference concerned with ancient Greek. The state of this discipline is a fundamental problem that most scholars seem, deliberately or accidentally, to ignore. Understanding the meanings of words is at the core of most things we do in ancient-world studies, but we tend to rely on old lexicons and outdated approaches. Recent publications such as James Diggle's *Cambridge Greek Lexicon* (Diggle et al. 2021; henceforth *CGL*) and the *Brill Dictionary of Ancient Greek* (Montanari et al. 2015) have done little to improve the situation. The former is methodologically flawed (see n. 8); the latter is essentially a retranslation into English (from Italian) of *LSJ* and is largely inferior to it (for a valuable appraisal, see Lee 2022).

How hard can it be to do lexicography? If one can translate a word, surely one can write a dictionary entry for it. This is true if all one wants is a collection of glosses, the method of dictionary-compilation that goes right back to antiquity. Still commonly practised, it produces translation equivalents (glosses) for individual instances of a word and yields unsystematic results. What we really need is lexicons that apply some form of the definition method of analysis,² based on the methodology pioneered by James Murray for the writing of the *Oxford English Dictionary* in the nineteenth century and successfully applied to classical Latin literature by Peter Glare in the *Oxford Latin Dictionary* (Lee 2003, 11–12, 19–20). The definition method aims to explain systematically all meanings of a word. There are hardly any lexicons that apply it effectively to ancient Greek material, an example being Takamitsu Muraoka's *Greek–English Lexicon of the Septuagint* (Muraoka 2009).⁸ Part of the reason for their rarity is that this method is not easy to apply and inescapably absorbs large amounts of time. Not everyone is suited to it.

As it happens, the treatment of ancient Greek documents is in a decidedly worse state than the literature, which at least has coverage in the form of glosses that we can make work for us as individual scholars. To a large degree we are still reliant in the case of the documents on the limited coverage in *LSJ* and the pioneering *Wörterbuch der griechischen Papyrusurkunden* of Friedrich Preisigke and Emil Kießling (Preisigke and Kießling 1925–1993). Both outputs are old-fashioned glossing dictionaries and are seriously out of date. The *Wörterbuch* has

turned into a word list (for discussion, see Cipuseva and Evans forthcoming; see also Clarysse forthcoming).

There is an urgent need for fresh lexicographic study of the documentary papyri that applies the definition method. We must accept that this work will be hard and slow by its nature as well as facing all the usual challenges of linguistic research on the material in question. The very extent of the vocabulary preserved in these documents is daunting, involving numerous new words and new meanings of known words. Without such work, however, all our efforts concerning the language of the papyri will rest on unsafe foundations.

Who will take on the task? To replace Preisigke and Kießling's *Wörterbuch* would involve a vast amount of work. Even its contemplation may seem vaguely horrifying. But despair is unnecessary. One feasible approach is to investigate single archives or assemblages and thus gradually build a measure of control over the material. To this end John Lee and I have been working for over a decade on a Greek–English Lexicon of the Zenon Archive. We are making promising progress, dealing with a vocabulary of 5,500 words, which is large for a corpus of its size, but certainly manageable. I would encourage others who have training in the definition method of lexicography to consider similar projects.

2.3.2 *The potential and dangers of 'digital papyrology'*

Let me now turn more briefly to some additional observations. The development of digital papyrology has proved a crucial step in recent times. Its value for supporting analysis of large quantities of data is clear. I doubt anyone now engaging seriously in work on the language of the documentary papyri could be doing so without employing digital resources to enhance the scope of that research. We live in a time where the older digital resources some of us used to wrestle with (for instance, manipulating lexically tagged data to investigate syntactic phenomena) are being adapted to support linguistic research more effectively, and new resources that are specifically designed for our sort of work are being produced. These advances are very welcome (for a recent overview see Depauw forthcoming; also Reggiani 2017–2024).

So what are the dangers? The massive scope for macro-level analysis that digital resources bring is obviously important. On the other hand, we have a great deal still to gain from micro-level analysis. We can glean extremely valuable information from close observation of a

single archive or even of a single document. Jim Adams was a master of this, sometimes in relation to quite unpromising texts.⁹ Nor will statistics ever provide entirely satisfactory answers in themselves. Attention to contexts is also needed. To reverse an old saying, we want to be wary of missing the trees for the wood. I will not tease the idea out further here, but want to stress that micro-level analysis will always reward the effort required for its execution and that we can expect it to produce significant results in our field for the foreseeable future.

2.3.3 *Some lingering blind spots in research*

The *Rays of Language* collection focuses almost exclusively on the evidence of documentary papyri. That is perfectly understandable. Ultimately, however, the support on which a text is written is not in itself important. It is the type of text that is significant. We ought to be careful not to be constrained by some old myths and blind spots in our approach to the material.

For instance, the notion that inscriptions preserve more formal writing and documentary papyri lower-register material still seems to be quite common, as if it were universally true, and that can encourage a tendency to separate their evidence more than is appropriate. Certainly the majority of inscriptions are formal in character, but not all. Some types of graffiti and funerary texts are obvious examples. On the other hand, the range of language types preserved in the documentary papyri covers all registers. To categorise these as generically low-register would be a serious mistake, as inaccurate as the assertion that they reflect everyday spoken language. These sorts of old-fashioned assumptions are embedded in the modern literature, and in mainstream ancient-world studies in particular there is always a danger of them reappearing and gaining a fresh lease of life. We will need to be vigilant on this front.

At the same time we need to exploit all relevant evidence in our work. The danger of segregation of language specialists in papyrology or epigraphy or any other specific field must be resisted. Different kinds of evidence are unique in certain respects, preserving special evidence for language-type, handwriting, format, and so on, and not all kinds of evidence are equally accessible at present; but if we lose sight of the connections between them and ignore any kind of source, we run the risk of missing important information.

The evidence of the inscriptions is especially significant for those interested in the language of the papyri. I offer a revealing example. John Lee completed his *Lexical Study of the Septuagint Version of the Pentateuch* in 1970 (though the work was not actually published until 1983; see n. 1). He used the evidence of Ptolemaic papyri very effectively for purposes of comparison, but also made the following prescient observation: ‘it is certain that [the inscriptions], if thoroughly investigated, would have much relevant information to offer’ (Lee 1983, 147).

The point is powerfully demonstrated in Lee’s *Greek of the Pentateuch* (2018) in relation to the contract verb παρακαλῶ in the sense ‘beg, entreat, request’.¹⁰ In the earlier study he had examined this meaning of the verb in a brief note among examples of new semantic developments in old words. Instances of the sense are identified in two third-century texts, one in the Greek translation of Deuteronomy and possibly another (partially restored) in a Zenon Archive papyrus (Lee 1983, 83). In the 2018 book Lee uses electronic searching (unavailable in 1970) to turn up some still clearer examples in early papyri (including at least one more from the Zenon Archive). There are even some possible occurrences in classical prose, though this being a difficult word to analyse lexically it is hard to be absolutely sure. The evidence of inscriptions, meanwhile, proves vitally important in filling out the picture. The electronic tools reveal that the word παρακαλῶ occurs in these texts ‘hundreds of times’ and among them are ‘many instances’ of the relevant sense, ‘dating from III [BCE] onwards’ (Lee 2018, 11).

This example strikingly illustrates the point that we run the risk of neglecting important information every time we overlook the evidence of inscriptions. It is well known that they are not easy to work with and that the level of accessibility and organisation of metadata we already enjoy for papyrological evidence remains an elusive goal in the case of inscriptions. Nor have linguists always been well served by epigraphic editors. The common refusal to date documents within a realistic range, for instance, and the regular assumption that restored readings are certain are ongoing sources of frustration, but the fact that the inscriptional evidence can be hard to use is not an excuse to ignore it.¹¹

We are still some way short of effectively linking other relevant sources of evidence as well. I will mention just one more, the language of the Septuagint. This has in the past received limited attention in

mainstream scholarship, but also has a great deal to tell us once we establish the nature and degree of bilingual interference in each translated text (for discussion, see e.g. Evans 2022).

The preceding observations are leading us towards a crucially important general point. We must never forget that our work on the language of the documentary papyri and related sources forms part of a much larger study. We still do not know that much about postclassical Greek as a whole. We will never understand it as thoroughly as is now possible unless we move beyond the presently typical practice of interpreting this form of Greek in the terms of grammatical and lexical scholarship focused on classical literature and on the New Testament. The evidence of the documents has a massive role to play here. I would suggest that if we relate our investigation of the language of the papyri (or of whatever other set of sources one might choose) always to that of postclassical Greek as a whole, we will be moving in the right direction as a discipline.

2.4 Concluding remarks

Imagine if large-scale discovery and publication of documentary papyri had started at the end of, say, the seventeenth century instead of the nineteenth. What impact would they have had by now? How much further advanced would the sort of scholarship in which we are all engaged be a quarter of the way into the twenty-first century? The view of the Dutch classicist Simon Slings (1945–2004), put to me privately near the end of his life, was that they probably would not have had much impact at all, and that we would not be any further along the path of interpreting their riches. Scholars would have emended all their novel and interesting features to conform with ideals of classical prose usage, and the texts themselves would probably not have survived.

These thoughts have always resonated with me, and the impression that Slings was almost certainly right has only grown stronger. The tendency of conservative scholarship to ‘regularise’ forms is ongoing.¹² Note also the many curious directions to *l(ege)* ‘read’ forms in the Duke Databank of Documentary Papyri where there is nothing wrong with what is actually written on the papyrus.¹³ As for preservation, we have lost plenty of papyri since their mass rediscovery, for instance those destroyed during the course of the Second World War. Digital and

digitised images, such a crucial advance and safeguard against accidental loss or destruction, are still at time of writing only a recent phenomenon. We are probably lucky the papyri were only found in quantity from the late nineteenth century and that they have only gradually attracted the attention they are drawing now. Linguists may have been slow to engage en masse with the evidence of these fascinating ancient artefacts, but the opportunity to do so in a genuinely effective manner has perhaps only just arrived.

In any case, we are here now, a growing number of interested scholars and scholarly centres keen to study the material with increasingly powerful digital resources available to support our work, and we all understand the enormously rich potential of the material. Over the past decade and a half, research in our field has developed at a pace impossible to envision in 2006, and we can be confident that the period ahead will see it flourish even more. I for one am greatly looking forward to the process, as we continue to build a platform through which we can connect with these ancient languages and thus in the most direct way possible with the people who spoke and wrote them.

Notes

- 1 It is a pleasure to thank the editors, Klaas Bentein and Marja Vierros, for the invitation to contribute to this collection and Genevieve Young-Evans for valuable discussion of the content and arrangement of the chapter.
- 2 John Lee has made extensive use of the evidence of papyri in his own research on the Septuagint; see for example Lee (1983). He also taught a brilliant course on Koine Greek, including documentary papyri, which I had the privilege of taking. For Jim Adams, see for example Adams (1977). It was not until 2003 that I had the opportunity to meet Jim and start learning directly from him.
- 3 For a sense of the earlier scholarship see Evans and Obbink (2010), v, 1–3.
- 4 These are the Words from the Sand project led by Trevor Evans at Macquarie University (Australian Research Council funded 2010–2014), the EVWRIT project led by Klaas Bentein at Ghent University (European Research Council funded 2018–2023), and the PapyGreek project led by Marja Vierros at the University of Helsinki (European Research Council funded 2018–2023).
- 5 This title was not my idea, as it happens, but the Oxford University Press marketers had their way. It elicited explicit or implicit criticism in some quarters on the grounds that it suggested coverage of more than the Greek, Latin, and (to a limited extent) Egyptian documents addressed (see e.g. van Minnen 2013, 339). The application of terms is, for what this is worth, clearly explained in the introduction, where reference is made to other languages preserved in papyri (Evans and Obbink 2010, 3–4), and with the passage of time I find myself increasingly

content that the title served its purpose, attracting attention to a collection that provided a focal point for an evolving movement.

- 6 There have been numerous richly valued personal benefits as well, not least that they brought me into contact with scholars of the calibre of Klaas Bentein and Delphine Nachtergaele (Ghent) and Joanne Stolk (Oslo), each of whom joined me at Macquarie University for research visits during their doctoral candidatures in subsequent years.
- 7 On the gloss and definition methods in Greek lexicography see Lee (2003), esp. 15–29.
- 8 The *CGL* makes promising claims about method (Diggle et al. 2021, xi–xii), but close examination of its entries reveals muddled practice, deploying a mixture of definitions and glosses (note that it terms glosses ‘translation words’) that are often not distinguished as clearly as the editors assert.
- 9 See for example the treatment of *PHamb* I 39, a long roll forming a book of soldiers’ receipts for their hay allowance, at Adams (2003), 601–6.
- 10 Lee (2018), 10–15. This treatment partly supersedes that to be found in Dickey (2010), 213–18.
- 11 There are welcome signs emerging of a shift towards more satisfactory practices, especially where the influence of papyrologists can be detected; it is a pleasure, for instance, to note the presentation of material in Bowman et al. (2021).
- 12 Note a recent example, *PMichZen* 29.10 ἀποστηλῶ silently corrected to ἀποστελῶ, at Muraoka (2016), 725 n. 2; this is discussed by Evans (2023), 565 n. 17.
- 13 To give a single example, at *PCairZen* II 59155.3 ἀπὸ χειρός we find the DDbDP annotation ‘l(ege) χειρός’ (the same ‘correction’ is found frequently for short-stem forms from χεῖρ in Zenon papyri; on these cf. Mayser, *Grammatik*, 1.2.42).

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PART I

Language Contact and Scribal Influence

CHAPTER 3

Iotacism in Egyptian Greek

Greek-internal development and transfer effect from Egyptian-Coptic

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Abstract

In this chapter, I examine iotacism as a phonetic-phonological contact linguistic phenomenon in Greek used in Egypt. In many cases, the writers of the documentary texts under scrutiny here were second-language users of Greek, and seem to have transferred both their native-language phonological properties as well as, in some cases, orthographic practices to the Greek they used in Egypt. The variation especially related to iotacism seems context-dependent and different from the free variation in mainland Greek, which is shown in the phonological analysis of this contribution. The context-driven phonological analyses of the different phoneme–grapheme variant pairs are explained in detail that shows the variation to be atypical of Greek as a whole and a logical result of the language contact between Greek and Egyptian-Coptic.

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3.1 Introduction

In this chapter, I explore the possible contact-induced effects of Egyptian-Coptic on Greek iotacism in (Graeco-Roman) Egyptian Greek.¹ Over the years, many articles have been written on different aspects of contact effects in Egyptian Greek, ranging from an overall description of the main Egyptian Greek features (Torallas Tovar 2010) to syntactic (Vierros 2012) and phonological variation in a number of individual corpora by a limited number of scribes (Dahlgren 2017; Dahlgren and Leiwo 2020; Leiwo 2010). A statistical analysis regarding the general amount of contact-induced variation in Egyptian Greek phonology has been conducted by Dahlgren, Keersmaekers, and Stolk (2022), but thus far no extensive analyses over specific phonological phenomena have been attempted. As a point of interest, iotacism has also been disregarded as having been particularly affected by the language contact situation in Egypt because it was widely present in all Koine varieties, while other types of variation, such as variation between /y, u/, /o, u/, and /a, e, o/, seem alien to Greek and can be shown to have roots in Egyptian-Coptic phonology (Dahlgren 2017, 2020; Leiwo 2010). However, iotacism, as much as it most certainly is a Greek-internal development, seems to have had a different route and manifestations in Egyptian Greek, which phenomenon is explored in this chapter.

Gignac (1991) notes many Egyptian-induced contact features in his entry in the *Coptic Encyclopedia*. The entry is short but a welcome addition to the listing of Egyptian Greek phonological variants of Gignac (1976), in which only a few firmer acknowledgements to language contact as a background reason for the variation were made (e.g. Gignac 1976, 55). The entry of 1991 includes a short description of all the main non-standard variation phenomena in Egyptian Greek phonology, from the Egyptian-particular variation in liquids and stops, including nasal dropping and loss of aspiration, to a description of the vowel variation. This includes a description of the well-known monophthongisation, and the development of the second elements of the diphthongs *av* /au/ and *ev* /eu/ to fricatives (resulting in /av, ev/ and /af, ef/, depending on whether the next sound was voiced or voiceless). Gignac goes on to state that the pronunciation of the simple vowels mostly followed that in classical Greek but iotacism was more advanced in Egypt than elsewhere. This, in his view, was due to the impact of the Coptic phonological system, which had fewer high

front vowels than Greek: three in Coptic (ι η ε /i e ε/) against four (ι υ η ε /i y ε e/) in the Roman-period Greek (about quality of eta as a raised variant in the first century BCE to later Roman/early Byzantine periods, see Horrocks 2010, 167). Therefore, part of iotacism would have been caused by simple under-differentiation of some of the vowel qualities in especially unstressed syllables in which the vowel quality might have been less clear (see already Girgis 1966, 87–88 on this); the stress system in Coptic seems to have been very different from that in Greek, especially in having a stronger dynamic stress that resulted in reduction of unstressed vowel qualities (Dahlgren 2017, 133–38). Another contributing factor might have been that the mid-vowels, especially, had such small differences between the languages: η ε were phonemically /e ε/ in Coptic when η ε were /ε e/ in Greek. According to Major (2001, 37), foreign-language sounds that have such minimal differences compared to native-language (L1) sounds might not be noticeable to the second-language (L2) speakers, which often results in imperfect learning of the target language (TL). Furthermore, Gignac (1991) mentions that eta might have been bivalent as in Coptic, sometimes in variation with /i/ and sometimes with /e/, and this could have affected the Greek used in Egypt (see more in [Section 3.3](#)).

As can be seen from this discussion, there were many background reasons as to why there might have been variation in general in the vowel qualities in the L2 Greek used in Egypt. More importantly, the particular variation related to consonantal coarticulation of the higher or lower variants of the front vowels has been studied specifically in the field of Coptology, with reference to the variation in Coptic texts on how standard eta was realised. As the variation in Egyptian Greek was so different from that present in mainland Greek, and is so easily comparable to Egyptian-Coptic phonological features, there seems little point in suspecting anything other than contact linguistic phonological transfer as the root cause of the variation, as explained in more detail in [Section 3.3](#). In [Section 3.4](#), I show evidence of Egyptian Greek iotacism being connected to the bivalency of Coptic eta, and in [Section 3.5](#), I go through the variation types related to Egyptian Greek iotacism. Finally, in [Section 3.6](#) I discuss the multicausality behind the apparent iotacism in Egyptian Greek. But first, it is worthwhile exploring vowel raising in a bit more detail, both in terms of the specific phenomenon linked to Ancient Greek iotacism and as a natural element of some languages in general. In [Section 3.2](#), therefore, I first give

an outline of the long progress of the Greek vowel developments, and then give examples of the same phenomenon occurring in the Great Vowel Shift of English and some of the varieties of World Englishes in today’s world. In addition, we will look at the mechanisms of sound changes in general, including the role of language contact in them.

3.2 Vowel raising as a phonological phenomenon

Iotacism through vowel raising (and fronting) is a well-known phenomenon to all Ancient Greek researchers. It took a long time, roughly a thousand years, for a variety of single vowels and diphthongs to be merged with /i/, at least for the mainland variety of Greek. Thankfully, the Greek phonological development is well studied and documented, and there are numerous sources from inscriptions to papyrological documents through which we can witness these gradual changes in the form of misspellings. Here, I provide a simplified outline of the developments, modified from Horrocks (2010, 160–70), which is worth opening up in this context.

During the first stage of developments, around the ninth century BCE, a new long vowel *[a:] appeared into the vowel inventory as a product of cluster simplification and compensatory lengthening (*pants > *pans > pas [pa:s]). This development caused the rephonologising of the original Indo-European /a:/ to two originally positional allophones: a lower one occurring after /i, e, r/, which merged with the new long [a:], and a higher allophone of the original /a:/, which was pushed up to merge with original /ɛ:/ (η). See [Table 3.1](#) for the process.

During the second stage of developments, c. eighth/early seventh century BCE, original diphthongs /ei/ and /ou/ monophthongised to produce new mid-high vowels /e:/ and /o:/. Since the inherited vowels /ɛ:/ and /ɔ:/ already existed, this led to overcrowding regarding the

Table 3.1: Greek vowel developments, ninth century BCE (after Horrocks 2010, 161)

Development of /a:/ IE /a:/ + *[a:]	Allophonic process	Final merger
1	IE /a:/ → [a:] _{LOW} // i, e, r / _	*[a:]
2	IE /a:/ → [a:] _{HIGH} / elsewhere	/ɛ:/ (η)

mid-vowels, and eventually, as a consequence of this, /o:/ raised toward /u:/, dragging the original /ɔ:/ towards /o:/ and pushing the original /u:/ around to the front axis to become /y:/. This was a real chain shift for the rounded vowels. See [Table 3.2](#) for these developments.

These changes resulted in the classical long-vowel system of Ancient Greek (ι /i:/ εἰ /e:/ η /ɛ:/ α /a:/ ω /o:/ ου /u:/ υ /y:/). However, the relative infrequency of /i:/ and the overcrowding caused by the new long vowel /e:/ had the combined effect of pulling /e:/ towards /i:/ (first pre-consonantal and word-final allophones, then the rest), and eventually these merged. The merger of /e:/ and /i:/ caused original /ai:/ towards the position abandoned by /e:/, which in turn caused /ai:/ to monophthongise, creating /æ:/, later /ɛ:/, filling this vacant slot. [Table 3.3](#) shows the developments of these unrounded vowels.

Table 3.2: Greek vowel developments c. eighth–seventh century BCE (after Horrocks 2010, 161)

Chain shift of rounded vowels original /ei, ou, ɛ:, ɔ:, u:/ + new /e:, o:, y:/	Vowel raising and fronting
1	/ei/ + /ou/ → /e:/ + /o:/
2	/o:/ → /u:/ _{NEW}
3	/ɔ:/ → /o:/, /u:/ _{ORIG} → /y:/

Table 3.3: Greek vowel developments after the seventh century BCE: the beginning of iotacism (after Horrocks 2010, 162)

Chain shift of unrounded vowels infrequent /i:/ + new /e:/	Developmental stages	Final merger
1a	/e:/ → /i:/ / _C, _#	
1b	/e:/ → /i:/ elsewhere	/e:/ → /i:/
2	/ɛ:/ → /e:/	/ɛ:/ → /e:/
3a	/ai/ → /æ:/	
3b	/æ:/ → /ɛ:/	/ai/ → /ɛ:/

This change of vowel qualities caused an overcrowding of the front axis, which went through simplification, again in two stages: first, a second raising of /e:/ to /i:/, and then a corresponding upward drift of /ɛ:/ towards the vacated position. In addition, roughly in the same period the quantity distinction was lost, related to the shift from the primary pitch accent to a primary stress accent. See this development in [Table 3.4](#).

This system eventually merged with the short vowel system, which had only changed in the fronting of original /u/ to /y/. The short vowel inventory at this point was /i, y, e, a, o/, which then gave way to a new six-vowel system with /u/: /i, y, e, a, o, u/, possible after the loss of vowel quantity around the time of the previous set of developments listed in [Table 3.4](#). This final development was in place until c. eighth–ninth century CE (Horrocks 2010, 162).

However, this was not the end of the vowel developments; the remaining diphthongs developed further. /oi/ developed in a slow but consistent motion toward the final /i/: first into /øi/, then to /æi/ or /øi/; this monophthongised to /æ(:)/ or /ø(:)/ and finally raised to /y/; eventually /y/ lost its lip-rounding and merged with /i/ (middle Byzantine period; Horrocks 2010, 166).

/ɛi/ seems to have partly fallen together with /e:/ from the late fifth century BCE onward, and /au/ and /eu/ developed, via bilabial fricatives, into /af/, /av/ and /ef/, /ev/, respectively, with the voiced variants /av, ev/ occurring before vowels or voiced consonants, and the voiceless /af, ef/ elsewhere. From c. 900 CE onwards Greek had a five-vowel system /i, e, a, o, u/ with no diphthongs. [Table 3.5](#) gives a simplification of these vowel changes coming from Ancient to Modern Greek.

Table 3.4: Greek vowel developments: continuing iotacism (after Horrocks 2010, 162)

Simplification of vowels overcrowding of the front axis	Final merger
1	/e:/ → /i:/
2	/ɛ:/ → /e:/

Table 3.5: Greek vowel changes from 900 BCE to c. 900 CE

Time period	Vowel changes
900 BCE	/i: e: (æ:) ɔ: u: y:/ *[a:]→ [a:]/[i, e, r]; /a:/ > /ɛ:/ /ɔ:/ > /o:/
1) 800–700 BCE	/i: e: ɛ: a: o: u: y:/ /ei/ > /e:/ /ou/ > /o:/ /o:/ > /u:/ /u:/ > /y:/
2) 800–700 BCE	/i: e: ɛ: a: o: u: y:/ /e:/ > /i/ /ɛ:/ > /e:/ /ai/ > /æ:/, /æ:/ > /ɛ:/ Shift from pitch to stress Loss of vowel quantity /i/ y e a o u/ Merger of long and short vowels
→ 800–900 CE	/i y e a o u/ /au/, /eu/ > /af/v, ef/v/ /oi/ > /ei/ /ei/ > /æi/ or /øi/ /æi/ or /øi/ > /æ(:)/ or /ø(:)/ /æ(:)/ or /ø(:)/ > /y/ /y/ > /i/
~900 CE→	/i, e, a, o, u/

Note: There are two stages in 800–700 BCE.

The raising and fronting of these many vowel qualities in Greek had quite a dramatic effect on the vowel system: at best and for a long time, Greek had seven vowel qualities (800–700 BCE to 800–900 CE) and besides that, six diphthongs at various stages of the development, which, however, seem to have been in a constant state of monophthongisation. But then, from approximately the start of the Koine period onwards, this state of affairs was gradually reduced to a five-vowel system, with no diphthongs. More importantly, very many of the vowel qualities that disappeared in this process merged with /i/, which is quite remarkable. However, Greek iotacism is not without counterparts.

There are parallel developmental lines in other languages to what happened with the Greek vowel qualities. One of the most famous phonological developments, the Great Vowel Shift of English in the Middle Ages (shown in [Figure 3.1](#)), is a very close parallel to what took place in Greek. Many of the changes in vowel qualities over the centuries are

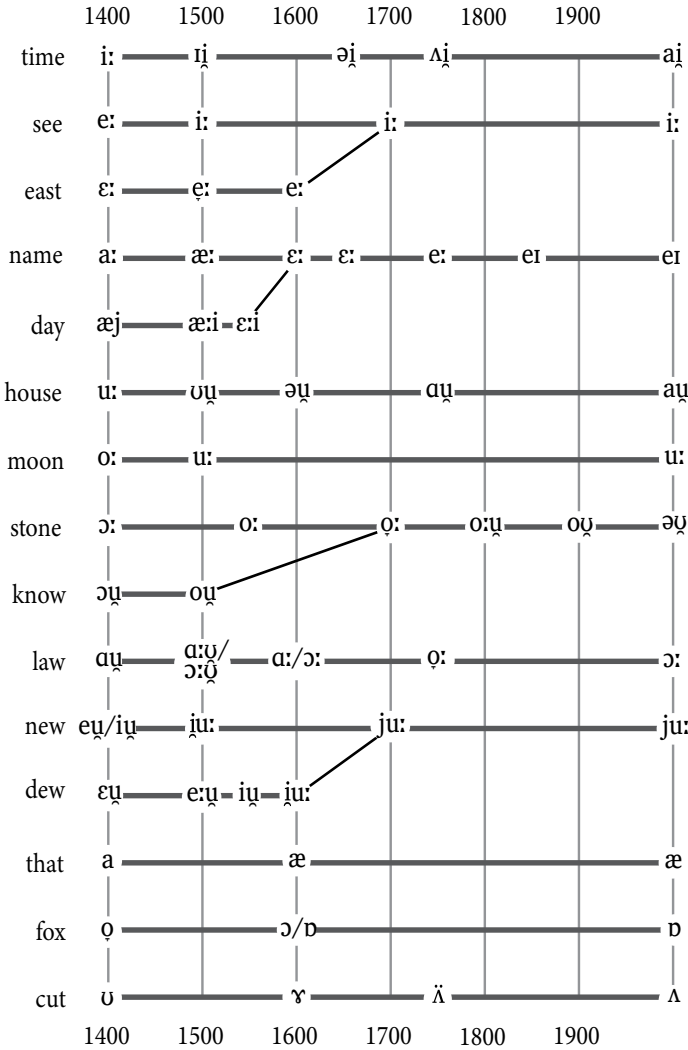


Figure 3.1: The Great Vowel Shift of English (modified from Olaf Simons, 'The Long and Short Vowels of English, Pronunciation 1400 to Today', 16 December 2007, Wikimedia Commons)

identical to the changes in Greek, and others very close to the Greek developments.

Middle English in Southern England had seven long vowels before the Great Vowel Shift: /i: e: ε: a: ɔ: o: u:/. This looks very much like the vowel inventory of Ancient Greek from 800–700 BCE, with some differences within the set of rounded vowels: Middle English did not have /y/. The original /i:/ of Middle English eventually developed into a diphthong, which has not happened in Greek. However, the original /e:/ developed into /i:/, as well as /ε:/, which developed through a lowered quality of /e/ (/ɛ/). This is a similar development to Greek eta raising through a raised quality of /e/ (/ɛ/) to /i/ in the Hellenistic era, the /e:/ from /ei/ before that. The Middle English /a:/ and /æj/ combined raising to /ε:/ share a close parallel development to the raising of 900–700 BCE Greek /a:/ through /ε:/ to /e:/, and a retracted development of that to first /ai/, then to /æ:/, and finally back to /ε:/. Furthermore, of the rounded vowels, /ɔ:/ raised to /o:/, and consequently /o:/ raised to /u:/, as it did in the 800–700 BCE phase of the Greek vowel development, although in Greek that is where the development stopped. In English, the development of /ɔ:/ carried on to form a diphthong (/o:u/ and further to /ou/ and onwards to /əu/). By contrast, the /u/ of Middle English lowered into /ʌ/, and towards Modern English further into /ä/ and on to /ʌ/, whereas in Greek the original /u/, marked with the letter ypsilon, first fronted into /y/ and finally merged with /i/ (see Lass 2000, 56–186 for the English developments).

However, the Great Vowel Shift of English did not fully spread to every part of the country. In Northern English and Scots varieties, the Middle English /u:/ (e.g. *house*) did not develop into a diphthong but stayed as /u:/ (e.g. *house* [hu:s]). Northern Middle English had two close-mid vowels: /e:/ in *feet* and /ø:/ in *boot*. These were raised to /i:/ and /y:/, respectively. Later Northern English /y:/ changed to /i:/ in many dialects (though not all, and Scots provides evidence of a different developmental pattern; Macafee and Aitken 2002). After this, *boot* had the same vowel quality as *feet* (Lass 2000, 76). This development is exactly the same as the Greek one described in [Table 3.5](#): in the phase of 800–900 CE, the diphthong /oi/ started its development to the final merger of /i/, through the intermediate stages of first /oi/ > /øi/, then /øi/ > /æi/ or /øi/, then /æi/ or /øi/ > /æ(:)/ or /ø(:)/, then /æ(:)/ or /ø(:)/ > /y/, and finally /y/ > /i/. This developmental pattern has continued in many of the varieties of English, including Scottish

English, Australian English, and New Zealand English, to start with (e.g. Watson, Harrington, and Evans 1998, 205; especially New Zealand English). Modern Scottish English provides a very close parallel to the vowel inventory of the developmental stage of early Roman-period Greek, at least in Egypt, apart from still having diphthongs: /i(:), ɪ, e, ε, a, ʌ, ɔ, o, u(:), ae, (ʌɪ), ʌɐ, ɔe/ (Scobbie et al. forthcoming).

As can be seen, the developmental stages and the end results, as well as the time the changes took, are not very different between English and Greek. On the whole, much of the variation in the English Great Vowel Shift concerns raising of vowel qualities, as it does in Greek. In addition to English, the diphthongs /ai/ and /ou/ have merged and raised to /e/ and /u/, respectively, also in, for example, French and Swedish. In general, monophthongisation is a common sound change, and because of monophthongisation taking place in the first place, it was easy for the vowel raising to take place in Greek as well as in, for instance, English. On the whole, changes concerning vowel raising are quite common (low vowels to mid or high vowels, or mid-vowels to high vowels); long and tense vowels rise higher particularly frequently. Often, these types of changes lead to a reorganisation of the whole vowel inventory, a phenomenon known as a vowel shift (exactly like the Great Vowel Shift in English; Campbell 1999, 40). Perhaps, then, considering the long history of the continuous Greek developments, this was unavoidable, given that there are always sound changes in languages and Greek had so many vowel qualities: depending on the stage of development, six or seven with long and short counterparts, and some relatively rare vowel qualities, such as /y/, which is rare cross-linguistically with only c. 6 per cent of the world's languages having it (Maddieson 2013). The Greek vowel development we know as 'iotacism', while more extensive than in most other languages, is thus not without similar developments in other Indo-European languages, nor indeed others (see e.g. Schmidt 1996 for Basaa; Al-Wer 2002 for Arabic in Amman). But what causes these types of extensive sound changes?

One of the leading theories assigns this phenomenon to the need for symmetry in languages. Regarding vowels, it is seen that symmetry is most widespread on the vertical axis of vowel systems, in the case of both triangular and quadrangular systems,² but only quadrangular systems have symmetry on the horizontal axis. The idea behind this theory, coined by the Structuralists, was that segmental units in languages were organised in symmetrical formations in terms of, for

example, height and backness for vowels, matching with the notion of markedness (Salmons and Honeybone 2014, 36). Greek, of course, had a triangular vowel system with only one low vowel, /a/, and perhaps as a result of this, most of the diachronic development took place on the vertical axis; in fact, everything apart from the fronting of /y/ to /i/ concerned raising of vowel qualities. Symmetry is also the understanding of the Greek vowel development by Horrocks: the system frequently became overcrowded in one part or another due to some vowel quality or quantity developments, which caused chain reactions, and finally there was a five-vowel system in place (Horrocks 2010, 160–63). It seems unlikely to develop any further because so much of Greek vocabulary is tied to etymological connections and this is unlikely to be replaced with novel vocabulary on a larger scale, so any further changes (for example, the merger of /o/ with /u/ or /e/ with /i/) in the vowel inventory would create too many homonyms.

Besides everything else, however, in all instances of linguistic developments, the possibility of language contact must be taken into account. In contact varieties, this should be the starting point of the language analysis. Indeed, language contact is one of the speculated reasons also behind the developments in Middle English. The rapid migration of peoples from the east and central Midlands to the southeast of England after the Black Death has been considered a likely factor in much of the language variation related to the Great Vowel Shift: the clash of dialects following this large-scale population migration would have caused the original habitants of London to distinguish their speech from that of the newcomers by changing their vowel system (Montgomery et al. 2007; see also Crystal 2018, 55). The generalisation can be made that changes occur in languages via two routes: internal language development, including sociolinguistic variation, and development caused by contact with another languages. Each can independently of the other have the same results but naturally, contact effects can also reinforce changes already in progress in a language. Joseph (1982) gives two examples of very famous language developments: the absence of infinitival verb forms and the use of finite forms instead of these as one of the strongest examples of pan-Balkanisms, and the contrast between dental and retroflex consonants as a familiar feature of the Indo-Aryan languages. According to Joseph, both scenarios have been explained to have resulted from language contact as well as through language-internal developments. For the Indo-Aryan languages, it is supposed

by some scholars that the new development was caused by contact with Dravidian or Munda with this opposition, and by others that it was caused by regular phonetic developments in early Indo-Aryan that either directly caused or otherwise enabled them. To Joseph it seems probable that in Indo-Aryan the two routes might have co-occurred; some language-internal features must have contributed to the fact that such a change was possible in a given contact situation. By contrast, in the case of the Balkan Sprachbund, he thinks it unlikely that all the languages would have independently gained such a linguistic feature common to all of them without the geographical closeness and possibility for language contact (Joseph 1982, 1–3).

Of course, it is also possible that what is, in fact, a contact effect, will go unnoticed if it looks feasibly the same as the language's internal development. 'Iotacism' in Egyptian Greek, as displayed by the language use of the L1 Egyptian, L2 Greek users, could well be one such case. When the two factors, the smaller front vowel inventory of Coptic and the Greek front vowel raising, inhabited the living space of the developing Egyptian Greek at the same time, it is possible that under-differentiation and the related confusion of the Greek front vowels just happened, by a weird coincidence, to take place at the same time as these front vowel qualities were merging in Greek language-internally. No doubt, any difficulty for the Egyptian L2 users of Greek in distinguishing the exact small differences between the front vowels of Greek was made all the greater by the L1 Greek users' developing tendency to merge them with each other. But in addition to these circumstances, there was also something more specific, related to the phonological structure of Egyptian-Coptic, at play in this variation.

3.3 Bivalency of Coptic eta

The Coptic vowel inventory has been described in two different ways: with a quantity difference, or based on different qualities. In the first, eta was simply a longer version of epsilon and omega of omicron (e.g. Hintze 1980; Loprieno 1995; Schenkel 1990). In the latter analysis (based on qualities, not quantities), eta was a closed /e/ and epsilon an open one /ɛ/; omega was a closed /o/ and omicron an open /ɔ/ (e.g. Greenberg 1962; Peust 1999, 201). In this chapter, I follow the analysis based on the quality differences. Besides the variation related to iotacism, the quality-based analysis also explains much of

the (stress-related) variation related to /o, u/ in Egyptian Greek (Dahlgren 2017, 83–90). Variation between <ē, e> and <o, ou> has also been proven statistically to be closely related regarding the most transparent Egyptian-induced contact features in Egyptian Greek (Dahlgren, Keersmaekers, and Stolk 2022, 342).

Coptic was the first form of the Egyptian language that had the whole set of vowel graphemes at its disposal. It borrowed the alphabet from Greek, and therefore ended up with an eta of its own. Differently from the Greek eta, however, the Coptic eta frequently had two graphemic variants in foreign-language transcriptions: ι <i> and α <a> (Lambdin 1958, 179). This peculiarity has naturally attracted research into its origins, with various explanations related to etymological forms and/or phoneme environments. The latter seems to explain most of the variation quite neatly, and is in concordance with the Egyptian-Coptic tendency of consonant-to-vowel coarticulation (see some comments in accordance with this for Coptic in Gignac 1976, 261–62; Peust 1999, 228–30); Gignac (1991, 187) remarks on frequent variation dictated by the phonetic environment between <i>, <ei>, <e>, and <ē> in Greek papyri; full discussion regarding this Coptic phenomenon related to Egyptian Greek misspellings can be found in Dahlgren (2017, 106–12 and 130–31). If we accept phonetics as the background reason for the bivalency of the Coptic eta, we are essentially talking about under-differentiation of the Greek vowel qualities, and these under-differentiated vowel qualities having been affected by the surrounding consonantal contexts (consonant-to-vowel coarticulation in phonetic terms). This type of under-differentiation could cause variation in which original eta would be realised as iota, epsilon, or even alpha, depending on the phoneme environment of the variation in question, that is, whether the surrounding consonants would draw the vowel quality up or down (see more in [Subsection 3.5.1](#)).

Gignac is not the only Coptologist to have noticed this feature in Coptic; already Girgis (1966, 73) gives many examples of the consonantal effect on vowels, as well as Worrell (1937, 1–7) and Kahle (1954, 52) even earlier than him. ι <i> and α <a> are, of course, not the only possible graphemic variants related to eta, as we might guess from the non-standard variation of the front vowels in Egyptian Greek. Therefore, we also have epsilon as one of the variants, and indeed, the same types of variants occur in Egyptian Greek (Dahlgren 2017, 79–80 and 106–12), which we will have a look at next.

3.4 Evidence of transfer effects from Egyptian-Coptic to Greek in Egypt

There are many examples in the Greek documentary texts from Egypt of similar vowel variation concerning iota as in the Coptic material discussed in [Section 3.3](#). However, because of the variation mostly concerning ι, ε, η, υ, οι /i, e, e/i, γ, oi/γ/, it does not completely match the more radical contextual variation described above between /i/ and /a/ in Coptic texts, and looks more like the type of *iotacism* we are used to seeing in Greek texts regarding Greek-internal phonological developments. It is important to understand that the variation is not tied to specific vowels but concerns a general phenomenon in which the vowel qualities are heavily affected by the surrounding consonant qualities. Regardless, the situation is somewhat difficult to interpret without a context-dependent statistical analysis: In which instances does the variation in Egyptian Greek texts take place in the same consonantal environments as in the Coptic material, even if vowel variation does not go as low as α /a/ but remains as ε /e/? And is this variation statistically significant or can it be considered random variation?

One point of detection can be taken from the variation with ε /e/; it is not one of the usual variants within Greek-internal *iotacism*, and it also has interesting variation within Greek loanwords in Coptic between ι, ε /i, e/ε/, as in example (1).

- (1) λΕΒΕΝΟΥ[ε] <lebenou[s]> <ΛΙΒΑΝΟΣ <libanos> (λίβανος) (P.Hamb. bil. 1 3.6)

This example, one of many in the Coptic documentary material, shows how shaky the representation of the Greek original vowel qualities sometimes was, under the pressure of the surrounding consonants (in this case, both vowels are affected on either side of the bilabial /b/). But what is more important is whether that variation is random or contextual, in the latter case taking place in consonantal environments that could cause the vowel in question to raise or lower from its original quality, as, interestingly enough, example (1) shows for both directions.

The overall phenomenon of the bivalency of eta is in Coptic related to variation in the front vowel axis, resulting in high or low variants within the continuum [i, e, ε, a]. There is some variation with οι /oi/, but variation with υ /γ/ is mostly tied to other graphic variants for /i/ because in Egyptian-Coptic there was no phoneme /γ/ (Peust 1999,

201). Therefore, Greek /y/ was highly under-differentiated and mostly resulted either in [u] or [i] with Egyptian writers, corresponding in variants that correlated with the spoken language level, in which this foreign phoneme would have been integrated into the native-language phonological system and replaced with the closest phoneme that resembled it in quality. The replacement with /u/ keeps the roundedness of the original /y/ in Greek (e.g. in *πυρου* <pourou> from the standard *πυροῦ* <pyrou> in O.Narm.1.42 & 46, first–third century CE), and the replacement with /i/ keeps the frontness of it (e.g. in *Μιὺς* from *Μιὺς* in Basp 51.62, 352 CE). The vowel variation in Egyptian Greek was not isolated from the diachronic development of Greek phonology: it was tied to the timeline of the Greek phonological developments and the fronting of /y/ to /i/ in Greek (Dahlgren 2017, 68–76). Nevertheless, unlike in iotacism in the mainland Greek variety, most of the variation in Egyptian Greek is connected to the effect of consonants on the vowels on the front axis, affecting the height of the vowel qualities. On the surface, much of it does seem the typical kind of Greek iotacism, for example the variation between iota and eta. However, when the consonantal contexts are analysed, it becomes clear that the variation is founded on consonantal coarticulation, that is, the vowel quality adapting to the quality of the surrounding consonants. Therefore, coming back to the theme of multicausality introduced in [Section 3.1](#), it seems likely that this type of variation might have appeared in Egyptian Greek even without the Greek-internal phonological developments, although it is similarly true that those developments played a part in the general outcome as in, for example, the variation related to ypsilon. But theories aside, let us next look at what Egyptian Greek ‘iotacism’ looked like, the vowel qualities having been affected by the consonantal surroundings. The outcome resembles the variation related to the bivalency of Coptic eta almost exactly.

3.5 Variation in Egyptian Greek ‘iotacism’

The variation related to the bivalency of Coptic eta is abundant. Variation related to *ε* /ei/ and iota has been left out of this analysis because it seems to have raised to /i/ for a majority of writers by the early Roman period, even for the Narmouthis scribes, who, more than most writers, have variation even related to /u, y/, which is not very common in Egyptian Greek (Dahlgren 2017; Dahlgren, Keersmaekers, and Stolk 2022).

3.5.1 Variation between eta /ɛ/i/ and epsilon /e/

Studying variation between eta and epsilon in Egyptian Greek is interesting from multiple viewpoints. First, eta is part of the continuum of iotacism both from the Greek-internal point of view as well as from that of Egyptian-Coptic contact-induced 'iotacism'. Eta had, by the Roman period, raised to /i/ in standard Koine Greek, so it should not have non-standard variants with epsilon. According to Teodorsson (1978, 94–96), eta still had the quality /ɛ:/ in the mid-fourth century BCE Athenian Attic conservative system (i.e. the spoken language of the aristocracy), while in the 'majority' system of the moderately educated majority, a separate system still from the 'vulgar' system of the poor, eta had already raised to /i/ by c. 350 BCE (Teodorsson 1978, 286–99). According to Horrocks (2010, 165), this progress appears to have been slowed down by the growing political influence of the conservative Macedonians, which restored the prestige of the more conservative pronunciation of the previous century; this is, perhaps, a relevant development regarding Egyptian Greek. Furthermore, Horrocks does not agree with the dating of Teodorsson for the majority system nor, most importantly for this chapter, the completion of the merger of eta with /i/ this early; according to him, the changes related to that, and, for instance, the change in the stress system should be dated to a century or more later.

In Egypt, the development of Koine was based on the more conservative variety of Attic, the 'Koine' of Great Attic, which was used in the Greek-speaking world from the fourth century BCE onward. This, as discussed above, took a step back from the already developing merger of the various phonemes related to iotacism. Therefore, in the Hellenistic east, the phoneme mergers leading to what we now have in Modern Greek started again, following the same lines of development as centuries before in mainland Greek. The urban (educated) elite again developed its own standard from the most conservative variety used by the aristocracy, but at the 'lower levels' this Koine was influenced by the different dialects of the Greek immigrants and the native language, Egyptian-Coptic. Horrocks cites Teodorsson (1977, 251–56) for the majority educated system still retaining the quality /ɛ:/ in eta in the mid-third century BCE, as well as vowel quantity and all the diphthongs. By the mid-second century BCE, however, all that was gone

and eta had the quality /ɛ/, which then slowly merged to /i/ in the later Roman/early Byzantine periods (Horrocks 2010, 165–66).

The variation that we see in the Greek papyri regarding eta and epsilon is consistent with what we know from the literature cited above. In Egypt, both in L2 Greek and within Greek loanwords in native texts, there is variation even in later centuries between epsilon and eta, indicating that eta had not phonemically raised to /i/. However, in the Greek produced by Egyptian writers, this variation is not random but connected to the consonantal surroundings of the variant vowels. There are numerous examples from both Egyptian Greek documentary material and from Greek loanwords in native Coptic texts of the same type of variation, also providing the source for this variation in Egyptian Greek texts. For instance O.Frange 8.68, a text corpus in Coptic, eighth century CE Thebes, which has been described as very idiolectic, probably in register close to the spoken language (Boud'hors and Heurtel 2010, 27), gives us a spelling variant $\tau\pi\epsilon\mu\iota\epsilon$ *tremise* for the standard $\tau\pi\iota\mu\acute{\eta}\sigma\iota\omicron\nu$ *trimésion*, which has extensive variation between the vowel qualities /ɛ/i/ and /e/. The first syllable /i/ has been replaced with a lower vowel variant /e/, similarly to example (1) $\lambda\epsilon\beta\epsilon\nu\omicron\gamma$ [c] <lebenous>, also similarly affected by the bilabial /m/ on vowel qualities on both sides of it; the second syllable eta has been replaced with /i/, and the third syllable iota with /e/ again. Variation between iota and epsilon is rare in L2 Greek texts. There is an even clearer example of the variation between eta and epsilon in $\tau\omicron\lambda\mu\epsilon\varsigma\iota\alpha$ *tolmesia* for the standard $\tau\omicron\lambda\mu\eta\sigma\acute{\iota}\alpha$ *tolmesía* in Vatican MS Copticus 69.27, from the thirteenth century CE, and another example (one of many) of the opposite direction for the eta in the non-standard spelling $\alpha\pi\omicron\kappa\rho\eta\varsigma\iota\varsigma$ for the standard $\acute{\alpha}\pi\omicron\kappa\rho\iota\varsigma\iota\varsigma$ (Vatican MS Copticus 69.62). These examples show how the variation is affected by the consonantal environment: $\tau\pi\epsilon\mu\iota\epsilon$ *tremise* has the lowered vowel from iota to epsilon because of the adjacent bilabial, which has the ability to lower the quality of the nearby vowels. The same bilabial is also responsible for $\tau\omicron\lambda\mu\epsilon\varsigma\iota\alpha$ *tolmesia* having epsilon instead of eta. At present, there is no searchable database for Coptic texts, but there are searchable databases for the documentary material of Egyptian Greek. Of the two existing databases, Trismegistos and PapyGreek, the latter is used here for its possibilities for searching contextual phonetic variation (see Henriksson, Dahlgren, and Vierros 2025).

The variation between eta and epsilon must be searched bidirectionally: from standard eta to non-standard epsilon (lowering) and standard epsilon to non-standard eta (raising). When conducting this search, it is good to keep in mind that these phonemes may have been interchangeable in Greek after the loss of the quantity distinction but they were distinctive phonemes in Coptic (Peust 1999, 201). Therefore, it matters whether the search concerns results from the pre-Christian centuries when Coptic was written in only a few text types (Choat 2006; Richter 2009), or whether the search results are from the era in which Coptic was more widely used; not only may lack of experience in Greek or individual linguistic traits be the factor behind the different type of variation, but also a later time period is more than probably a contributing factor. In the first instance, variation between eta and epsilon may merely be an indication of the gradual loss of the quantity difference between these mid-vowels, which, of course, is interesting in itself. In the latter instances, however, the variation can be assumed to be contact-induced and concern the actual phonemic difference between an open-mid (/ɛ/) and close-mid (/e/) front unrounded vowel. I shall start with a more detailed look at the first search, in which there is a lowering of vowel quality from the standard eta to non-standard epsilon. All in all, the search yields 1,119 tokens. There are two peaks chronologically in this variation: from 350 to 250 BCE and from 351 to 651 CE.³

In the pre-Christian centuries this more than likely simply reflected the gradual loss of quantity differences; it probably concerns writers who were native Greeks or knew Greek well and were aware of this development mostly in mainland Greek, since this variation was at first not part of the conservative variety of Greek brought to Egypt by the Macedonians. Since the aim of this chapter is to compare the behaviour of iotacism in a more extensive contact scenario with many L2 Greek users, I shall focus on the centuries in which Coptic was used, as the use of the same alphabet and its individual orthographic practices was likely also a further contributing factor in the contact-induced variation even on a phonemic level, as we will see in the analysis. In addition, the number of L1 Egyptian scribes writing Greek increased in the Roman period. [Table 3.6](#) shows some examples from the search in which standard eta has lowered to non-standard epsilon.

The search results in PapyGreek show the distribution of all instances in which standard eta has been lowered to non-standard

Table 3.6: Variation: non-standard epsilon from standard eta

Non-standard	Standard	Document	Date	Provenance	Variation
μεδενα	μηδένα	Bgu.4.1049	342 CE	Arsinoites	Lowering after /m/, before /d/
ωμολογεσαν	ώμολόγησα	p.sakaon.60	306 CE	Arsinoites	Lowering after /g/, before /s/
παρεμην	παρήμην	p.ness.3.57	689 CE	Nessana (Palestina)	Lowering after /r/, before /m/
δεμοσιον	δημοσίων	p.ness.3.59	684 CE	Gaza (Palestina)	Lowering after /d/, before /m/
εξεληθην	ἐξήλθεν	p.ness.3.45	602 CE	Oindos (Palestina)	Lowering after /s/, before /l/
επητρια	ἡπητρία	upz.1.1	159 BCE	Memphis	Lowering before /p/

epsilon. All in all, slightly less than half of all instances are connected to the consonantal environments listed above. This is statistically not relevant but, as in all historical data analysis, it must be remembered that we are dealing with non-standard phonological variation that was not supposed to be written out in the text. The scribes strove to adhere to the orthographic rules of standard Koine Greek, but while there were many very well-educated good scribes, some had a less excellent command of these rules that were not completely transparent because of the phonological changes in Greek. Some of the phonological developments of Greek led to, for example, the loss of vowel quantity, the monophthongisation of diphthongs, and the raising of these former diphthongs and a couple of other vowels; so, understandably, the task of remembering all the standard orthographic forms for all the words of a second language was not always fulfilled to perfection. Spelling mistakes occurred, and from these spelling mistakes we can now draw conclusions of the phonological developments and phonetic features of Egyptian Greek. If the role of orthography is taken into account, the statistical relevance of the variation in question changes: as the goal of each writing performance, or at least most of them, was to produce standard orthography, it is remarkable that almost half of all misspellings include a phonetic motivation instead of just being random mistakes. What is more, according to a recent statistical study, many of the

misspellings that are most strongly associated with the impact of Egyptian-Coptic phonology regularly co-occur (Dahlgren, Keersmaekers, and Stolk 2022: 337–44), giving firm support for the role of language contact in the variation.

The variation, as mentioned, is phonetic in origin. Bilabials have, according to the phonetic literature, a tendency to lower high vowel qualities (Flemming 2009, 82–84 and 92), and so they are included in the search parameters. Furthermore, there are a few other phonemes that are included in the search as possible phonemes that might lower the vowel quality: the liquids /l/ and /r/, and the fricative /s/, as, according to Gignac (1976, 239–42), these often appeared adjacent to the standard diphthong /ei/ lowering to eta. Gignac also included the nasal /n/ in these phonemes, but it is not included in this search, as it is not clear what the quality of /n/ was in Coptic. According to Beddor's (1983) research on nasalisation, close (nasal) vowels have a tendency to retract in quality and open vowels to raise, unless nasalisation is phonemically distinctive (Beddor 2014, 30 and 180–81). The situation would resemble that of the adjacency to bilabials, then. According to Peust (1999, 238 and 248–49), a late form of Egyptian might have had subphonemic (i.e. allophonic or phonetic) nasalisation, which could have caused sound changes that reflected a (general) vowel raising near nasals. However, later Coptic evidence shows allophonic nasalisation of vowels related to whether nasals were preceding or following the vowels. While this was not a distinctive feature in Coptic, synchronic evidence shows that it is still visible in, for example, some status pronominis verb forms, and some words had an additional <n>, perhaps to indicate a nasalised vowel (Peust 1999, 238 and 248–49). Similarly, the picture is somewhat unclear regarding the nature of velars (/k, g/) in Coptic (Dahlgren, Keersmaekers, and Stolk 2022), but since they are generally considered 'back' consonants in many languages (Jakobson 1968), they are included in this analysis as well. Finally, since liquids and especially /r/ seem to retract vowel quality in many instances in Egyptian Greek, they are included, following Gignac's observations. They do, however, act differently from other consonants due to their literally liquid character (see Dahlgren 2017, 95–97; Henriksson, Dahlgren, and Vierros 2025), which should be taken into account in the analysis.

Having conducted an orthography-based search on the variation between eta and epsilon, we can see in [Figure 3.2](#) that the lowering of

eta to epsilon is skewed toward lowering of the vowel quality in the vicinity of bilabials. This search includes all the phoneme environments (so, front and back consonants). Technically, liquids, for example, are considered front consonants because they are coronal consonants, produced in the front part of the oral cavity, but because of their liquid nature, they can act as ‘transporters’ between phoneme qualities. Therefore, they can carry the quality of a low phoneme that comes before them onto the phoneme that comes after them. In short, the search includes all environments.

Slightly fewer than half of all instances are significant for one phoneme group. However, of all 1,119 instances, eta is lowered to epsilon word-finally in 291, that is, in slightly more than a third of all instances. Could this be relevant? If we consider in which phonemic environments this takes place, perhaps it could be. In [Figure 3.3](#), we can see that eta is lowered to epsilon in 105 cases after labials, in 58 cases after other back consonants, and in 128 cases in other environments (after vowels, dentals, and nasals). In 56 per cent of all instances, so just above chance level, the lowering took place in a phoneme environment capable of lowering vowel quality.

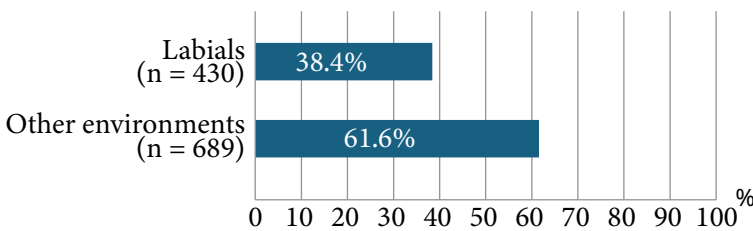


Figure 3.2: All instances lowering of eta to epsilon and the portion of labials

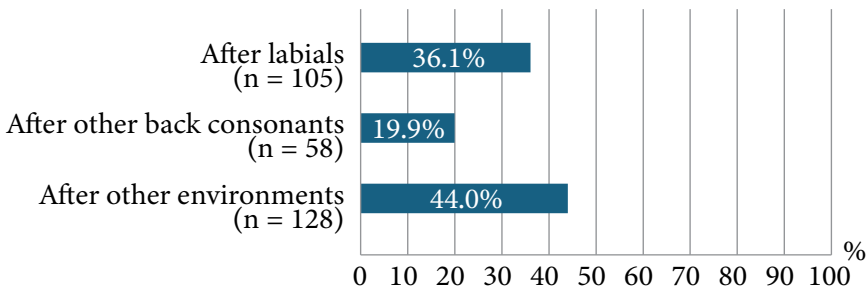


Figure 3.3: Word-final environment in eta to epsilon

What needs to be asked, however, is whether these word-final instances of eta lowered to epsilon actually represented a true quality of epsilon, or whether they were mere graphemic markings of schwa after Coptic phono-orthographic practices; it was common practice in most Coptic dialects to mark schwa with epsilon (Peust 1999, 250 ff.). It is therefore relevant to also take a look at when all this variation took place, to be able to decipher whether Coptic orthography could indeed be a factor. As can be seen from the peaking of the instances of this type of variation, it does co-occur with the emergence of the Coptic writing system on a larger scale (see Choat 2006; Richter 2009, 412–14). The relevance of the nature of the variation itself, that is, whether it represented a phonemic schwa or an instance of consonantal coarticulation, will be taken up in [Section 3.6](#).

If we leave out word-final instances and specifically take a look at the environments in which eta could feasibly be lowered to epsilon due to phonetic processes, namely the consonants with an ability to lower the vowel quality near them (labials, velars, liquids, /s/), we can search for these environments separately. How many times does the lowering take place in the vicinity of labials, velars, liquids (/l, r/), or /s/? The results are uniform with the theory. They appear near all instances, as is visible from [Figure 3.4](#) and [Figure 3.5](#).

Of the general results regarding the lowering from eta to epsilon, 1,119 tokens in total, the variation concerns labials in 430 instances, which corresponds to c. 38 per cent of the whole. However, this number does not include any of the consonantal environments that occur with the non-standard epsilon in the word-final position. To take a single example from the bilabial /m/, we see that it has a strong tendency to lower the vowel quality next to it rather than to raise it. In 87 instances there is lowering from eta to epsilon next to /m/, and in 49 instances there is raising from epsilon to eta in the same environment. Therefore, the vowel quality lowers in almost two thirds of the whole number of instances, which is statistically relevant.

The search result for standard epsilon to non-standard eta yields 1,060 tokens, with the majority of the raising of epsilon to eta taking place in the vicinity of dentals and the alveolar nasal /n/.⁴ There are also instances connected to back vowels, which points to an attempt at dissimilation of the vowel qualities with the aid of raising the mid-vowel. One of these examples concerns a famous ruler we also know from Asterix: Κληοπατρας *Klēopatras*, from the standard Κλεοπάτρας

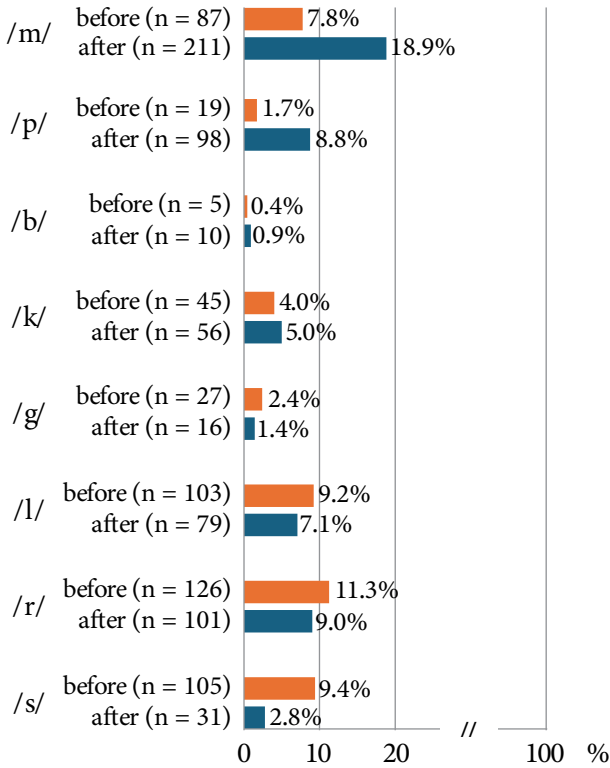


Figure 3.4: The distribution of all phonemes connected to the lowering of eta to epsilon

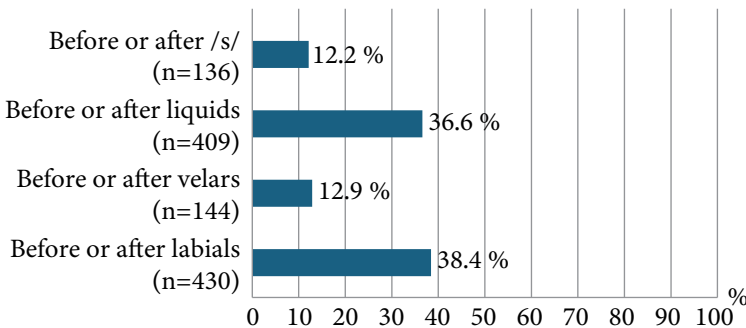


Figure 3.5: A summation of the distribution of the lowering consonantal environments

Kleopátras (bgu.14.2381). All in all, the searches in the two directions for variation between eta and epsilon seem to be in complementary distribution, that is, not random but triggered by a certain phonemic environment in each case. The role of /n/ in these searches speaks against Gignac's (1976) findings on it appearing in lowering contexts.

3.5.2 Variation between eta, iota, and alpha

To start with, let us look at the variation between iota and eta ([Table 3.7](#)), which is among the most common types of variation within Greek-internal iotacism. The search for non-standard eta from standard iota yields 585 tokens, so not as many as one would expect. Many of these variants are in a word-final position, which speaks in favour of the word-final vowel being reduced to schwa as per Coptic phonological practices. A total of 353 of these are after a consonant able to retract the vowel quality (velars, labials, liquids, /s/), which, again, is more than half of the search results.⁵

The first example, *απαση* *apasē* from *ἄπασι* *hápasi*, seems like an example of Coptic-induced word-final schwa, marked with eta instead of epsilon. This in itself acts as evidence against the quantity hypothesis for the Coptic qualities of epsilon and eta; assuming that the writer

Table 3.7: Variation between iota and eta

Non-standard	Standard	Document	Date	Provenance	Variation
απαση	ἄπασι	apf.63.120	426–475 CE	Arsinoites (?)	Lowering after /s/; word-final schwa?
κληματος	κλίματος	bgu.1.304	647 CE	Herakleopolites	Lowering after /l/, before /m/
σεληνων	σελίνων	bgu.19.2837	582 CE	Hermopolis	Lowering after /l/ (?)
ἐξαδρα χημαν	ἐξαδρα χιμάν	p.oxy.12.1457	4–3 BCE	Oxyrhynchus	Lowering after /m/, before /a/
εχειρησεν	ἐχείρισεν	p.ross.georg.4.15	710 CE	Aphrodites Kome (Antaiopolites)	Lowering after /r/, before /s/
μησθαριν	μισθάριον	p.ness.3.73	683 CE	Nessana (Palestina)	Lowering after /m/, before /s/

is L1 Egyptian, it seems more likely that a phonemically close short vowel equivalent, or indeed an allophonic representation of a mid-front vowel, would be replacing the iota instead of choosing a grapheme for a long vowel phoneme for it. The usage also acts as evidence for eta retaining the quality /e/ in Egyptian Greek (via Coptic). Κληματος *kle̱matos* from κλίματος *klímatos* represents a more typical example of allophonic variation under pressure of two consonants that can retract (or lower) vowel quality: /l/ and /m/. σελινων *seḻinon* from σελίνων *selínōn*, however, is an unclear example of consonant-to-vowel coarticulation: the liquid before the vowel could have caused a lowering of the vowel quality, but the next consonant, /n/, less frequently causes it (see variation related to eta and epsilon above).

The number of instances of the nonstandard variation peak in the fifth century CE and again in 651 CE. Nevertheless, there are very early as well as late examples of the same phenomena, as can be seen from εξαδρα|χμῆαν *eḵsadraḵẖmēan*, where a following back vowel may also have been a factor, and χειρησεν *eḵẖiṟesen* in [Table 3.7](#), and μισθαρῖν *m̱esṯhaṟin* from standard μισθάριον *m̱isṯẖáṟion* from Palestina also tells us (again) that the phenomenon was not limited to Egyptian Greek. By contrast, variation of non-standard eta from standard iota has 1,005 tokens.⁶ Variation exists in all positions, even word-finally, and adjacent to some of the same consonantal contexts that lowered eta to epsilon (i.e. bilabials, liquids, /s/, velars), with one difference from that variation: there are also dentals present in many cases. These could have a significant bearing on the type of variation, but for the most part this speaks for the general tendency for eta to raise to /i/ in most contexts.

3.5.3 Variation between iota and alpha

The search gives 99 tokens of non-standard /i/ replacing standard /a/, only two of these directly before labials, and 48 after; the search for non-standard /a/ replacing standard /i/ gives even fewer tokens, only 50. Furthermore, as can be seen from some of the examples in [Table 3.8](#), they occur in non-symmetric consonant environments, that is, both next to consonants that could raise the vowel quality and next to those able to lower it. Some of them seem to involve case confusion, but there are others that seem unrelated to coarticulation.

While, for instance, προκεχειρακαμεν *prokeḵẖirakamen* from προκεχειρίκαμεν *prokeḵẖiríkamen* probably has the lowering of /a/ from

Table 3.8: Variation between non-standard /a/ and standard /i/

Non-standard	Standard	Document	Date	Provenance	Variation
προκεχειρακαμεν	προκεχειρίκαμεν	c.jud.syr.eg.1	103 BCE	Pathyris	Lowering after /r/, before /k/
τριακαδα	τριακάδι	p.wisc.1.16	140 CE	Oxy-rhynchites	Lowering (no consonantal connection)
ανα	ίνα	aegyptus.94.13	201–300 CE	Arsinoites	Lowering (no consonantal connection)
λαβανον	λίβανον	p.ryl.2.242	201–300 CE	Unknown	Lowering after /l/, before /b/
τινα	τίτι	p.sakaon.43	327 CE	Arsinoites	Lowering (no consonantal connection)
τεκτωνα	τέκτονι	p.amst.1.51	401–600 CE	Unknown	Lowering (no consonantal connection)

the standard vowel quality /i/ because of the vowel's position between the liquid and the velar, it is also true that this might be a scribal error, a case of simply anticipating the next vowel grapheme. The last example, non-standard τεκτωνα from τέκτονι, looks more like variation between accusative and dative, and indeed there is no consonantal connection to coarticulation that would cause the vowel quality to lower. There is a chance the word-final /a/ might indicate a schwa, as it was sometimes also written with ⲁ /a/ or ⲟ /o/ in some Coptic dialects, although ⲉ /ε/ was most common (Peust 1999, 250 ff.), but in this case the dialectal connection remains unclear as there is no provenance marked for the text. Regardless, the variation that concerned the graphemic marking of schwa mostly concerned the tri-graphic group α, ε, ο /a, e, o/, and not ι /i/. It is therefore unlikely that the marking of schwa would have been behind this misspelling. There are many more uncertainties related to the phonemic effect (or lack of it) in this type

of variation. It is clear from these examples that variation between iota and alpha was nothing compared to variation between eta and epsilon, for instance, and until there is a searchable database for Coptic, it will not be clear how common it really was in Coptic, either. Therefore, we cannot conclusively say that what was common in Coptic was uncommon in Egyptian Greek; it may have been relatively uncommon in Coptic as well.

3.6 Discussion

As we have seen from the research in this chapter, iotacism in Egyptian Greek is a multi-causal matter and there is definitely more at play than meets the eye. The search results give us evidence of much of it happening at the same time as the Coptic writing system was emerging or peaking, which suggests that, more than just phonological transfer, transfer of writing systems was also taking place. The L1 Egyptian writers might have taken orthographic practices from their native-/first-language writing system (L1WS; see Cook and Bassetti 2005), thus confusing the letters epsilon and eta and their different phonemic qualities between the languages. However, while this is possible, and even likely to be behind some of the variation, there is a more fitting theory related to phonological transfer that might equally well explain much of the variation. In Coptic, eta had a bivalent nature, sometimes appearing as /a/ and sometimes as /i/ in spelling variation. Digging into this variation first in Greek loanwords in Coptic, it is evident that this variation is grounded in phonetics, and mostly caused by the effect of the surrounding consonants. Further researching this phenomenon with the PapyGreek Search tool, a similar picture emerges. Nevertheless, how prominent a phenomenon this really was in Coptic cannot be studied definitively at the present moment, as there is no search tool available for Coptic as there is in Greek (that is, one that allows searches based on orthographic variation, deriving from misspellings). It is clear, however, that while it is cited and examples are found that the variation consists of the two opposite vowel qualities in Coptic, /i/ and /a/ (conveniently on either side of eta /e/), there is not much variation between /i/ and /a/ in Egyptian Greek documentary texts. There is some variation between eta and iota, and eta and alpha, respectively, precisely the kind of variation related to the bivalency of Coptic eta,

but most of the variation related to the misspellings connected to eta are with epsilon.

It is clear from the evidence that this variation is exactly as context-connected as any similar variation in Coptic, and so, undoubtedly, it is part of the same transfer effect and relates to a continuum of a front vowel quality changing within the consonantal environment. It remains nevertheless interesting why L1 Egyptian writers might use /i/ and /a/ as variants for eta in their native language but only go as far as epsilon (/ε/ in Coptic) in L2 Greek, however much it is coloured by their L1 Coptic. This question will probably remain unanswered, as no speakers can be interviewed on this change in the continuum of non-standard vowel qualities used between the changing consonantal environments.

Besides these findings and musings, there is also an interesting feature hidden within the non-standard variation between eta and epsilon: part of it is word-final, and this brings a bigger challenge for trying to decipher Egyptian Greek phonology. Thus far, it has been the understanding that word-final epsilon was a graphemic marker for Coptic schwa, again an orthographic practice assumed to have been transferred from L1WS to L2WS by writers who could use both languages. This has been the assumption in Coptology (e.g. Peust 1999) and in Egyptian Greek research by scholars who knew Coptic phonographic practices (Gignac 1976). After this, much of the research on Egyptian Greek phonology has been based on these research findings, including my own (Dahlgren 2017). However, when we look at the distribution of the phoneme environments in which eta lowers to epsilon, we find that this mostly happens adjacent to consonants which, according to phonetic research, have the ability to lower vowel quality, and this is the same scenario even for those non-standard epsilons that are in a word-final position. The current theory might need challenging, therefore, but with a much larger corpus and a statistical study on the matter, such as was not possible within the scope of this chapter. Perhaps future studies regarding this phenomenon will shed more light on the matter.

Notes

- 1 Many thanks to both Erik Henriksson and Marja Vierros from the PapyGreek project (the European Union's Horizon 2020 research and innovation programme, grant agreement no. 758481), who helped me sort out the complicatedness of the PapyGreek phoneme-contextual analysis. Furthermore, I thank the editors of the volume, Klaas Bentein and Marja Vierros, for their valuable comments on my contribution in it: any remaining mistakes are, naturally, my own. This contribution was funded with a research grant given by the Emil Aaltonen Foundation.
- 2 Triangular systems have both front and back axes similarly to quadrangular systems, but in triangular systems, there is only one low vowel, which is a central one (usually /a/), whereas in quadrangular systems, there are two low vowels, a front one and a back one (e.g. unrounded /a/ and /ɑ/). Hence the shapes of these vowel diagrams resemble a triangle and a quadrangle.
- 3 <https://papygreek.com/search/197>. The search: non-standard epsilon from the standard eta (form=-ε+η). The data was retrieved on 10 January 2024. The search results are accompanied with a visualisation of the relative frequencies of the variation between epsilon and eta (on a timeline).
- 4 <https://papygreek.com/search/187>. The search: non-standard eta from the standard epsilon (form=-η+ε). The data was retrieved on 10 January 2024.
- 5 <https://papygreek.com/search/188> (585 tokens). The search: non-standard eta from the standard iota (form=-η+ι). In addition, checked specifically in a consonantal context that might lower the vowel quality: regex:form=[πβμκγλρσς]\$>^η\$+^ι\$ (353 tokens). The data was retrieved on 15 July 2023. The search results are accompanied with a visualisation of the relative frequencies of the variation between iota and eta (on a timeline).
- 6 The search: non-standard iota from the standard eta (form=-ι+η). The data was retrieved on 10 January 2024. The search results are accompanied with a visualisation of the relative frequencies of the variation between iota and eta (on a timeline).

Greek documentary papyri

The Greek documentary papyri can be found by their abbreviations in the *Checklist of Editions of Greek, Latin, Demotic and Coptic Papyri, Ostraca, and Tablets* (Web edition). <https://papyri.info/docs/checklist>.

Coptic manuscript editions

- O.Frangé 8 = Boud'hors, Anne, and Chantal Heurtel. 2010. *Les ostraca coptes de la TT 29. Autour du moine Frangé. Vol. 1 Textes*. Études d'archéologie Thébaine 3. Brussels: CReA-Patrimoine.
- P. Hamb.bil. 1 = Diebner, Bernd J. and Rodolphe Kasser, eds. 1989. *Hamburger Papyrus bil. 1. Die alttestamentlichen Texte des Papyrus Bilinguis 1 der Staats- und*

Universitätsbibliothek Hamburg: *Canticum canticorum (coptice), Lamentationes Ieremiae (coptice), Ecclesiastes (graece et coptice)*. Geneva: Cramer.

Vatican MS Copticus 69 = Zaborowski, Jason R. 2005. *The Coptic Martyrdom of John of Phanijōit: Assimilation and Conversion to Islam in Thirteenth-Century Egypt*. Leiden: Brill.

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CHAPTER 4

Spelling variation of technical terms in the Greek medical papyri

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Abstract

The Greek papyri dealing with medicine to some extent form a homogeneous corpus of technical texts. They encompass different genres (treatises, handbooks, prescriptions, etc.) 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: Koine Greek forms; usual phonetic phenomena such as iotacism; and common scribal mistakes or irregularities. These aspects have been or are being investigated at different levels of detail, but there is a peculiar topic that deserves deeper attention: the variant spellings of specific technical terms, often of extra-Greek origin, which pose interesting questions from the perspective of both language history and editorial representation. In fact, one is always uncertain whether to ‘regularise’ such cases and, if so, which version should be the standard one? It is particularly in the digital edition of such texts that the problem arises, and the current solutions seem partially insufficient to cope with it. The chapter discusses the matter from a double viewpoint: linguistic and editorial.

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4.1 Introduction

*Standards are always out of date.
That's what makes them standards.*

Alan Bennett

The Greek papyri dealing with medicine to some extent form a homogeneous corpus of technical texts.¹ Although they encompass various different genres (literary treatises, reference handbooks, recipe collections, single prescriptions, private letters concerning health matters, official reports of medical inspections), they employ shared linguistic and paralinguistic strategies to convey their specialised knowledge.² Furthermore, they deploy linguistic features common to other papyrus texts, whether documentary or (para)literary, such as the use of Koine Greek forms, to which even Ionic Hippocratic texts are sometimes adapted;³ typical phonetic variation like iotacism;⁴ and recurring scribal errors or irregularities.⁵

In this chapter I explore instances of spelling variation in technical terms, with a particular focus on their modern editorial treatment. This entails examining whether editors have chosen to recognise a standard linguistic form and regularise the spelling variant, or not. My theoretical framework acknowledges that, in certain cases, the variant forms had become so prevalent in everyday usage that it is no longer appropriate to prioritise one as correct. Instead, concepts such as personal standards, usage standards, or substandards can assist in constructing a more realistic portrayal of the linguistic landscape under consideration (see Reggiani 2019; Stolk 2020). The case studies analysed, although focused on a highly specific and relatively limited corpus of texts, can easily be extended to the entire body of documentary material preserved in papyri. As will be shown, many variant forms, to varying degrees, are shared between medical papyri and other types of documents on papyrus. These observations provide significant examples of the reception and reuse of exotic, often obscure or abstruse terms, which can serve as a starting point for a broader discussion on the 'living' linguistic testimonies offered by papyri.

I begin by considering straightforward cases stemming from common phonetic phenomena before delving into more peculiar instances involving exotic ingredients. In the latter cases, the non-Greek origin

of the names further contributed to spelling confusion, rendering the notion of a linguistic standard even more elusive.

4.2 κολλύριον/κολλούριον

A notable phonetic variation commonly observed in a medical technical term is the interchange between κολλύριον and κολλούριον, referring to a ‘pastil’ or ‘eye-salve’, from the original meaning of ‘bread’ (see Battaglia 1989, 88–89; Fournet 2000, 403–4. For the etymology of κολλύρα see Chantraine 1999, 556). This variation is not confined to the medical papyrological corpus alone, as it also appears in contexts where the term retains its original meaning of ‘bread’ or ‘loaf of bread’ (κολλύρα with diminutive forms κολλύριον and κολλυρίδιον). The exchange between υ and ου and vice versa is well documented in the Greek language of the papyri (see Gignac 1976, 214–15).

[Table 4.1a](#), [Table 4.1b](#), and [Table 4.2](#) compile all the instances I have retrieved, along with accompanying editorial apparatus remarks, if available.

The variation in spelling observed in the term is not specifically linked to its medical usage but rather stems from its general meaning. Based on the chronological pattern, it seems that the earlier spelling was κολλυρ-, which later became confused with κολλουρ-. Regarding editorial practices, the regularisation of κολλουρ- to κολλυρ- is infrequently employed. Additionally, it is worth noting that Liddell and Scott’s *Greek–English Lexicon* distinguishes between κολλύρα and κολλούρα as separate entries, highlighting their distinct forms.

Table 4.1a: Instances in the original meaning (including metaphorical usages):
κολλ(ο)ύρα

Word	Papyrus source	Occurrence
κολλύρα	SB XIV 11958, i 13, 20 (117 CE)	κολλύρα κολλύρα
	O.Krok. inv. 202 ^a (2nd CE)	κολλύρας
	SB XVI 12246, iv 20 (4th CE)	κολλύρας
κολλούρα	O.Krok. II 229, 11–12 (c. 98–117 CE)	κολλού ^b
	P.Oxy. II 397, 13 (1st CE)	κολλ[ο]ύρας ^c
	O.Krok. II 239, 3 (c. 117–130 CE)	κολλούρα[ς]
	O.Krok. II 240, 8 (c. 117–130 CE)	κολλούρας
	O.Krok. II 252, 4 (c. 117–130 CE)	κ[ο]λλούρα
	O.Did. 386, 6 (c. 120–125 CE)	κολλούραν
	P.Mich. XXI 853, 23 (122 CE)	κολλούρας
	P.Oslo II 53, 5 (2nd CE)	κολλούρας
	O.Krok. inv. 211 ^d (2nd CE)	κολλούρας
	O.Krok. inv. 228 (2nd CE)	κολλούρα
	O.Krok. inv. 280 (2nd CE)	κολλούρα
	O.Krok. inv. 666 (2nd CE)	κολλούρας
	P.Erl. 75, 20 (535 CE)	κολλ[ο]ύρας ^e
	P.Lond.ined. 2172 ^f	κολλούρα (?)

Notes:

^a Fournet 2000, 403 n. 53.

^b κολλού[ρια *ed.pr.*, but the other attestations from Krokodilo have κολλούρα.

^c P.Oxy. II 397 *descr.* records the form κολλύραι, but from the digital picture of the unpublished papyrus, available at <https://digital.bodleian.ox.ac.uk/objects/831eb784-56cd-42c7-b4e3-1d2ada145cf8>, I would rather read κολλ[ο]ύρας based on the gap width.

^d This and the following: see Fournet 2000, 403 n. 53.

^e BL III 53; a different possibility is mentioned in BL XII 68.

^f LSJ s.v. κολλούρα, p. 972.

Table 4.1b: Instances in the original meaning (including metaphorical usages): κολλ(ο)ύριον

Word	Papyrus source	Occurrence
κολλύριον	P.Lond. VII 2181, 6 (mid-3rd BCE)	κο]λλύριο[v]
	P.Hib. II 271, 6 (c. 230 BCE)	κολλύρια
	PSI VIII 900, 14 (3rd/4th CE)	κολλύρια
	SB XVI 12246, ii 12 (4th CE)	κολλυρίας
κολλούριον	SB V 7572, 4 (104 CE)	κολλούρια
	PSI XVI 1642, 3 (c. 270 CE)	[κολλ.]ουρίου
	P.Oxy. XIV 1731, 8 (3rd CE)	κολλούρ(ια) ^a
	P.Coll.Youtie II 86, 7 (3rd/4th CE)	κολλουρίων ^b
	P.Oxy. LIX 4000, 26 (4th CE)	κουλλουρίων, l. κολλου- ρίων
	P.Oxy. LXII 4343, 17 (4th CE)	κολλούρια
	P.Oxy. LIX 4001, 29 (late 4th CE)	κολλουρίων
	SB I 1975, 1 (5th CE)	κολλούρια
	P.Cair.Masp. I 67006v, 59 (c. 566–570 CE)	κουλλούρια, l. κολλύρια
κολλυρίδιον	O.Claud. I 174, 7 (1st CE)	κολοιρίδια, l. κολλυρίδια
κολλουρίδιον	SB XII 11064 = P.PalauRib. 28, 3 (1st CE)	κολλουρίδια

Notes:

^a The word is abbreviated: an expansion κολλούρ(ας) cannot be ruled out.^b See Bonati 2010, 49–50 and 2012, 19–20 for the interpretation as ‘sticks (of frankincense)’ instead of medical collyriums.

Table 4.2: Instances in the medical meaning (excluding references where the word is supplied within a lacuna or written in an abbreviated way that prevents us checking the original spelling)

Word	Papyrus source	Occurrence
κολλύριον ^a	SB VIII 9860, i 8, ii 3, 7, iii 15, iv 15 (3rd BCE)	κολλύρια κολλυρίωι κολλυρίωι κολλύριον κολλύρια
	P.Hib. II 192, 10 (second quarter 3rd BCE)	κολλυρίων
	P.Oxy. VIII 1088, ii 42 (1st CE)	κολλύρια
	O.Claud. II 220, 8–9 (c. 137–145 CE)	κολ λοίρια, l. κολλύρια
	P.Oxy. LXXX 5243, ii 9, 19, iii 1, 8, 18 (2nd/3rd CE)	κολλύριο(v) κ[ο]λλύριο(v) [κο]λλύριο(v) κολλύριο(v) κολλύριο(v)
	SB XVI 13045 = MPER XIII 3, 6 (2nd/3rd CE)	κολ]ύριον
	PTebt. II 273 = GMP II 5, ii 14, 24, v 25, viii 24 (late 2nd/3rd CE)	κολ[λ]ύρ[ιο]ν κολλύριον κολλύριον κ[ο]λλ[ύ]ρ[ιο]ν
	GMP I 13, 6 (3rd CE)	κολλύριον
	O.Bodl. II 2184r, 1 and v, 6 (4th CE)	κολλύριον κολλύριον
	O.Bodl. II 2185, 1 (4th CE)	κολλύριον
	PTestiMed. p. 186 = SB XXVIII 17139, 16 (second half 5th CE)	κολλύριον
κολλούριον	PRyl. I 29a, fr. 1, verso, 46 + PStrasb. inv. gr. 90v, fr. 2, 12 (2nd CE)	κ[ολ]λούριον ^b κολ]λούρια
	P.Mich. VIII 508, 21 (2nd/3rd CE)	κο[λ]ουρίου, l. κολλουρίου
	P.Flor. II 177, 20 (257 CE)	κολ λούρια, l. κολλύρια
	O.Bodl. II 2187, 9 (3rd CE)	κολλουρίων
	P.Oxy. LIX 4001, 35 (late 4th CE)	κολλουρίων
	P.Horak 14, 10 (5th CE)	κολλούριον, l. κολλούριον
	MPER XIII 8, 14, 38 (second half 5th CE)	κολλούριον, l. κολλύριον

Notes:

^a In this form, it appears also in the ‘chemical’ papyri P.Holm. and P.Leid.^b Possible also κ[ολ]λλύριον according to the *ed.pr.*, but the Strasbourg fragment, which belongs to the same papyrus, features the version with the diphthong.

4.3 ψιμίθιον/ψιμύθιον

White lead powder (lead acetate or carbonate) is a metallic drug that was frequently used as an ingredient in pharmacological compositions, especially in eye-salves, due to its strong cicatrising properties. Furthermore, it found extensive usage as both a cosmetic product and a colouring pigment (see Andorlini 2017, 44–48; Horak 1998, 124–25). Despite its likely non-Greek origin,⁶ the phonetic structure of the word remains consistent, except for the alternation between the vowel sounds ι and υ. This phonetic variation is another well-documented phenomenon in the spoken Greek recorded in the papyri (e.g. βύβλος/βίβλος; see Gignac 1976, 267–71), in this case perhaps favoured by its derivation from a language characterised by consonantal roots, such as Egyptian or Semitic. The name is typically formulated as a diminutive, yet in the papyri, the base form ψίμιθος is only found twice in later texts (O.Bodl. II 2184, 3: fourth century CE; SB XIV 11964, ii 22: fifth/sixth century CE; the latter coexists with diminutive forms within the same papyrus). The base form of the earlier spelling ψίμυθος is attested in an inscription from Delos dating back to the fourth century BCE (IG XI.2 145, 9).

In [Table 4.3](#), the medical texts are marked with asterisks; again, supplements, abbreviations, and other instances where the spelling is uncertain have been excluded from consideration.

Table 4.3: Occurrences of ψιμίθιον/ψιμύθιον

Word	Papyrus source	Occurrence
ψιμίθιον	P.Cair.Zen. IV 59789, ii 1, 2 (mid-3rd BCE)	ψιμιθίου ψιμίθιον
	P.Cair.Zen. IV 59763, ii 19 (c. 255/4 BCE)	ψιμιθ[ίου
	P.Cair.Zen. IV 59764, 10 (c. 255/4 BCE)	ψι]μιθίου
	*PSICongr.XXI 3v, ii 6, 14 (1st BCE)	ψιμιθίου ψιμι(θίου)
	*P.Oxy. VIII 1088, i 4, 12 (1st CE)	ψιμιθιο(υ) ψιμιθιο(υ)
	*GMP II 4, ii 2, 10 (first half 2nd CE)	ψι]μιθίου, l. ψιμυθίου ψιμιθίου, l. ψιμυθίου
	*P.Haun. III 47 = SB XVIII 13310, 5 (2nd CE)	ψιμι[θί]ου
	*SB XXIV 15917, ii 20 (2nd CE)	ψιμιθίου

Word	Papyrus source	Occurrence
	*P.Fay.Coles 8, 5 (2nd CE)	ψ]ιμθίου
	*P.Strasb. inv. G 90r, i (a), 2 (2nd CE)	ψιμθίου
	*P.Oxy. LXXX 5243, i 11, ii 11, iii 10 (2nd/3rd CE)	ψ]ιμθειο(υ), l. ψιμθίου ψιμ[θ]ειο(υ), l. ψιμθίου ψιμθ̣ειο(υ), l. ψιμθίου
	*SB XVI 13045 = MPER XIII 3, 10 (2nd/3rd CE)	ψιμθειού, l. ψιμθίου
	SB XXXVI 16645, 9 (2nd/3rd CE)	ψιμίθιον, l. ψιμύθιον
	*P.Chic. 4, 15 (2nd/3rd CE)	ψ̣ιμθι(ο)w/
	*P.Oxy. LXXIV 4977, 4 (end 2nd/3rd CE)	ψιμθ̣ί(ο)υ, l. ψιμθίου
	*PSI X 1180 = P.TestiMed. pp. 93–105 = SB XXVIII 17134, fr. A, ii 33, iii 12; fr. C, ii 27 (end 2nd/early 3rd CE)	ψιμθί(ο)υ ψιμθί(ο)υ ψιμθί(ο)υ
	*P.Tebt. II 273 = GMP II 5, ii 26, vi 6 (end 2nd/3rd CE)	ψιμθίου ψ̣ιμ[θίου]
	P.Lond. III 928, 21 (3rd CE)	[ψ]ιμθίου, l. ψιμθίου ^a
	P.Oxy. LIV 3765, v 39 (c. 327 CE)	ψ̣ιμ̣ιτ[ίου], l. ψιμθίου
	P.Oxy. LIV 3766, v 95 (329 CE)	ψιμτίου, l. ψιμθίου
	*O.Bodl. II 2184, 3 (4th CE)	ψ̣ιμθίου
	*P.Mich. XVII 758, Ar, 10 (4th CE)	ψιμθίου, l. ψιμθίου
	*P.Horak 14r, 3 (5th CE)	ψιμθίου, l. ψιμθίου
	P.Oxy. XVI 1922, 1 (5th CE)	ψιμθίου
	*P.Oxy. LXXX 5252, 15 (5th CE)	ψιμτίου, l. ψιμθίου
	BGU XIX 2789, 3 (5th/6th CE)	ψιμίθ(ιον), l. ψιμύθιον
	*SB XIV 11964, i 2, 12, ii 22 (5th/6th CE)	ψιμθίου, l. ψιμθίου ψιμθίου, l. ψιμθίου ψιμίθου, l. ψιμθίου
	CPR XIX 55, 1 (second half 6th CE)	ψιμθίων
	P.Horak 63, 5 (6th/7th CE)	ψ̣[ι]μθίου, l. ψιμθίου
	SB XXIV 16216, 6 (7th CE)	ψεμιθί[ο]υ, l. ψιμθίου
ψιμύθιον	P.Mich. inv. 6803Bv, 3 (late 1st BCE/early 1st CE) ^b	ψ̣ιμθίου
	P.Lips. I 102, ii 2 (end 4th CE)	ψιμθ[ί]ου

Notes:

^a BL I 288.^b Monte and Claytor 2022.

Despite the prevailing spelling convention in the literature as ψιμυ-,⁷ the neat prevalence of the form ψιμι- in the papyri strongly suggests that this phonetic alternative was widely accepted during the Hellenistic and Roman periods in Egypt (and possibly beyond: see IG V.1 1390, A, 22 ψιμίθιον, from Andania in Messenia, 92/1 BCE). The presence of the non-diminutive form ψίμιθος (as mentioned earlier) lends support to this hypothesis. The regularisation in ψιμυ-, although commonly employed by editors, appears somewhat contrived in light of the textual evidence.

4.4 σμύρνα/ζμύρνα

Myrrh is a gum resin obtained from various species of trees belonging to the genus *Commiphora*, predominantly found in Eastern Africa (Somalia), from where it was imported into Egypt and other regions of the ancient Mediterranean. Renowned for its potent aromatic properties, myrrh found extensive use in cosmetics and medicine, particularly in eye-salves and skin ointments, owing to its emollient and cicatrising virtues (Andorlini 2017, 37–40).

The etymology of the name appears to stem from the original μόρρα (Phoenician *môrâh*, Semitic root *mrr* meaning ‘to be bitter’; Chantraine 1999, 724), with a contamination from the name of the city of Smyrna (Chantraine 1999, 1029). The alternation between σμ- and ζμ- in later Greek can be traced back to a shift in the pronunciation of ζ (from /zd/ or /dz/ to /z/; see Gignac 1976, 120–22). Consequently, σμύρνα likely represents the earlier spelling, although it also appears in a few instances within late Roman and Byzantine papyri (see Gignac 1976, 121). The appearance of a special monogram Ⲛ (PGM II 8, ii 15 and 28: fourth century CE; P.TestiMed. p. 186 = SB XXVIII 17139, 25: 5th CE; see Ⲙⲓⲣ in P.Cair.Masp. II 67141, ii 22: 6th CE; see Reggiani 2022, 125) indicates a standardised spelling in later periods, leading some scholars to propose its regularity in papyri.⁸ An interesting correction from a previous spelling σμυρνη to Ζμύρνη for the city’s name is observed in P.Ryl. II 153, 18 (a will from Hermopolis, 169 CE).⁹

Once again, in [Table 4.4](#), medical contexts are marked with asterisks, while supplements, abbreviations, and similar uncertain spellings are excluded from consideration.

Table 4.4: Occurrences of σμύρνα/ζμύρνα

Word	Papyrus source	Occurrence
σμύρνα	*SB VIII 9860b, i 8, iii 9 (3rd BCE)	σμύρνης σμύρνης
	P.Cair.Zen. I 59069, 16 (257 BCE)	σμύρνης
	*P.Ryl. III 531r, iii 1; v, ii 46 (second half 3rd BCE)	σμύρνης σμύρνης
	O.Ber. IV 513 (second half 1st CE)	σμύρνιν, l. σμύρνην
	*P.Oxy. II 234v, ii 33 (end 2nd/early 3rd CE)	σμύρναν
	*P.Oxy. LXXX 5249, 6 (3rd CE)	σμύρνης
	PSI XII 1264, 19 (4th CE)	σμύρνης
	P.Ant. I 32, 30 (339 CE)	σμ[ύρνης
	*P.Sijp. 6 = GMP I 14, 3 (4th/5th CE)	σβ[η]ίρνα, l. σμύρνης ^a
	SB I 5307, 7 (4th/7th CE)	σμύρν(ης)
	*P.Oxy. XI 1384, 19 (5th/6th CE)	σβύρν[α]ν, l. σμύρναν
ζμύρνα	*SB XIV 12074, 5 (first half 3rd BCE)	ζμύρναν, l. σμύρναν ^b
	P.Cair.Zen. IV 59536, 13 (261 BCE)	ζμύρνης
	PSI VI 628r = P.Cair.Zen. I 59009, 2, 6 (c. 259 BCE)	ζμύρνης ζμύρνης
	PSI IV 328 = P.Zen.Pestm. 50, 2 (257 BCE)	ζμύρνης
	PSI VI 678, 9 (mid-3rd BCE)	ζμύρνη[
	BGU VI 1300, 13 (210 or 193 BCE)	ζμύρνα(ν) ^c
	O.Bodl. I 317, 7 (2nd BCE)	ζμύρνου
	SB XVI 12375v, i 79 (c. 180 BCE)	ζμύρνης
	P.Dryton 37, 9, 10 (139 BCE)	ζμύρνα ζμύρνης
	P.Tebt. I 35, 4, 16 (111 BCE)	ζμύρνης ζμύρναν
	*P.Stras. VIII 744, 8 (c. 100 BCE)	σζμ[ύρν ^d
	*PSI Congr.XXI 3v, ii 2, 15, iii 2, 8 (1st BCE)	ζμύρνης ζμύρ(νης) ζμύρνης ζμύ[ρνης
	BGU VIII 1875, 19 (52/1 BCE)	ζμύρνης, l. σμύρνης ^e
	P.Mich. inv. 6803Br, 8 (late 1st BCE/early 1st CE) ^f	ζμ[ύρνης]
	*P.Oxy. VIII 1088, ii 39, iii 57 (1st CE)	ζμύρνη(ς) ζμύρνης

Word	Papyrus source	Occurrence
	*PSI X 1180 = PTestiMed. pp. 93–105 = SB XXVIII 17134, fr. A, iii 39, iv 16; fr. B, ii 11, 18; fr. H, 4 (end 2nd/early 3rd CE)	ζμόρνη(ς) ζμ(όρνης) ζμόρνης ζμόρ[νης ζμ(όρνης)
	*GMP II 4, i 5, ii 4 (first half 2nd CE)	διά]ζσυρνα, l. διά- συρνα ζμόρνης, l. σμόρνης
	SPP XXII 183, iii 47 (c. 138 CE)	ζμόρνης
	P.Louvre I 4, ii 37 (a. 166 CE)	ζμόρνης
	BKT IX 63, 13 (2nd CE)	ζμυρ[
	P.Oxy. XII 1584, 18 (2nd CE)	ζμόρνιν[ov
	*P.Haun. III 47 = SB XVIII 13310, 6 (2nd CE)	ζμόρνης
	*P.Lund I 6 (9), 2 (2nd CE)	ζμόρ[
	*P.Ross.Georg. V 52r, 4 (2nd CE)	ζμόρνης
	*P.Stras. inv. Gr. 90r 5, i, B; i,C, (2nd CE)	ζμύ[ρ]νης ζμόρ[η]ς
	*SB XXIV 15917, ii 18 (2nd CE)	ζμόρναν
	*P.Oxy. LXXX 5242, 9 (2nd CE)	ζμόρνης
	*P.Oxy. LXXX 5243, ii 6, 16, 24, iii 6, 20 (2nd/3rd CE)	ζμόρν(ης) ζμόρν(ης) ζμύ[ρν(ης) ζμόρνης ζμόρν(ης)
	*P.Princ. III 155r, 4; v, 5 (2nd/3rd CE) ^g	ζμόρνης ζμόρνης
	*SB XVI 13045, 3, 10 (2nd/3rd CE)	ζμύ]ρνης ζμόρνης
	*O.Bodl. II 2182, 6 (2nd/3rd CE)	ζμ[ύρ(νης) ^h
	P.Lund. IV 11 = SB VI 9348, i 10 (2nd/3rd CE)	ζμόρνης, l. σμόρνης ⁱ
	*P.Tebt. II 273 = GMP II 5, ii 10, 22, iii 19, v 19, vi 25, viii 13, 20 (end 2nd/3rd CE)	ζ[μόρν]ης ζμ[ύρ]νης ζμ[ύρν]ης ζμόρνης ζμόρνης ζμόρν[ς ζμόρνης
	PSI XV 1558, 13 (3rd CE)	ζμόρνης
	P.Strasb. inv. G 1173 ^j = C.Gloss.Bil. 6v, 7 (3rd/4th CE)	ζμόρνα
	P.Oxy. LIV 3766, v 97 (329 CE)	ζμόρνης

Word	Papyrus source	Occurrence
	PSI VII 782, b, 10 (340/1 CE)	ζμήρνης, l. ζμύρνης
	*O.Bodl. II 2153, 4 (4th CE)	ζμ(ύ)ρνης
	*P.Kellis I 89, 4 (4th CE)	ζμύρνης
	PGM II 8, ii 15, 28 (4th CE)	ζ(μύ)ρ(νη) ζ(μύ)ρ(να)
	*P.Prag. I 89v, 4 (4th/5th CE)	ζβύρνης, l. σμύρνης ^k
	*P.Michael. 36, fr. B, 13 (4th/7th CE)	ζμύ(ρ)νης, l. σμύρνης ^l
	*P.TestiMed. p. 186 = SB XXVIII 17139, 25 (5th CE)	ζ(μύ)ρ(νης)
	*GMP II 8, 5 (5th CE)	ζμύρ(νης)
	*P.Horak 14v, 1, 11 (5th CE)	ζμήρνης, l. σμύρνης ζμήρνης, l. σμύρνης
	*MPER XIII 8r, 19; v, 47 (second half 5th CE)	ζμύρ[νης] ζμύρνης
	*SB XIV 11964, i 5, 16, ii 25 (5th/6th CE)	ζμύρ(νης) ζμύρ(νης) ζμύρ(νης)
	*P.Cair.Masp. II 67141, ii 22 (6th CE)	ζμ(ύ)ρ(νης)

Notes:

^a σβήρνα, l. ζμύρνης *ed.pr.* (J.-L. Fournet and C. Magdelaine, GMP I 14). The second vertical stroke of η was replaced by the leg of ρ, which likely denotes a correction *in scribendo*, as interpreted in *ed.alt.* (A. Jördens, P.Sijp. 6). Both readings can be explained by the phonetic transformation /ü/ > /i/ (see ψμύθιον), with ι possibly further confused with η (see Gignac 1976, 235–39). The exchange μ/β is rare, yet attested in the Roman papyri (Gignac 1976, 71), and occurs two more times for the same word in P.Prag. I 89v, 4 and P.Oxy. XI 1384, 19 (see in the table). In our case, the spelling σβ- suggests that the writer had the form σμ- in mind rather than ζμ-, just as in P.Oxy. 1384.

^b The regularisation occurs in Papyri.info, not in the edition (Hanson 1972) nor in the SB reprint.

^c BL VI 16.

^d ‘Le texte réunit deux graphies pour le mot ..., celle avec *sigma* initial, banale, et celle, plus récente, avec un *zeta* initial ... Il se peut qu’il s’agisse de la ville de Smyrne plutôt que d’un adjectif dérivant de la notion de myrrhe’ (J. Schwartz, *ed.pr.*, *ad loc.*).

^e The regularisation occurs in Papyri.info, not in the edition.

^f Monte and Claytor 2022.

^g Recto: new edition by Andorlini 2019, 6–12; verso: new edition by Youtie 1976 (= SB XIV) reconsidered by Andorlini 2019, 6–12 (in both occurrences, ζμρναίας *ed.pr.*).

^h See Youtie 1977.

ⁱ The regularisation occurs in Papyri.info, not in the edition nor in the SB reprint.

^j Kraft 1999.

^k The regularisation occurs as such in Papyri.info; ‘ζβύρνης: ζμύρνης = σμύρνης’ *ed.pr.*

^l ‘For σμύρνης’ *ed.pr.*

The prevalence of the later spelling ζμ- overwhelmingly suggests its widespread usage as early as the Ptolemaic era. While some instances of the supposed earlier form σμ- are attested throughout the entire period covered by the Greek papyri, they are considerably fewer in comparison. Nonetheless, it is worth noting that some editorial regularisations from ζμ- to σμ- do exist, although they are rare and mostly found in the digital encoding of Papyri.info, as they are not recorded in printed editions. None of the σμ- forms are directly associated with the ζμ- form, with the exception of the initial edition of GMP I 14, where the deviant spelling σβήρνᾱ was regularised in ζμύρνῃς.

4.5 πέπερι/πίπερι

Another highly prized and widely used spice, pepper originated from India, bringing along its Sanskrit name, *pippalī* (see Brust 2008, 527–37; Chantraine 1999, 883). The Greek rendition of πέπερι, which is found in literary works by authors such as Plutarch, Athenaeus, and Galen, and particularly in medical literature, coexisted with the variant πίπερι, influenced by the Latin *piper* (see possibly πίπερ in O.Claud. 415 and πίπεριν = πίπερ, i.e. *piper*, in the Strasbourg bilingual glossary, both mentioned in [Table 4.5](#); see C.Gloss.Bil. II 6, 20 n.). While πίπερι does not appear in literary sources, it is prevalent in the papyri dating from the Roman and Late Antique periods. Interestingly, the earliest attestations of this variant come from the ostraca of the Roman garrisons in the Eastern Desert, namely Didymoi.

A noteworthy fact is the occurrence of the Latin-like spelling in a medical papyrus containing Hippocratic texts. In P.Ant. III 184, fr. 10, A, 12 (6th CE), we encounter the phrase [καλο]ῦσιν οἱ Πέρσαι πίπερι, where the Hippocratic tradition transmits καλέουσιν οἱ Πέρσαι πέπερι (*Mul.aff.* II 205). This serves as another example of the adaptation of the original literary language to the prevailing usage of spoken Greek, as discussed previously.

Once again, in [Table 4.5](#), medical texts are marked with asterisks, while supplements, abbreviations, and other uncertain spellings are not taken into consideration.

Table 4.5: Occurrences of πέπερι/πίπερι

Word	Papyrus source	Occurrence
πέπερι	*PSICongr.XXI 3v, ii 17, iii 2 (1st BCE)	πεπέρεως, l. πεπέρεως πεπέρε[ως]
	O.Ber. IV 513, 1 (second half 1st CE)	πέπερ[ι]
	*PSI X 1180 = PTestiMed. pp. 93–105 = SB XXVIII 17134, fr. A, iii 44; fr. B, iii 6, 14 (end 2nd/early 3rd CE)	πεπέρεω(ς) πεπέρεως πεπέρεω(ς)
	*P.Oxy. LXXIV 4975, fr. 1, 14 (2nd CE)	πεπέρεως
	*P.Princ. III 155r, 2 (2nd/3rd CE)	πεπέρ(εως)
	O.Did. 399, 14 (a. c. 120–125 CE)	πεπερίδιw, l. πιπερίδιw
	*P.Oxy. LXXX 5243, iii 3, 16 (2nd/3rd CE)	πεπ[έρεως πεπέρεω(ς)]
	*P.Oxy. LXXIV 4977, 15 (late 2nd/3rd CE)	πεπέρεως
	*P. Tebt. II 273 = GMP II 5, vi 19, vii 14 (late 2nd/3rd CE)	πεπέρεως πεπέρεως
	*MPER XIII 7, 5 (4th CE)	πεπέρε(ως)
	*P.Harr. I 98, 2 (4th CE)	πεπέρεως ^a
	*PSI VI 718 = SB XXVI 16458, 11 (4th CE)	πέ(περι)
	PSI XII 1264, 13, 16 (4th CE)	πεπέρεως πεπέρεως
	P.Lips. I 102, i 11 (end 4th CE)	πεπέρεως
	P.Turner 47, 3, 8 (4th/5th CE)	πεπέρ(εως) πεπέρ(εως)
	*PSICongr.XVII 19, 8 (5th CE)	πεπήρηως, l. πεπέρεως
	BGU XVII 2704, 2 (5th/6th CE)	πεπέρεως, πεπέρ(εως)
	SB XVIII 13966, 2 (5th/6th CE)	πεπεροπαστάρ[ιον]
πίπερι	O.Did. 327, 3 (a. c. 77–92 CE)	πειπέρεως, l. πιπέρεως
	O.Did. 328, 4 (a. c. 77–92 CE)	πιπεριδίου
	O.Did. 364, 9 (a. c. 88–96 CE)	πιπέρεως, l. πιπέρεως
	P.Quseir 28 = SB XX 14263, 7 (1st/early 2nd CE)	πιπεριδίου
	O.Claud. II 415, vii 10 (2nd CE)	πίπερ ^b
	*P.Berl.Monte 4, 2 (end 2nd/early 3rd CE)	π ιπέρεως
	*P.Oxy. LXXX 5243, iii 5 (2nd/3rd CE)	πιπέρεως
	*MPER XIII 4, 3 (3rd CE)	πιπέρεως

Word	Papyrus source	Occurrence
	P.Corn. 33, 15 (3rd CE)	πίπερας
	P.Oxy. VI 921v, 26 (3rd CE)	πιπεράς
	P.NYU II 51, ii 48 (3rd/4th CE)	πιπέραιω[ς], l. πιπέρεω[ς]
	P.Strasb. inv. G 1173 ^c = C.Gloss.Bil. 6v, 20 (3rd/4th CE)	πίπεριν glossed with πίπερ
	*MPER XIII 5, 3 (3rd/4th CE)	πιπέ(ρε)ω[ς]
	*P.Kellis I 89, 2 (4th CE)	πιπέρεως
	P.Oxy. X 1299, 10–11 (4th CE)	πιτε ράδιον
	SB XVI 12246, i 3 (4th CE)	πιπέριν
	P.Oxy. LIV 3731, 9 (c. 310/1 CE)	πιπέρεως
	P.Oxy. LIV 3733, i 8 (312 CE)	πιπέρεως
	P.Oxy. LIV 3766, v 84 (329 CE)	πιπέρεως
	P.Ross.Georg. III 9, 15–16 (end 4th CE)	πιπέ ρεως
	*P.Köln X 410, 4 (4th/5th CE)	[π]ιπέρεως
	O.Eleph.DAIK 317, 3 (4th/5th CE)	πίπερης
	CPR VII 42, ii 7 (5th CE)	πιπέρ(εως)
	PWash.Univ. I 59, 10 (5th CE)	πιπεράς
	*P.Horak 14r, 2 (5th CE)	πιπέρεως, l. πεπέρεως
	*BKT III pp. 32–33, A, 6, 10 (5th/6th CE)	[π]ίπερ πιπερ
	*SB XIV 11964, i 15 (5th/6th CE)	πιβέ[ρ(εως)], l. πιπέ[ρ(εως)]
	*P.Scholl. 13, fr. a, B, 9; fr. b, B, 24; fr. e, A, 4 (6th CE)	πιπέρεως πίπεριν, l. πιπέριον πιπέρεως
	CPR VIII 66, 3 (6th CE)	πίπερας
	P.Oxy. XVI 1862, 11c (c. 624 CE)	πίπεριν
	P.Apoll. 94, 4 (second half 7th CE)	πιπέρε(ως)
	SB XVIII 13750, 1 (second half 7th CE)	πιπέριν
	CPR XIV 53, 14 (early 8th CE)	πίπεριν

Notes:

^a New reading by Ieraci Bio 1998: *πιπέρεως ed.pr.*

^b It could also be a personal name (the text is a school list of disyllabic words).

^c Kraft 1999.

The spelling $\pi\epsilon$ - certainly belongs to classical Greek and should be regarded as the earliest form, as evidenced by the limited Ptolemaic occurrences (PSICongr.XXI 3v in [Table 4.5](#), but also SB VIII 9860, an early receptarium from the 3rd BCE, where fr. B, i 8 $\pi\epsilon$]πέρεως and iii 1–2 $\pi[\epsilon\pi\acute{\epsilon}]$ ριος are partially supplied but certainly did not adhere to the Roman spelling for chronological reasons). From the editorial perspective, it is noteworthy that both spellings are consistently treated as distinct terms, with no attempts to regularise one into the other, with only two exceptions: O.Did. 399, 14 $\pi\epsilon\pi\epsilon\rho\acute{\iota}\delta\iota\nu$, which was regularised as $\pi\pi\epsilon\rho\acute{\iota}\delta\iota\omicron\nu$ due to other occurrences of the latter spelling in other ostraca from Didymoi;¹⁰ and P.Horak 14r, 2 $\pi\pi\acute{\epsilon}\rho\epsilon\omega\varsigma$, which was regularised as $\pi\epsilon\acute{\epsilon}\rho\epsilon\omega\varsigma$. It is worth noting that the medical receptarium P.Oxy. LXXX 5243, dating back to the second or third century CE, presents both spellings coexisting, with the editor, D. Leith, refraining from regularising either, while acknowledging the contrast (iii 5 n.).

4.6 ζγγίβερι(ς)

Ginger was another typical spice product imported from the Far East; its name derives indeed from Sanskrit *śṛṅgaveram* (see Chantraine 1999, 401). In literary Greek, the standard form recorded is ζγγίβερι(ς) (inflected as $\pi\acute{\epsilon}\pi\epsilon\rho\iota$), found only in pharmacological works as an ingredient in medicinal preparations. Interestingly, none of the few attestations in the papyri displays the standard spelling. In contrast to the technical terms examined earlier, the phonetics of this word appear to have presented a systematic challenge, likely due to its combination of sounds, which posed difficulty for Greek speakers. Additionally, its usage may not have been as widespread as the previously discussed terms.

Consequently, [Table 4.6](#), encompassing the papyrological occurrences of ginger, is organised somewhat differently from the previous ones. The various spellings are listed on the left, accompanied by references to the sources in the middle column (with asterisks denoting medical texts), and the corresponding editorial regularisations on the right.

Table 4.6: Occurrences of ζιγγίβερι(ς) and variants

Occurrence	Papyrus source	Editorial regularisation
ζινγιπέρεω[ς]	*MPER XIII 4, 4 (3rd CE)	l. ζιγγιβέρεω[ς]
ζηγγηβέρεω[ς]	*MPER XIII 14, 32 (7th CE)	l. ζιγγιβέρεως
ζινκιβέρεως	*P.Scholl. 13, fr. a, B, 11 (6th CE)	l. ζιγγιβέρεως
[ζ]ινκιπέρεως	P.Oxy. LIV 3766, v 101 (329 CE)	l. ζιγγιβέρεως
σιγκιπέρ(εως)	*SB XX 14502, 19 (5th CE)	l. σιγκιβέρ(εως) [sic]
κίκιπερ ^a	*P.Köln. X 410 (4th/5th CE)	l. γίγγιβερ
ριγγιπίρεος	*BKT III, pp. 32–33, A, 10 (5th/6th CE)	l. ζιγγιβέρεος

Note: ^a Perhaps better κικιπέρ(εως).

The first five attestations present various different renderings of the constituent sounds forming the word root. The initial ζ is consistently preserved, except for a singular instance in where it is substituted with σ (see Gignac 1976, 120–2 and see [Section 4.4](#) for σμύρνα/ζμύρνα); in the Oxyrhynchus papyrus (a price list of a drug seller, the sole non-medical instance), the initial letter is unfortunately lost. Similarly, the vowels ι are generally maintained, with the exception of a case where they are replaced by η, a letter that was phonetically similar in pronunciation at that time (see Gignac 1976, 235–39). The nasal sound within the γγ cluster is typically unassimilated (νγ) (Gignac 1976, 168), occasionally with the voiced stop γ reduced into the voiceless κ (Gignac 1976, 78); in one instance, the γγ cluster is rendered as γκ. Finally, the voiced β occasionally undergoes reduction to the voiceless π (Gignac 1976, 83).

As is clear, the phonetic phenomena involved are all typical of the Greek spoken language as attested in the Hellenistic and Roman papyri. In this particular case, however, they highlight a particularly challenging word, of exotic origin and possessing a high level of technicality, that struggled to adapt to the spoken language. The phonetic changes are mixed together, seemingly without a rationale, and do not reveal any discernible chronological pattern. All editors recognised the attested wordings as alterations of the original term and consistently regularised them accordingly.¹¹

The sixth attestation displays the spelling κικιπ-, which has been tentatively explained by the editor of the Kölner papyrus, Giuseppina

Azzarello, as an influence from the Latin term for ginger, *gingiber*, via an unattested *γίγγιβερ (> *κίκκιπερ > κίκκιπερ). This phenomenon bears resemblance to the adoption of πίπερ from Latin *piper*, as discussed earlier. In truth, it is challenging to account for this spelling variation as a series of phonetic changes from an original ζιγγιβ-. Thus, Azzarello's proposal should appear to be the most likely explanation. Moreover, the hypothetical form *γίγγιβερ may plausibly underlie the form ριγγιπ- in the final attestation of the list. The substitution of ρ for ζ finds no parallel in the papyri, while a couple of instances of ρ replacing γ do exist, though both result from assimilation phenomena.¹² At any rate, it appears to me that ριγγιπ- can be better understood as a dissimilation from γιγγιβ- rather than an evolution from ζιγγιβ-.

4.7 Concluding remarks

The presence of variant spellings for specific technical terms, often originating from outside the Greek language, within the Greek medical (and non-medical) papyri raises intriguing questions from both the perspectives of linguistic history and editorial representation. Beyond mere phonetic variations, such as those observed in κολλύριον and ζιγγίβερι, uncertainty persists regarding whether to standardise these terms and, if so, which version should be considered the standard: the presumed 'original' σμύρνα, ψιμίθιον, πέπερι, or the 'variant' but extensively employed ζμύρνα, ψιμίθιον, πίπερι? In the context of digital encoding of papyrus texts, this issue becomes even more critical, as it is essential to furnish the database with all the pertinent information that aids in lexical queries. For instance, if one were to search for σμυρν- but not all instances of ζμυρν- are 'regularised' with σμυρν- in the apparatus, the search results would be incomplete. The same holds true vice versa and for the other terms discussed earlier. However, encoding σμυρν- as a linguistic regularisation for ζμυρν- (and so forth)¹³ poses problems, since it does not fully align with the actual historical progression of these words as explored previously.

Consequently, we must acknowledge that the current solutions, while invaluable and indispensable for employing digital tools in papyrological research correctly, appear somewhat inadequate in tackling such intricate questions (see Reggiani 2018, 26–29, 2019; Stolk 2018). A multi-layered perspective, wherein the various word variants exist on parallel levels rather than in a hierarchical relationship ('regular–

irregular,’ ‘standard–non-standard,’ ‘correct–incorrect,’ and so on), may offer a potential approach for dynamically representing the comprehensive cognitive networks encompassing ancient papyri.¹⁴ Such an approach would enable a more nuanced understanding and interpretation of these complex linguistic (and cultural) phenomena.

Notes

- 1 This contribution falls within the objectives of the PRIN 2017 project Greek and Latin Literary Papyri from Graeco-Roman and Late Antique Fayum: Texts, Contexts, Readers (PI Lucio Del Corso, University of Salerno) research unit at the University of Parma (coordinator Nicola Reggiani, www.papirologia.unipr.it/ricerca/prin2017.html). Papyri are cited according to the official abbreviations in the *Checklist of Editions of Greek, Latin, Demotic, and Coptic Papyri, Ostraca, and Tablets* at <https://papyri.info/docs/checklist> except for two non-standard sigla, of frequent use in medical papyrology: GMP instead of Gr.Med. Pap. and P.Fay.Coles for Coles (1970).
- 2 In general, on the Greek medical papyri, see Andorlini (1993); Hanson (1985, 1997); Marganne (1981, 1995, 2004). On the Greek medical technical micro-language in the papyri, see Andorlini (2017, 15–36, 2018); Bonati (2016, 2018a, 2018b, 2018c, 2019); Fausti (1997); Ghiretti (2010, 2016, 2018); Maravella (2018). On paralinguistic/paratextual features in the Greek medical papyri (layout structures, paratextual marks, formulaic phrases), see Reggiani (2020, 2022, 2023).
- 3 For example, in P.Aberd. 11 (= GMP I 1, Hippocrates *De fracturis* 37, 2nd century CE), at line 14, in a passage where the manuscript tradition (as well as modern editions) presents the ‘regular’ Ionic form πήχεος, the papyrus clearly shows (as already transcribed by Eric Turner, *ed.pr.*) the form π[ή]χεως, which belongs to the κοινή dialect, thereby creating an ‘interference’ (generating a linguistic variation) from the language attested in documentary papyri, where, on the contrary, it would be considered the standard form. See Reggiani (2019, 244). The inconsistency in the usage of the Ionic dialect by Hippocratic writers and the papyrus tradition is discussed by I. Andorlini, GMP I 1, Introduction and 14 n. A related case will be addressed in [Section 4.5](#).
- 4 For example, the ingredient καδμεία/καδμία (zinc oxide); see Andorlini (2017, 40–44).
- 5 For example, the ingredient ὀποβάλαμον (i.e. ὀπὸς βαλσάμου, the juice of the balsam-tree: see PSI X 1180 = P.TestiMed. pp. 93–105 = SB XXVIII 17134, fr. B, iii 13 ὀποῦ βαλσάμ(ου)), which is occasionally spelled ἀποβάλαμον in late Roman papyri (CPR XVIIa 25, 11 and 13: 307 CE; BGU I 34 = P.Charite 36, v 13: c. 322 CE; O.Trim. II 826, 7: third quarter 4th CE; O.Bodl. II 2153, 1: 4th CE; P.Horak 14r, 5: 5th CE). This variation arises from a banal confusion between the prefix ὀπο- and the preposition ἀπό (note that the early editions of the Berlin papyrus and the Bodleian ostrakon incorrectly printed ἀπὸ βαλσάμου, then

- corrected in BGU III, p. 1 and by H. Cuvigny via *Papyrological Editor*, respectively). The correct spelling is found in P.Harr. I 98, ii 1 (4th CE) and PSI IV 297b, 13 (5th CE).
- 6 See Andorlini (2017, 45 n. 50): perhaps from Egyptian *mšdmt*, late form *šmt* (same origin as στίμμι, galena, lead sulfate). See also Chantraine (1999, 1292).
 - 7 See LSJ s.v.; ψιμ- is found in few late authors, among which Aetius of Amida.
 - 8 ‘Nei papiri è scritto quasi regolarmente ζμ-’ (Andorlini 2017, 37 n. 1); ‘ζμύρνα is the regular spelling in the papyri’ (D. Leith, P.Oxy. LXXX 5243, ii 6 n.).
 - 9 Conversely, see the attestations of the attribute σμυρναῖος: BGU VI 1300, 14 (210 or 193 BCE); P.Oxy. XIV 1739, 6 (2nd/early 3rd CE); P.Lond. III 1178, 52 (early 3rd CE); CPR X 139, 3 (6th CE).
 - 10 I cannot understand the apparatus note of O.Krok. II 189 πήγανον, I. πιπερίδιον? (98–117 CE).
 - 11 In the case of SB 14502, the commentary in the *ed.pr.* (Sijpesteijn 1985) reads ‘σιγπιτέρ(εως) [*sic*, with a typo] = σιγκιβέρ(εως)’, but a form σιγκιβερ- is unattested and certainly not regular. The SB reprint did not reproduce this in its apparatus.
 - 12 P.Cair.Zen. II 59172, 35 δῶρυρος for δῶρυγος (mid-3rd BCE); P.Grenf. II 95, 2 ἀγαρευόντων for ἀγαρευόντων (6th CE).
 - 13 For technical details about digital encoding of regularisations, see Reggiani (2017, 236–40) and Stolk (2018).
 - 14 I address these issues in greater detail in Reggiani (2025). Lemmatisation and layered linguistic annotation as developed by the PapyGreek project and platform (e.g. Henriksson and Vierros 2025; Vierros 2018), combined with a list of variants for each lemma—as thoughtfully suggested by Marja Vierros, whom I thank for the hint—may provide an effective way to resolve the editorial uncertainties discussed.

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CHAPTER 5

Remarks on Adams' category 'regional' loanwords

Selected examples from Latin documentary papyri

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Abstract

This chapter examines Adams' (2003, 443–47) category of “regional” loanwords’ using selected Greek words in Latin documentary papyri from Egypt (1st century BCE–seventh century CE). In the light of factors favouring Greek–Latin language contact, it addresses the following questions: What are the advantages of adding a further label for lexical transfers due to language contact that took place in some specific contexts? What are the problems or limits of this category? The discussion of the examples will show that the limits overcome the advantages and that on balance the category does not prove to be useful as it may seem at first glance.

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5.1 Introduction

Greek–Latin bilingualism and language contact in the East are an expanding research area thanks to the edition of new texts, the refinement of historical sociolinguistics, and the development of a copious bibliography that investigates various aspects of these phenomena from different perspectives (Adams 2003; Adams, Janse, and Swain 2002; Evans and Obbink 2010; Halla-aho 2003; Leiwo 2018; Marganne and Rochette 2013).¹ Egypt is one of the areas where such contact can be best observed not only because it was a crossroad of languages, cultures, and civilisations but also because its climate made it possible to preserve textual artefacts.

This evidence shows that Greek–Latin language contact took place from Greek to Latin and vice versa in various areas of these two languages. Vocabulary is one of the areas most exposed to such contact and has been abundantly studied, especially with regard to Latinisms in Greek (Adams 2003, 441–72; Biville 1989; Dickey 2012, 2018, 2023; Filo 2006, 2010). One of the major issues has been assessing the criteria for establishing the status of words and expressions of foreign origin since language contact phenomena form a continuum in synchrony and diachrony and therefore are not easy to describe (Dickey 2012, 2018; Gardner-Chloros 2009; Langslow 2012; Matras 2009). Transfers from one language to another are in fact triggered by various factors and can be described with different terms based on a number of parameters. The typical terms are borrowing, code-switching, and interference. However, these are not undisputed or used by all researchers in the same way, and over time, other descriptions have been proposed (for a discussion of the limits and the advantages of modern classifications, see Dickey 2018, 2023). Furthermore, when we examine lexical transfers in Ancient Greek and Latin, we must consider the limits of the ancient sources, especially of the archaeological ones. These offer anecdotal evidence, their context is often unrecoverable because the papyrus, tablet, or ostrakon is damaged, and we cannot always tell if a scribe was more familiar with Greek or Latin and if and to what degree he was bilingual or monolingual.

This chapter touches upon the issues mentioned above and specifically discusses a category that was established by Adams (2003, 443–59) for some lexical transfers from languages other than Latin into the Latin of specific areas, that is the category of “regional” loanwords. For

this purpose, it examines selected Greek words from Egyptian Latin papyrus documents.

5.2 'Regional' loanwords

Latin papyrus documents from the East show quite a few transfers of Greek words or expressions that are rarely represented or otherwise not attested in the surviving Latin evidence as a whole. Most of the times these Greek words concern local objects (e.g. *(h)amaxa*: [Subsection 5.2.1](#)), local institutions or customs (e.g. *aneglogistus*: [Subsection 5.2.3](#)), or titles of local officials or workmen (e.g. *pagarcha*: [Subsection 5.2.2](#)). In some cases, they also concern vocabulary that is not specific of a place (e.g. *tritum*: [Subsection 5.2.3](#)). The use of these Greek words was ultimately favoured by the pressure of varieties of Greek on the Latin used in the Greek-speaking contexts where the documents were written and these Greek words were used. Plausibly, some of the Greek words in question may have been used not only by bilinguals in the broadest sense of the term—that is, people who had acquired (some) Latin being first-language speakers of varieties of Greek or of another local language and who therefore had some knowledge (however slight) of more than one language—but perhaps even by first-language speakers of Latin. (On the debated notion of bilingualism, see Adams 2003, 3–8; Adams, Janse, and Swain 2002.) The transfers in question hence imply different sociolinguistic dynamics.

Modern scholarship has not comprehensively collected or discussed these transfers except for some examples in Adams' (2003, 441–59) book *Bilingualism and the Latin Language*. Specifically, Adams (2003, 443) approached the 'transfer of local terms belonging to other languages into the Latin of those language learners, bilinguals or first-language speakers of Latin' in various areas, including Egypt. Adams (2003, 443 n. 100) called such words "'regional' loanwords' and established the category based on a previous suggestion of André (1971, 127). In his study on Greek loanwords and suffixes in Latin, André had briefly mentioned some Greek words concerning the army, the administration, and the irrigation known from Egyptian Latin sources (*chiloma*, *chirista*, *choma*, *chomatepictes*, *epicrisis*, *episcepsis*, *(h)amaxites*) and had described them as 'emprunts strictement provinciaux', that is, terms 'disponibles ... localement'. According to Adams (2003, 29), unlike well-established loanwords, 'regional' loanwords 'constitute

evidence of regionalisms determined by local language contacts' and 'an important, but largely neglected, regional feature of provincial varieties of Latin' (2003, 443).

In the specific case of Greek words attested in Latin archaeological sources from Egypt, Adams (2003, 443) established three further classes of 'regional' loanwords mainly based on the following criteria: the scribe's familiarity with Latin and Greek, the meaning of the word in question, and the existence of a Latin equivalent (see [Subsection 5.2.1](#)). In the actual analysis, he also considered the possible presence of other Latin instances and their distribution across time and space as well as the context of use, although these latter factors are not explicitly mentioned when grouping the words in the relevant classes and are not crucial for that purpose. Furthermore, Adams (2003, 447, 524–25) specified that the adjective 'regional' cannot be intended as referring to a regional dialect of Egypt, because in Egypt there was no established Latin-speaking population and Latin speakers could come from different provinces of the empire, perhaps retaining their own regional dialects (on Latin in Egypt, see Adams 2003, 527–641). In Adams' (2003, 447) words, the adjective is used for the following reason:

to outsiders coming to Egypt for the first time the currency of local Greek words in forms of Latin speech might well have attracted attention. These may be seen as a special category of regionalisms, imposed in one area on the Latin speech of immigrants with a variety of (non-Egyptian) regional dialects.

Adams' (2003, 458) discussion of Greek 'regional' loanwords in Latin archaeological sources is rather short and explicitly said to be based on a partial examination of the extant evidence available at the time. Furthermore, the category 'regional' loanwords was not investigated further by Adams (2007, 2016). A reconsideration of this category seems useful not only for these reasons but also because there is no updated discussion of the language and vocabulary of Latin papyrus texts despite the progress made in this area thanks to the editions of new Latin texts and the improvements in the reading of already published ones, especially within the European Research Council (ERC) project PLATINUM.

Therefore, in the paragraphs below I will examine Adams' category 'regional' loanwords based on selected Greek words in Latin papyrus documents from Egypt. These examples were drawn from an updated

list that I made for my PhD dissertation, *Forme del bilinguismo latino-greco e greco-latino in Oriente (I a.C.-VI d.C.): la prassi documentaria*, which was written within the ERC project PLATINUM. This list includes Greek words in Latin and Latin-Greek papyri, ostraca, and tablets (1st BCE–6th CE) currently known and found in the East. In the light of factors favouring Greek–Latin language contact, I will address the following questions: What are the advantages of adding a further label for lexical transfers due to language contact that took place in specific micro-contexts, that is, ‘in individual speakers or small communities where there is explicit evidence of bilingualism and language contact’ (Adams 2003, 426)? What are the problems or limits of Adams' category?

5.2.1 First class

To quote Adams (2003, 443), the first class of ‘regional’ loanwords contains ‘words for which there existed a Latin equivalent; the writer was so familiar with the local Greek term that he adopted it in response to local conditions’. In this class, Adams (2003, 443–45) included some words from different micro-contexts: *loncha* (< λόγχη) ‘lance’ used in place of the expected *lancea* in a letter sent by Claudius Terentianus to Claudius Tiberianus (*P.Mich.* VIII.467.20); *ydreuma* (< ὕδρευμα) ‘well’ used in place of the expected *fons* in a Latin letter from Mons Claudianus (*O.Claud.* I.2);² *amaxe* (for (*h*)*amaxae*, < ἄμαξα) ‘wagons’ in one of the letters of Rustius Barbarus from Persou (Bir Umm Fawakhir) (*C.Pap.Lat.* 307.5); *chiloma* (< χεῖλωμα) ‘box, coffer’ occurring in another letter from Persou (*C.Pap.Lat.* 304.13).³ Of these examples *loncha* and *chiloma* are not otherwise attested in Latin surviving evidence, (*h*)*ydreuma* occurs in other sources from the Eastern Desert, (*h*)*amaxa* is also attested in an ostracon letter from Maximianon (*SB XXVIII.17099.3*: late 1st–early 2nd century CE) and in a passage from the *Historia Augusta* (*Max.* 6.9) (Adams 2016, 254, 314). It can be compared with the related term *amaxitem* (< ἄμαξιτης) ‘carter’ in another letter of Rustius (*C.Pap.Lat.* 303.6). With regard to the Greek words, χεῖλωμα is used in *P.Oxy.* X.1294.5 and 12 with the same meaning as *chiloma*, while ὕδρευμα and ἄμαξα were current in the relevant micro-contexts.⁴ According to Adams, some of these terms would be transfers occasionally made by fluent bilinguals (*loncha*), and some others would illustrate partial convergence in the use of technical terminology

within bilingual (military) communities that likely favoured communication and the handling of practical affairs (*ydreuma*, *amaxe*, *amax-item*, *chiloma*).

A few pages after his main discussion of this first class, Adams (2003, 445, 446–47) gave a few more examples in passing, explicitly saying that they belong to the first class: a couple of other instances in Terentianus’ letters and two words in a second-century CE Latin account from Tebtynis (*ChLA* V.304). *ligna causima* (a.29, b.4) represents ξύλα κάσιμα ‘firewood’ and is used twice instead of the Latin *cremia*, *causimus* being quoted by the TLL III.659.42–43 only from this account. On *ῥοταμίτ*[---] (b.12) Adams (2003, 445) briefly observed: ‘*ῥοταμίτ* (incomplete) must represent ποταμίτης, “water-finder”’. The borrowing is not noted in the TLL (X.2, fasc. II). The Latin equivalent was *aquilex*. Below I will discuss this word at some length also considering new data on the context and vocabulary of the papyrus.

ῥοταμίτ[---] is among the clues supporting the hypothesis that the account lists expenses perhaps connected to the restoration or construction of a bath. This hypothesis is proposed by Ornella Salati in her new edition in the *Corpus of Latin Texts on Papyrus* (henceforth *CLTP*). It is based on archaeological sources that attest to the existence of baths in Tebtynis from the Hellenistic time down to the mid-first century CE at least (see Hadji-Minaglou 2009; Hoss et al. 2011), and on the possibility that a bath would also be located in one of the so-called big houses (on which, see Hadji-Minaglou 2007). The vocabulary for workmen, materials, and objects is consistent with this hypothesis (e.g. *vasum* ‘jar’, *fistula* ‘pipe’, *lucerna* ‘lamp’, *oleum* ‘oil’, *pictor* ‘painter’; see Pezzella 2023). It is thus a reasonable assumption that the account refers to an already existing bath or to a new one, built from the ground up.

ῥοταμίτ[---] is apparently not otherwise attested in Latin surviving evidence and is among the Graecisms occurring in the account: it seems to be an inflected form from ποταμίτης, as already noted by Adams, and among the oldest occurrences of the Greek term (see Pezzella 2023). Due to material damage, it is impossible to know whether *ῥοταμίτ*[---] had a plural dative ending, like other substantives for workmen (e.g. *phalangaris* ‘for porters’, a.8, 11; *pictoribus* ‘for painters’, 19), whether it was integrated into Latin morphology, and, if so, how. The suffixes *-tes/-ta* are equally possible (see Adams 2003, 419–20; André 1971, 73–103), and Greek influence shaped the language

of this text in many ways (see later in this subsection). According to LSJ s.v., ποταμίτης denotes the 'water-finder' or a 'worker employed by the Nile conservancy'. The latter rather vague meaning can be better understood considering papyri: there, ποταμίτης is attested until the Byzantine and Arab times and indicates workers employed in the maintenance of the irrigation and responsible for various activities (e.g. closing the opening of breaches, building vaults, digging the reservoir of tanks: see Bonneau 1993, 136–37 and Morelli 1997). The former meaning is suggested by the equivalence with the Latin term *aquilex* in a gloss from pseudo-Philoxenus (CGL II.18.45), and this lexical correspondence is signalled by LSJ s.v. ('Lat. *aquilex*, Gloss.') and endorsed by Hunger (1986, 133–34 n. 2) and Adams (2003, 445), the latter presumably relying on LSJ s.v. but without providing bibliography or ancient evidence. Even though the exact activities carried out by the *aquilex* are obscure to us, likely *aquilex* could denote not only the water-finder but also a sort of architect, as suggested by a letter from Pliny to Trajan (10.37.2, 3).⁵ This data and the extralinguistic context suggest that *poṭamīt*[---] perhaps indicates the workers involved in water provision or maintenance of the building for which the accounts are disposed.

Adopting Adams' perspective in the account *poṭamīt*[---] would occur in place of a Latin equivalent (*aquilex*) due to the scribe's familiarity with Greek and 'in response to local conditions'. This may be the case, but one must consider the difficulties of this hypothesis and other possibilities. The scribe was indeed bilingual. According to Adams (2003, 628), phonetically inspired contractions such as *aciscularis* 'for stonecutters' (a.15) and *musaris* 'for mosaic workers' (a.18) suggest 'familiarity with spoken Latin'. Even more clearly, palaeography and vocabulary show that the scribe did know Latin. He was familiar with the palaeographic and syntactical features of Latin lists: the layout is in narrow columns, some entries are marked with ekthesis (a.27, b.2), the first letter of an entry is usually enlarged, and there is variable use of cases (nominative, dative, and accusative alternate for the objects or workers to be paid).⁶ The scribe used both ordinary Latin words (e.g. *pictor*, *vasum*, *oleum*, *pix*) and Latin phrases or words otherwise unknown (e.g. *fabris materiariis* 'for carpenters', a.16) or not frequently attested in the surviving evidence (*musaris*, a.18; *veteraris*, 21; see Pezzella 2023). In the latter two cases the words are of Latin origin, and their use does not suggest an imperfect command of Latin. At the same

time the scribe was exposed to Greek influence not only in vocabulary (see also *chalciothekis*, a.14: § 2.2; *collema* < κόλλημα ‘glue’?, 17; see Adams 2003, 445; Pezzella 2023, especially for discussion of *collema* and its possible meaning) but even in morphosyntax. Adams (2003, 445, 519) noted that two expressions are modelled on Greek ones: *lignorum causimorum*, mentioned earlier in this subsection, and *harundines Graeci* ‘Greek reeds’ (< κάλαμοι Ἑλληνικοί, b.5)—the feminine *harundo* is here treated as a masculine, possibly under Greek influence. The language of the account accordingly suggests that in second-century Tebtynis there was a Greek-speaking milieu where Latin was known in both oral and written forms (Adams 2003, 455).

Turning back to *ῥοταμίτ*[---], on the whole, the example is a borderline case. The scribe’s familiarity with Greek was indeed one of the factors favouring the use of this word, but one must also consider the technical meaning of *ποταμίτης* and the plausible diffusion of the latter term in the context where the account was written, unless Adams’ expression ‘local conditions’ is meant to cover these two. Furthermore, I could not find ancient evidence other than the gloss in pseudo-Philoxenus supporting the equivalence between *ποταμίτης* and *aquilex*, especially in Egypt, and the fact that we are uncertain about the tasks carried out by the *aquilex* makes it impossible to know whether the Latin and Greek words were actually synonyms. Even assuming that the equivalence is real, the fact that the scribe knew Latin and could use Latin words that for us are rare or not otherwise attested does not necessarily imply that he also knew *aquilex*. Finally, the occurrence of the word in a document constituted by ordinary words is not telling: other bilinguals in Tebtynis may have understood the word independently from its eventual diffusion in the Latin of that context. Consequently, in the absence of other data it would be better to describe *ῥοταμίτ*[- -] as a Greek lexical transfer due to the various factors mentioned above.

The example helps us understand that while the scribe’s familiarity with Greek and the potential influence of local usage likely contributed to the use of Greek words, the precise relationship between those words and Latin words considered to be equivalent is not always certain. Also, it shows that the adoption of Greek words could be the result of several co-occurring factors.

5.2.2 Second class

In the second class, Adams (2003, 443) gathered 'local Greek technical terms for which it might have been difficult to find a Latin equivalent'. The following are Adams' (2003, 445–46) examples: *zeucterias* (< ζευκτηρία) 'a piece of harness or a special piece of rope used in the transportation of the stones' (Adams 2003, 445 redirecting to *O.Claud.* I, 118) in a Latin letter from Mons Claudianus (*O.Claud.* I.131.3); *buneuris* (< βούνευρον) 'whip of ox hide' in a fourth-century CE bilingual record of court proceedings (*P.Lips.* I.40.20); *chalciothekis* (< *χαλκιοθήκη for χαλκοθήκη) 'cistula aenea ... uel cista aeneorum nummorum' (Adams 2003, 445 redirecting to TLL III.984.11) in the Tebtynis account discussed in [Subsection 5.2.1](#). All three words relate to Greek terms known from various Greek sources.⁷ On the other hand, the corresponding Latin words are not otherwise attested in the extant Latin evidence. According to Adams, due to their specialised meaning the Greek terms in question could have hardly been translated into Latin except by a periphrasis. To give another practical example of this process, Adams (2003, 445–46) referred to *mystae piei* (< μύσται εὐσεβεῖς), an expression for initiates attested in some Latin inscriptions at the sanctuary of Samothrace (e.g. *ILLRP* 211, 214). According to Adams (2003, 446), the Latin transliteration of the Greek term perhaps suggests 'the unavailability of an obvious Latin term' and that 'the Greek word might have been distinctive of the Latin used in formal inscriptions at Samothrace', although it was used in Latin poetry.

The following Greek words in Terentianus' letters mentioned by Adams (2003, 446–47) possibly belong to this second class: *xylesphongium* (< ξυλοσπόγγιον, *P.Mich.* VIII.471.29) 'a stick with a sponge attached used for the same purpose as mod. toilet-paper' (*OLD* s.v.), also written in *AE* 1941.5b (Ostia) and perhaps in the *Mulomedicina Chironis* 614 as *solispongium/solispungium* (hypothesising that the obscure phrase *quasi solispongium/solispungium* is an unsuccessful translation of a Greek model like ξυλοσπόγγιον ποιήσας 'having made a *xylospongion*');⁸ *[ana]boladum* (< ἀναβολάδιον, *P.Mich.* VIII.467.5) 'a mantle', attested in a few later Latin sources; *sabana* (< σάβανον, *P.Mich.* VIII.468.10–11) 'a linen cloth', a Semitic word also found in Greek and not attested in Latin before the date of *P.Mich.* VIII.468. The word *xylesphongium* deserves some discussion. According to the first editors and Paolo Cugusi, it would be from the unattested

*ξύλεσφόγγιον (*P.Mich.* VIII, 39; *C.Epist.Lat.* II, 174). Adams (1977, 8, 2016, 278) also mentioned *ξύλεσφόγγιον as a possible source of *xylesphongium* but proposed as an alternative that the Greek -o- would here be replaced by the typical linking morph -i- (written *e*) of Latin compounds. On the other hand, Seldeslachts (2021, 320–27) interpreted *xylesphongium* as an alteration of *xylosp(h)ongium* (< ξυλοσπόγγιον) due to a connection of this word with *spongia* and the possible pronunciation **espongia* of the latter term based on the similarity of those two words, the use of the subjunctive *spec[t]emus* for *ex(s)pectemus* in *P.Mich.* VIII.471.24, and Latin evidence for prosthesis. *xylesphongium* would thus be indirect evidence of prosthesis in Latin forms spoken in second-century Egypt.

All the words above feature a specialised meaning. The examples in Terentianus' letters are also known from a few other Latin sources and are classified among 'regional' loanwords mainly because of the Greek-speaking context in which Terentianus' letters were written and of the scattered distribution across time and space of the other few Latin instances. The remaining words are described as 'regional' loanwords due to their specialised meaning and the absence of other Latin occurrences. However, it is precisely this fact that, especially in some cases, makes it impossible for us to exclude the possibility that we are dealing with ad hoc transfers used under particular circumstances.²

An example that further illustrates this difficulty is *pagarcha*. The word is written in the judicial speeches of a fourth-century CE bilingual record of proceedings (*ChLA* V.292) before a *praeses Augustamnicae*, possibly Arianus Alypius (351–352 CE) (on the document and its chronology, see Pedone 2020, 11–12). It was read by Pedone (2020, 10) in his new edition in place of *pagarchia* printed by R. Marichal in *ChLA* V.292. The term occurs in two fragmentary lines; the reading is confirmed by παγάρχην (4; Pedone 2020, 10, 16), but the integration of the term into Latin morphology cannot be ascertained: [±10] *inari debet pagarch* [L]a 'the *praepositus pagi* must ...' (7), [±12] *praesente eodem super consituyendo pa[garcha]* 'the same ... on the appointment of the *praepositus pagi*' (10).¹⁰

Pagarcha is from παγάρχη/πάγαρχος, a Greek derivative of a Latin loanword (πάγος < *pagus* + -αρχης) that usually refers to an official charged with the tax collection and attested from the beginning of the sixth century CE, the *pagarch* (Dickey 2023, s.v.; Filos 2010, 250; LSJ s.vv; on the *pagarch*, see Pedone 2020, 16 with bibliography). *Pagarcha*

is otherwise unknown from the extant Latin sources, is not lemmatised in TLL, *OLD*, or the works in the Brepols Database of Latin Dictionaries, and there is no Latin term for the pagarch (in the Brepols Database of Latin Dictionaries, only Du Cange lists later instances of *pagarchi* 'pagorum praefecti'). TLL X.1.84.19.21 (with correction in TLL X.1.2781.41) lemmatises *pagarchia* based on Marichal's superseded edition. On the other hand, there are several occurrences of *παγάρχης/πάγαρχος* in Greek texts, and other derivatives of *πάγος* are attested from the fourth century CE onwards (*παγαρχία*, *παγαρχέω*; *παγαρχικός* and *παγαρχίτης* are labelled 'rare' and perhaps 'not ancient' by Dickey 2023, s.vv.; according to Dickey 2023, s.v., *ὁμόπαγος* is 'rare').

At first one may think that the word was transferred from Greek because of its specialised meaning and the absence of a Latin equivalent, as is the case of other words for local officials and administration (cf. some of the terms mentioned by André 1971, 127). However, this seems not to be the case not only because of chronology but also because in Greek papyri down to the second half of the fourth century CE *παγάρχης/πάγαρχος*—and the related terms *παγαρχία* 'the office of the *παγάρχης*' and *παγαρχέω* 'to hold the office of *παγάρχης*'—can also designate the *praepositus pagi*, who was responsible for the exaction of taxes in kind in the *pagus* (see Pedone 2020, 16 with nn. 27–28 and bibliography). As pointed out by Pedone (2020, 16–17), in the record *pagarcha* would be accordingly used as a non-technical term for *praepositus pagi*. This implies that the transfer, although specialised in meaning, would not be due to the absence of a Latin equivalent (*praepositus pagi*) but to the pressure of Greek.

In Late Antiquity, Latin began to dramatically weaken in documentary papyri, even in the administration, being basically used for a few documents and in formulae or expressions in Greek documents (Fournet 2019 offers a recent overview of Latin in Late Antiquity). *ChLA* V.292 is a good example of this situation. The record is in Greek except for the skeleton (i.e. the heading containing a dating formula in Roman style and the formulae introducing participants and their speeches), as in other Late Antique bilingual records of proceedings, and the speeches and verdict of the judge, which are in Latin. As noted by Adams (2003, 383–90), Latin is used for different purposes. In the skeleton Latin represents a written convention typical of this document type in Late Antique papyri from Egypt and earlier and Late Antique inscriptions from other Eastern provinces. This feature contributes to

the readability and recognisability of these official documents. Code-switching to Latin in the judicial speeches and in the verdict implies an aggressive use of the language: by sentencing in Latin before a Greek-speaking milieu the judge emphasised his authority (for a similar case see e.g. *P.Sakaon* 33). The writing of the Latin heading in an elegant chancery script and of the verdict in *ekthesis* and in larger characters are editorial strategies that serve practical needs and contribute visually to the representation of power (Pedone 2020, 8–9). The same scribe was responsible for both Greek and Latin and could use different styles of Latin script (Pedone 2020, 9 with bibliography). *ChLA* V.292 thus contributes to show that, even though a weakening of Latin was happening in coeval papyri, some functionaries were required to have at least a rudimentary knowledge of Latin, and some officials were supposed to know some Latin (after all, Roman laws were issued almost exclusively in Latin up to 534 CE; see Corcoran 2017). Finally, if the record is connected to the Greek documents concerning the collection and transport of tax grain in *P.Mich.* XX.800–26 (354–375 CE), as suggested by Pedone (2020, 18–20), *ChLA* V.292 would witness to the circumstance that the presence of Latin in Late Antique and Byzantine dossiers and archives was typically even smaller than it was in earlier centuries.¹¹ Between the first and the second century CE some dossiers and archives included documents entirely written in Latin or containing conspicuous Latin sections. A well-known case is the archive of Claudius Tiberianus, but one should also consider the letters on ostraca of Rustius Barbarus and those archives that, though mainly constituted of Greek documents, also preserve some Latin documents and/or documents implying a now lost Latin original.¹² On the other hand, with a few exceptions (e.g. the archive of Flavius Abinnaeus; see *C.Epist.Lat.* II, 335–47; Adams 2003, 555–57), in Late Antique and Byzantine dossiers and archives the use of Latin was mostly restricted to formulae or writing elements mainly for its prestige and symbolic value. For instance, in the archive of the Apion family (see Azzarello 2010; Mazza 2001), Latin occurs in Greek ‘tabellionic’ documents, most of the times in the Greek notary signatures transliterated into Latin characters.

Given this situation, one may argue that *pagarcha* is not a loanword at all—even ‘regional’—but a code-switch. In any case, it is hard to imagine that *pagarcha* was regularly used in Egypt and in the context where *ChLA* V.292 was written.

This example helps to understand that, even though the specialised meaning of a Greek word and the absence or the difficulty of finding a Latin equivalent could sometimes trigger the adoption of that Greek word, this is not always the case or, at any rate, it is not always telling of its status in Latin. In the absence of further occurrences and detailed information on the context of the occurrence(s) it is risky to assume that a Greek word was used regularly or not in the Latin of some micro-contexts only because of its specialised meaning and/or because of the difficulty of finding a Latin equivalent. Adams' discussion of 'regional' loanwords of the second class does not specifically address the question of whether these words were used regularly or not in the Latin of those contexts, but at the same time it does not overtly consider the possibility that at least some of these technical words could also be described as code-switches. Transfers of the latter type are in fact explicitly grouped in the third class of 'regional' loanwords (see [Subsection 5.2.3](#)).

5.2.3 *Third class*

In the third class, Adams (2003, 443) gathered

transfers determined by a writer's lack of fluency in Latin, as a result of which he either adopted Greek words because he was unaware of their Latin equivalents, or did so unconsciously because of his poor command of Latin. In this last group we would expect to find transfers not integrated into Latin, and thus classifiable as code-switching on the definition adopted in this book [i.e. 'a full-blown switch from one language into another within one person's utterance or piece of writing' (p. 19)]. But the distinction between borrowing and code-switching in such cases is so fine that I include such terms here.

Adams' examples are the Greek words in the dowry list of a second-century Latin marriage agreement heavily exposed to Greek influence (*P.Ryl.* IV.612+*P.Mich.* VII.434). The dowry list is largely made up of Greek words in Latin characters paralleled in Greek similar documents.¹³ These Greek words include not only those for which there was a Latin equivalent and that are otherwise unknown from the extant Latin evidence (e.g. [*a*]mpelitis < ἀμπελῆτις (*scil.* γῆ) 'vineyard', *P.Mich.* VII.434.8; *enotion* < ἐνώτιον 'earring', 8) but even words that were established loanwords in the Latin of the time and that are

here exposed to Greek morphological interference (e.g. *cathedran* < κάθεδρα ‘chair’, *P.Mich.* VII.434.14). The lapse into a Greek inflection was perhaps due to the circumstance that the scribe recognised those words as Greek. In the dowry list, Greek words can in fact show a Greek ending in expected or unexpected contexts (cf. *pyxidiam* < πυξίς ‘perfume box’ in *P.Mich.* VII.434.14, where the ending is neither Greek nor Latin and is possibly due to an unsuccessful attempt at Latinisation: see Adams 2003, 625) or a Latin ending (e.g. *epi[car]sium* < ἐπικάρσιον ‘striped garment’, *P.Ryl.* IV.612.9, *P.Mich.* VII.434.11–12). Considering other language contact phenomena that point to a Greek-speaking scribe who learned Latin as a second language, these lexical transfers are due to a poor command of Latin. A further example placed in the third class by Adams (2003, 446) is *arura*; it occurs in the phrase *i[ll.] n[on]fra aruras* (*P.Amh.* II.26.29) rendering εἰς τὰς ἀρούρας ‘into the grain fields’ (39) in the translation of a Babrius’ fable.¹⁴ *arura* is among the evidence showing that the translator—it is disputed whether he was the same person as the scribe (see Scappaticcio 2017, 104–6 with bibliography)—had some knowledge of Latin morphology and grammar but misunderstood some syntactic information and used the expected Latin equivalent only occasionally (for analysis see recently Adams 2003, 725–41; Scappaticcio 2017, 99–166).

Some of the examples here show basically no integration into Latin except for the script, and some other examples show a degree of integration even into morphology. In fact the relationship between integration, borrowing, and code-switching is not clear-cut, and words of foreign origin can show some degree of integration even when they occur for the first time in another language (see Dickey 2012, 2018, 7–11, 2023 with discussion of earlier bibliography).

The examples discussed next further illustrate this aspect and generally show the difficulty of sorting Greek words in one or the other class of ‘regional’ loanwords. They are some Greek words in the *testamentum per aes et libram* of Marcus Sempronius Priscus (*ChLA* X.412: 131 CE, Arsinoite), who was perhaps a veteran, since three witnesses are described as veterans and the Caius Longinus Priscus in ii.2 is probably the homonymous veteran in *BGU* II.581 (Karanis, 133 CE) (see Colella 2021, who also gives a new edition of the document). Priscus’ will is preserved in the protocol (record) of its formal opening and is written in Latin because of a linguistic policy (for the use of Latin in Roman wills and protocols of their formal opening down to the reign

of Severus Alexander, see Amelotti 1966, 188–9; Nowak 2015, 95–102, 110–11 with bibliography). Not all of the Greek words in this will had a Latin equivalent or can be certainly described as transfers due to poor control of Latin, and the ones concerning the latter case are integrated into Latin morphology and script.

The language of Roman wills consisted of both specific, rigid formulae that were essential to the *negotium* (e.g. the appointment of the heir, the indication of the period of time during which the inheritance could be legitimately claimed by the heir) and standard phraseology concerning matters relating to the inheritance (e.g. funerary dispositions; on the formulae of Roman wills, see Amelotti 1966 and Nowak 2015). Formulae had to be strictly observed for the will to be valid, whereas whether or not standard phraseology was followed had no impact on the validity of the will. Greek words in Priscus' will mainly appear in formulaic sections but not in place of more legally binding vocabulary. This is perhaps one of the factors favouring their use but not in all cases. At least one Greek technical legal word seems used on purpose to refer to a local practice for which there was not a Latin term. In the section where the testator makes a bequest in equal shares (*aequis parti[bus]*, i.7–8), he orders a Diodora and a Longinia to be *aneglogistae* (i.13), that is, these two women are exempted from delivering a reckoning (Amelotti 1966, 35; Colella 2021). The adjective is from ἀνεκλόγιστος, -ov; it is frequent in testamentary dispositions of Graeco–Egyptian wills (διαθήκαι) and usually refers to the guardian (ἐπίτροπος)—often the mother—of the prepubescent children of the testator (see Colella 2021, 55–58 with bibliography). In *ChLA* X.412, the term refers to two women mentioned jointly at least four times; their roles in the will as well as their relationship with Priscus are unclear. The latest editor, Colella (2021, 56–59), discusses previous hypotheses and suggests the following scenario: Diodora and Longinia may be the adult daughters of Priscus; they may have an auxiliary role with respect to the procurator (i.14) in the administration of the assets of the wards Herais and Tamystha; Herais and Tamystha are possibly the two other daughters of Priscus of the four mentioned in i.7. Diodora's and Longinia's description would follow the local tradition, which, unlike Roman law, allowed women to act as guardians and administrators. The adjective in question is partially preserved in another coeval Roman will (*P.Mich.* VII.439.4, 147 CE) and is supplemented with a Latin ending (*anegl[ogistam]*) by most scholars (*ChLA* V, 48; Migliardi

Zingale 1997, 39; cf. *P.Mich.* VII, 45) with the exception of Montevocchi (1997: 49), who hypothesised *aneg!ogiston*]. The adjective occurs in a fragmentary and unclear context but apparently refers to a woman, perhaps the testator's wife mentioned in 1 (Amelotti 1966, 40 n. 4). TLL II.39.66–68 and *OLD* lemmatise *aneclogistus* based on a passage from book 35 of Ulpian's commentary *ad edictum* preserved in *Digest* 26.7.5.7. The adjective appears in the following judicial example that Ulpian attributes to the jurist Julian: after appointing guardians for his children a testator declares that he wants the guardians to be exempted from delivering a reckoning, but this practice was in contrast with the Roman law:

Iulianus libro vicesimo primo digestorum huiusmodi speciem proponit: quidam decedens filiis suis dederat tutores et adiecerat: 'eosque aneclogistos esse volo.' et ait Iulianus tutores, nisi bonam fidem in administratione praestiterint, damnari debere, quamvis testamento comprehensum sit, ut aneclogisti essent ... nemo enim ius publicum remittere potest huiusmodi cautionibus nec mutare formam antiquitus constitutam.

'In the twenty-first book of his *Digests* Julian proposes this case: one, dying, had appointed guardians to his children and had added: 'I want them to be exempt from delivering a reckoning.' And Julian states that the guardians, should they have failed in their administration according to good faith, must be condemned, although in the will it was provided that they were exempt from delivering a reckoning ... in fact no one can derogate from public law by clauses of this kind, nor change the typical form of the institution constituted by ancient.'

This passage possibly alludes to a practice attested in local contexts, as confirmed by papyri (Amelotti 1966, 146 n. 5; Montevocchi 1997); the adjective is apparently not flagged as foreign and is treated as technical legal terminology taken from Greek to indicate a local custom. The presence of Greek interference in Priscus' will makes it difficult to understand whether the scribe used the word because he was aware of the absence of a Latin equivalent and whether he thought of the term as belonging to Latin (loanword), Greek (code-switching), or something in between borrowing and code-switching.

The other Greek words in Priscus' will show some adaptation to Latin but are otherwise unknown and appear in place of Latin

equivalents. *Calamiaē* is written in testamentary dispositions concerning land property ([- -] ... *m* [i] *uḡerum unum* .. [.....] *ua calamiaē circa* [*vicum* - - -] 'one iugerum ... of reed-land near the village ...', i.2) and derives from *καλαμεία*, ἡ 'reeds'. The morphological integration to Latin is probable, although uncertain since the last letter is dotted. In Greek documents, *καλαμεία* is frequently employed in expressions connected to land property such as ἄρουραι καλαμείας (see Colella 2021, 53). Occurring in proximity to [*circa vi*] *çum* *Maḡdolōn iūgera frū* [*m*] *enṯ* [*a*] *riā septe seṃis tritum* 'near the village of Magdola 7 ½ ⅓ iugera of wheat-land' (i.1) and *circa* [*vicum* - - -] . *r* *iā iūgera dua eṯ seṃ* [*is*] 'near the village of ... 2 ½ iugera' (ll. 2–3), *calamiaē* was perhaps part of an expression like the Greek one above, although the fragmentary context allows no certainty. It replaces a Latin word such as *harundinetum* or *harundo* (the latter being usually employed as an equivalent of *κάλαμος*) and likely refers to reed-land.¹⁵ Words concerning land and its measurement easily pass from a language (especially a vernacular language) into another (see Adams 2003, 450, 456, 457, 2007, 207, 217, 234–35, 254, 257, 355, 600–601, 703–5). However, in this case the adoption of other Greek words for which there existed a Latin equivalent (see below) suggests that the use of *calamiaē* depends on the scribe's familiarity with Greek. On the other hand, Greek morphological interference in some personal names of Greek origin (*Ḥeraiḏos et* [*T*] *ḥamysṯas*, i.15; *Thaisan*, 23) suggests that the people involved were familiar with Greek. However, this does not necessarily mean that the scribe who originally wrote the will was responsible for it: this interference might have been introduced later, for example when the will was copied in the protocol on occasion of the formal opening of the will.

In the dispositions concerning land property, *tritum* (*septe seṃis tritum*, i.1) is likely from *τρίτον* (*scil.* *μέρος*) and occurs in place of *tertium*. This word is otherwise unknown from the extant Latin evidence, and the use of a Greek numeral in a Latin papyrus finds no exact parallels. In Latin papyri, the occasional use of Greek numerals (generally written in figures) typically entails needs of clarity or emphasis. In the *oratio Claudii in senatu habita* preserved in *BGU* II.611 (first half of the first century CE, Arsinoite?), the Greek numeral *Apv* (1150), written at the end of col. iii (right-hand side), likely refers to the inventory number of the roll (*ChLA* X, 43) rather than that of the list on the other side of the papyrus (Ammirati 2015, 30 n. 5). If so, the use of *Apv* may be compared to the switches from Latin to Greek to

express bureaucratic information in Latin legal documents discussed by Adams (2003, 564–71). *P.Oxy.* X.1314vo (fourth–fifth century CE, Oxyrhynchus) is not a cogent parallel either. The string *quadringentos octoginta sex tantum* ὑπὸς ‘four hundred eighty-six exactly, 486’ is written many times in the papyrus and was interpreted as a writing exercise, possibly useful for administrative purposes in a Roman military office, based on palaeography, chronology, and the use of *tantum* in late Latin accounting documents such as those from Ravenna and the *Tablettes Albertini* (Miglionico 2020). The repetition of the same information in different languages and scripts happens for the sake of clarity and recalls the code-switching in the so-called double dates found in some Latin papyri where the date is provided in both Latin and Greek.¹⁶ *P.Ryl.* III.481 (fifth–sixth century CE, Thebaid) is a fragment of Latin juristic literature; on the verso, a Greek figure apparently intrudes in a highly fragmentary context. Unlike these examples, *tritum* shows graphic and morphologic integration into Latin, suggesting that the scribe knew some rules of conversion but was unaware of the Latin equivalent, even though he then wrote *septe* (i.1; for the loss of final *-m* see also *ῥῆσις*, ii.13).¹⁷ *Tritum* is perhaps accordingly a code-switch due to ignorance of the *mot juste*.

In the Latin dating formula of the will, the adjective *ellenio* is referred to *mense*: *X · K(alendas) · April(es) · Ser(vio) · Octavio Lae[n]q̄ P[o]ntiano M(arco) Antonio Rufino co(n)s(ulibus) anno XV Imp(eratoris) Cae(sar)is Traian[i] Hadriani Aug(usti) mense Ellenio Phamenot die XXVII* ‘on 23 March, in the consulship of Servius Octavius Lena Pontianus and Marcus Antonius Rufinus, in the fifteenth year of the Emperor Caesar Trajan Hadrian Augustus, on the twenty-seventh day of the Greek month Phamenoth’ (ii.4–7). This word is unparalleled in surviving Latin sources, derives from Ἑλλήνιος, -α, -ον (LSJ s.v.; DGE s.v.), and is integrated into Latin script and morphology (notoriously, the lack of the initial aspirate is a common phenomenon). It seems to indicate that Phamenot is ‘Greek’, as if the writer characterised it from a Roman’s perspective (that is, Phamenot is the month-name used by Greek speakers) and perhaps meant to oppose it to the Roman calendar used in the consular date. It is difficult to understand why he did so: linguistic clues point to a context more familiar with Greek, where such a description ought to have been superfluous, and similar specifications are generally absent in Latin papyri. Dating formulae in Roman style typically consist of the indication of the place in which the document

was issued, and a date expressed with an ablative absolute according to the Roman calendar and the consular year. Sometimes they also included an equivalence with the local calendar written in either Latin or Greek. An example of such a dating formula is found at the end of the protocol of the formal opening of Priscus' will: *[[in Antino[.]]] '..... u[.]' [e]isdem co(n)s(ulibus) anño XVI Imp(eratoris) Çaçşarış Tra[ia]ni Hadriani Aug(usti) me[n]se Çhoeac die XXX* '(deleted in the papyrus: in Antinoe), in the same consulship, in the sixteenth year of the Emperor Caesar Trajan Hadrian Augustus, on the thirtieth day of the month Choiak' (ii.13–15).

Despite this problem, the data discussed above suggests that the scribe who wrote the will was not a Latin native speaker. He knew some Latin and eventually drew up a valid Roman will, but he was exposed to Greek influence, at least in vocabulary. We cannot always tell exactly which phenomena Greek influence implies. The pressure from local customs, the borrowability of certain words, and the familiarity with Greek can be seen as interrelated factors favouring language contact. This situation is not surprising: in Egypt scribes who learned Latin as a second language reached different degrees of competence and could rely upon collections of Latin formulae like the one in *PHamb.* I.72 (on Egyptian scribes and collection of formulae, see Adams 2003, 527–641 and Migliardi Zingale 2003 respectively). Roman citizens had to resort to those scribes because they did not master Latin, like the Priscus of *ChLA* X.412, who subscribed in Greek (ii.8–11), and, even if they did, they were ignorant of formulae and formats of legal documents.

5.3 Conclusions

The lexical transfers discussed in this chapter arose from Greek–Latin language contact in different micro-contexts and accordingly give information on the dynamics of such contact. They were triggered by various (interrelated) factors, and their status is often difficult to determine. The words relate to everyday objects, workers, and officials, land-related issues, or, especially if the scribe was not fluent in Latin, vocabulary usually less exposed to lexical transfers such as numerals.

For all these words the category 'regional' loanwords may theoretically prove useful in highlighting the circumstance that the transfers happened in a specific micro-context and were favoured by local language contact. It can also prove useful to group the evidence based on

similar features and broadly exemplify some language contact dynamics in vocabulary. However, lexical transfers often pose problems that can hardly be approached using a rigid framework, as the examples showed, and on balance the limits of the category 'regional' loanwords seem to overcome the advantages.

The definition itself entails difficulties since both 'regional' and 'loanword' are potentially tricky and ambiguous terms. On a theoretical level, 'regionalism' can be variously interpreted, and we do not know whether other scholars discussing 'regional' Greek terms are referring to the adjective in the exact same way as Adams (2003). This applies not only to scholars not mentioned by Adams such as Biville (1989, 32–33, 35) but even to André (1971, 94, 127) considering the brevity of André's discussion. In this respect, some caution is suggested by the use of inverted commas by Adams (2003) himself. On a practical level, there are at least two obstacles: the lack of good parallels to the Egyptian documents elsewhere in the Roman Empire and the lack of Egyptian occurrences for some Greek terms. Regarding 'loanword', the use of this term to include phenomena of language contact that imply different sociolinguistic dynamics is misleading and complicates rather than simplifies the relationship between the typical categories of borrowing, code-switching, and interference. The problem is most obvious in the case of words possibly falling into the third class—and in this specific case it was envisaged by Adams—but it arises also from the other two classes.

Secondly, the category is problematic since the criteria for assigning a word to one or the other class can be fuzzy, and the boundaries between the three classes are difficult to draw. The familiarity with Greek likely had a primary role for transfers of all three classes, not only of the first and third classes. The existence of a Latin equivalent is a tricky criterion, since the limits of ancient sources make it difficult to ascertain ancient lexical equivalences, especially if attested sporadically in the extant evidence, and the exact meaning(s) of the equated words. Furthermore, even if a Latin equivalent existed or, on the contrary, it was absent or difficult to find, these circumstances do not necessarily imply that a word attested only once in the surviving evidence is a loanword, even 'regional'. Integration, on the other hand, is notoriously a problematic criterion, since its relationship with borrowing and code-switching is not clear-cut, and the ancient sources are often fragmentary.

Finally, the category 'regional' loanwords was not used by Adams (2007, 2016) in his later works. It seems relevant that when analysing the words *chiloma* and *(h)amaxa* (§2.1), Adams (2016, 254, 314) did not use the category under examination but the term 'loanword', although he gave a reference to Adams (2003, 443–47). Furthermore, in the conclusions, he cautiously wrote 'it [i.e. the epistle] also has some extremely rare Greek loanwords (*chiloma*, *collyram*)' (p. 316). This suggests that perhaps he had some second thoughts on the category 'regional' loanwords.

To conclude, it is perhaps better not to use the category 'regional' loanwords and consider a number of factors and criteria for the description of individual lexical transfers such as the existence of a possible equivalent and the limits of ancient lexical equivalencies, the degree and type of integration, the frequency and diachronic stability of the words in question, when and how a foreign word/expression is used, document type, and the scribe's competences in the languages and scripts in question—at least for what we can see from the sources. Thus, it will be possible to better understand and explain the specific sociolinguistic dynamics that favoured language contact and the adoption of specific lexical transfers.

Notes

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- 2 Adams (2003, 444) did not exclude that the Greek word was equivalent also to *puteus*, although he knew that in *I.Pan du desert* 37 ὕδρευμα is translated with *fons*. De Romanis (2006, 638–42) showed that in Mons Claudianus *puteus* and *fons* are used with different meanings and that *fons* is the equivalent of ὕδρευμα.
- 3 On the archive of Claudius Tiberianus and the letters of Rustius Barbarus, see *C.Epist.Lat.* II, 131–81; Adams (2003, 593–97, 2016, 265–84) and *C.Epist.Lat.* II, 57–74; Adams (2016, 307–16) with bibliography, respectively.
- 4 For details see Adams (2003, 444–45). On the use of ἄμαξα see also Bülow-Jacobsen (2013, 567–68).

- 5 See TLL II.374.53; Fasce (1990, 127); Lenaz (1994, 818). On the other hand, Vottero (1989, 408–9) and Adams (2003, 445) seem inclined to think that *aquilex* only means ‘water-diviner’ or ‘water-finder’. On the *aquilex/aquilegus*, see Cinti and Lo Castro (2014); Marinelli (2014).
- 6 On case alternance in Latin lists, see Adams (2013, 230–34).
- 7 On *chalciothekis* see also Pezzella (2023) with bibliography.
- 8 On the occurrence in the *Mulomedicina Chironis*, see Seldeslachts (2021, 324–5).
- 9 Cf. André (1971, 127): ‘il est du reste difficile d’en apprécier le degré de disponibilité étant donné la rareté des emplois ... chaque mot n’étant attesté qu’à une époque déterminée, par suite du petit nombre des documents’.
- 10 Cf. Marichal in *ChLA* V.292.7:]nori debebit pagarchia; 10: [- - -] , praes[.] .e eodem superconstituendo pa[- - -]; J.-O. Tjäder in *ChLA* XLVIII.292.7:]nari debebit pagarchia.
- 11 Other instances of bilingual records of court proceedings in Greek archives are *P.Oxy.* LXIII.4371 and *P.Monts.Roca* IV.70b: Pedone (2020, 69 n. 4).
- 12 On ‘Tiberianus’ and ‘Rustius’ archives see n. 2. Archives of the latter type are, for example, those of Lucius Pomepius Niger (see Smolders 2013) and Marcus Lucretius Diogenes (see Waebens 2013).
- 13 For a detailed linguistic analysis see Leiwo and Halla-aho (2002); Adams (2003, 623–28).
- 14 The text is quoted according to Scappaticcio (2017, 115–16), and the translation is taken from the Loeb edition of Babrius.
- 15 On the equivalence between *harundo* and *κάλαμος*, see TLL VI.3.2564.80–82; *CGL* VI: 100 s.v. *arundo*.
- 16 On code-switching in double dates, see Adams (2003, 388–89).
- 17 On the loss of final *-m*, see Adams (2013, 128–32).

Abbreviations

- CGL* Georg Goetz, ed. 1888–1923. *Corpus Glossariorum Latinorum*. Lipsiae: Teubner.
- CLTP* Maria Chiara Scappaticcio, Eleanor Dickey, Lucia C. Colella, eds. 2025. *The Corpus of Latin Texts on Papyrus*. Cambridge: Cambridge University Press.
- DGE* Francisco R. Adrados et al., eds. 1980–2019. *Diccionario Griego-Español*, I–VIII. Madrid: Instituto Antonio de Nebrija, Consejo Superior de Investigaciones Científicas.
- LSJ* Henry G. Liddell, Robert Scott, and Henry S. Jones. 1996. *A Greek–English Lexicon, with revised supplement*. Oxford: Clarendon Press.
- OLD* P. G. W. Glare, ed. 2012. *Oxford Latin Dictionary*. 2nd edition. Oxford: Oxford University Press.
- TLL* 1900–. *Thesaurus Linguae Latinae*. Leipzig: Teubner, Stuttgart: Teubner, Munich: Saur, Berlin: De Gruyter.

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CHAPTER 6

Case inflection in the early Arabic papyri (643–750 CE)

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Abstract

The study of the language of the Arabic papyri has long involved comparison of the language of the papyri to that of Classical Arabic. This has led to the common classification of the Arabic of the documentary papyri as Middle Arabic, characterised, among other features, by the general loss of case marking (e.g. Hopkins 1984, 155). However, recent work on historical varieties of Arabic has shown that we can distinguish various case systems that were the outcome of independent linguistic changes, some of which took place before the Arab conquests (e.g. Al-Jallad 2015; Diem 1973; Van Putten and Stokes 2018). Moreover, a study of the distribution of case marking on the word *'ab* 'father' in Arabic documents written in the first three centuries AH (622–922 CE) showed that in the vast majority of cases this word was fully inflected following a tripartite case system (Kootstra 2022), suggesting that case inflection was much more common in the early Arabic papyri than previously suggested. In this light, this chapter analyses the distribution of case marking in the Arabic papyri up to the mid-eighth century CE. Following the analysis of Petra Sijpesteijn (2020),

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who argues for the emergence of an Arabic written standard for official documents in the first centuries following the conquests, it sheds light on the effect that the standardisation that she observes in the script, orthography, and formulae of the Arabic documents had on the use of case marking in this period. Combining qualitative and quantitative approaches, this chapter argues that there is an observable distinction in the use of case marking between private and official documents. At the same time, the relative consistency with which case marking is applied, even in some non-canonical contexts, suggests that some of these usage patterns of case inflection reflect living spoken languages of the authors of the documents.

6.1 Introduction

In a recent article,¹ Petra Sijpesteijn has shown that in the first few centuries following the Arab conquests of Egypt and beyond, there is a growing divergence between private and official documents written in Arabic.² This divergence manifested in their script, orthography, and in the formulae they used (Sijpesteijn 2020). Within official documents, variation decreases as existing variation seems to be pushed out in favour of a single standard during this period.³ Sijpesteijn attributes this to the emergence of a written chancery standard which went hand in hand with the professionalisation of the Umayyad bureaucracy (Sijpesteijn 2020, 465). Based on the standardisation of those elements highlighted by Sijpesteijn in the chancery documents from the eighth century onwards, it might be expected that this would also have led to consistency in other elements of written practice (i.e. the [implicit] norms and habits of writing within a community of practice), such as the grammar of the Arabic used to write the documents. Following this hypothesis, I examine here whether we can also see the impact of this developing chancery standard in the language of the Arabic documents, specifically in the use of case inflection.

The study of the language of the early Arabic documents written on papyrus has commonly proceeded from a comparison to a Classical Arabic standard. Accordingly, based on the notable differences between the Classical Arabic standard and the language of the Arabic documents, deviations from the Classical norm have been grouped under the umbrella of Middle Arabic.⁴ Middle Arabic is generally seen as a register that lies on a spectrum between spoken or Neo-Arabic

and Classical Arabic.⁵ More recent approaches to Middle Arabic recognise that the use of non-Classical features in written Arabic could be a choice on the part of the author and need not always be a mistake or accidental infiltration of spoken features (e.g. Lentin and Grand’Henry 2008; Zack and Schippers 2012).⁶

An important distinguishing feature between Classical and Neo-Arabic has always been the presumed loss of case in all Neo-Arabic varieties.⁷ Presumed influence of Neo-Arabic has been used to explain the claim that Middle Arabic is also characterised by a general loss of case marking (Hopkins 1984, 155). It is, indeed, not difficult to find examples of nouns without case marking in the early Arabic documentary texts written on papyri. However, a study on the distribution of case marking on the word *ʿab* ‘father’ in Arabic documents written in the first three centuries AH (622–922 CE) has shown that in the vast majority of cases this word was fully inflected following a tripartite case system (Kootstra 2022). Moreover, other studies of historical and modern varieties of Arabic have shown, through corpus studies, that we can distinguish various case systems that were the outcome of independent linguistic changes, thus demonstrating that a binary approach to case marking (that is, a linguistic variety either preserves full tripartite case marking or no case system at all) does not reflect the attested variation for Arabic. It has been shown, for example, that some forms of pre-Islamic Arabic had already largely lost their case system, such as Nabataean (Diem 1973), and that others had varying forms of reduced case systems, such as Safaitic (Al-Jallad 2015, 69–71), the Quranic Consonantal Text (QCT) (Van Putten and Stokes 2018, 158–60), and possibly in Arabic Gospel manuscripts (Stokes 2023b, 29). Other varieties of Arabic even reinterpreted remnants of the old case system into new morphological markers, as happened in Judaeo-Arabic and some modern dialects of Eastern Arabia with the old accusative ending (Blau 1981; Holes 2016; Stokes 2020). These and similar studies underline the importance of approaching the language of the early Arabic documents written on papyrus on its own terms, and with a focus on the distribution of variation. At the same time, the centrality of case endings in the distinction between Classical Arabic, as it started to be canonised in the ninth century CE, and other forms of (written) Arabic makes this a particularly interesting feature to focus on when trying to answer the question what a standard of documentary Arabic would look like, and how it related to the later Classical Arabic standard.

6.1.1 *The corpus*

In order to trace the possible linguistic development of an official written register that was differentiated from a more informal register, I examined 400 texts dated up to the mid-eighth century for case marking, all of which are available on the Arabic Papyrology Database (APD).⁸ This yielded 816 nouns for which some conclusions could be drawn about their case marking, spread across 216 individual texts. Most of these texts of which the provenance is known come from Egypt (144). Besides this, a significant amount of material comes from the Israel/Palestine region (30 from Nessana, Khirbet Mird, and Jericho). One text, a petition, comes from what is now Uzbekistan (Zarafshan, P.Kratchkovski).⁹ For the remaining 41 texts, no provenance is known. Moreover, since many of the Arabic documents first surfaced on the antiquities market, their exact archaeological context is often unknown, even in cases where some information is available regarding the general geographic provenance (e.g. Sijpesteijn 2013, 2–3, 2020, 438).

The documents analysed here were written between 642 and 750 CE. The first date corresponds to the date of the earliest datable, surviving Arabic papyri, while the second date corresponds to the Abbasid revolution. This is a somewhat arbitrary cut-off point, as there was likely considerable bureaucratic continuity despite the political upheaval. However, after the mid-eighth century, and especially in the ninth century, the surviving documentary evidence increases significantly (see [Figure 6.1](#)). At the same time, the period after the mid-eighth century witnessed a marked shift in writing habits within the Islamicate world, resulting in a massive proliferation in the total number of surviving Arabic documents as well as a relative increase in the number of private Arabic documents, including personal and business correspondence (as noted by Kaplony 2019, 317–18). Limiting the corpus chronology, therefore, very effectively limits the amount of data. Moreover, the Arab grammarians started their work in the late eighth century, and the notion of Classical Arabic crystallised around the tenth. So, this early period covers the time leading up to this scholarly debate about the Arabic language, but one that likely also had an impact on its bureaucratic usage after Arabic suddenly exploded onto the world stage as a language of learning, commerce, and bureaucracy (*contra* Kaplony 2019, 313–14).

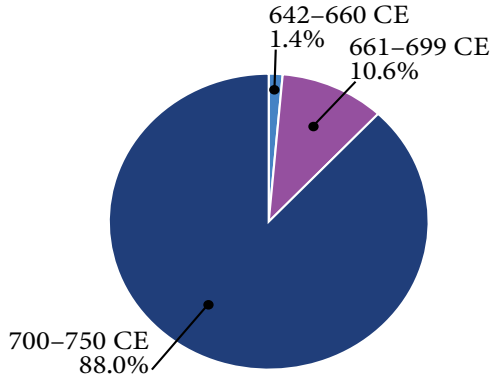


Figure 6.1: The distribution of the 216 documents that include nouns that were annotated for case marking across the three periods (642–660 CE; 661–699 CE; 700–750 CE)

6.1.2 Case marking in Arabic

Because of the nature of the Arabic script, which generally does not represent short vowels, not all possible case marking would be graphically distinct in the Arabic documents written on papyrus. Three common morpho-phonological environments in which case marking would be visible are in the sound masculine plural and dual suffixes;¹⁰ on indefinite nouns that do not end in the feminine suffix *-at* (*tā' marbūṭa*), and take tripartite case marking in the accusative (triptotes, marked with *tanwīn 'alif*); and, finally, on a class of nouns that is commonly called ‘the five nouns’, when they occur in construct state or have a pronominal suffix attached to them. As the distribution of case marking on the final class of nouns has already been discussed in depth in a previous article (Kootstra 2022), I will focus here on the sound masculine plural and dual, and the indefinite accusative marking.

The use of the different morphemes to represent case marking and their orthographic presentation will be discussed in more detail in the relevant sections. It is important, however, to draw attention to the fact that case is not monolithic, even in Classical Arabic. Case is marked with varying morphological reflexes of varying phonological shapes (some with long vowels, some with short ones, some with nunation, and some without), and case is not always marked triptotically.¹¹ In a

sense, we have three systems that can be distinguished orthographically within the language of the Arabic documentary papyri:

- sound masculine plural marking is a diptotic system, distinguishing nominative vs oblique;
- the indefinite accusative is also a diptotic system, but it distinguishes accusative vs non-accusative;
- the five nouns show triptotic case in construct state (including when preceding a suffixed pronoun).

Given the variation in phonological shape and function of each morpheme, there is no *a priori* reason to assume that they are all similarly productive within different varieties of Arabic.

6.2 Overall trends in the data

Overall, the majority of forms (83 per cent) are marked for case in accordance with their syntactic position (see [Table 6.1](#) and [Figure 6.2](#)).¹² Looking at the overall distribution, it appears that nouns in syntactic positions Classically associated with genitive case are particularly consistently marked. This is mostly due to the consistent levelling of the oblique case in sound masculine plural suffixes, which also explains why nouns in subject position are so commonly not marked with a nominative, since the nominative forms of the sound masculine plural and dual were largely unproductive. The levelling of the oblique form of this morpheme seems a stable feature of the Arabic of these documents from the earliest attested examples, as will be discussed in more detail in [Section 6.3](#).

Table 6.1: The proportion of the 816 annotated nouns unmarked and marked for case by syntactic position

Case Classically associated	No full tripartite case marking	Full tripartite case marking	Total
Accusative	68	171	238
Genitive	18	387	405
Nominative	56	116	172
Total	142	674	816

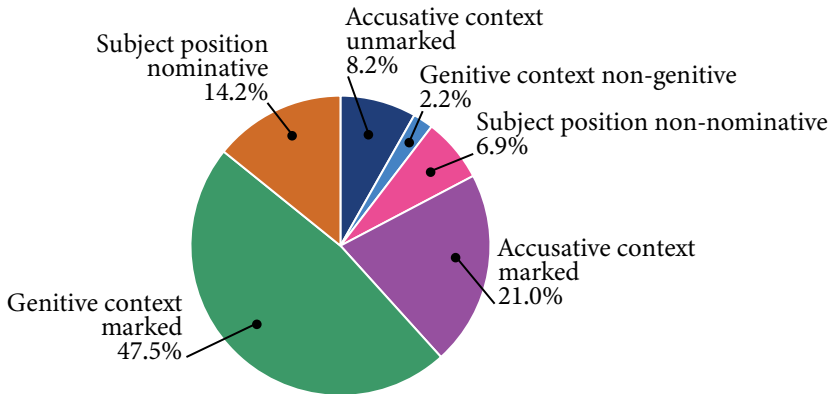


Figure 6.2: The overall distribution of case marking across syntactic positions

The distinction between official and private writing that Petra Sijpesteijn (2020) observed from the start of the eighth century is also clearly reflected in the case marking in the documents, as can be seen in [Figure 6.3](#). Given the relatively low number of attested documents in the period preceding the eighth century, it is impossible to compare this to the use of case marking in the preceding period, unfortunately. Therefore, it is less clear whether this is the outcome of the emergence of an increasingly professionalised scribal class in this period, or whether this distinction in grammatical usage already existed prior to that. However, by the eighth century it is clear that authors of formal documents, written in chancery environments, used tripartite case marking close to that of Classical Arabic more consistently than authors of informal documents writing in private settings.¹³

The following sections will look more closely at the different morphological expressions of case marking and their individual distribution across the corpus and across different syntactic environments. This will demonstrate that even though the Arabic of the documentary papyri never aimed to replicate a standard similar to Classical Arabic, it nevertheless shows a pattern of case inflection that overlaps with the Classical Arabic system much more commonly than expected based on previous descriptions of the corpus. However, some of the usage patterns suggest an awareness of different registers of Arabic, which came with certain expectations regarding case inflection.

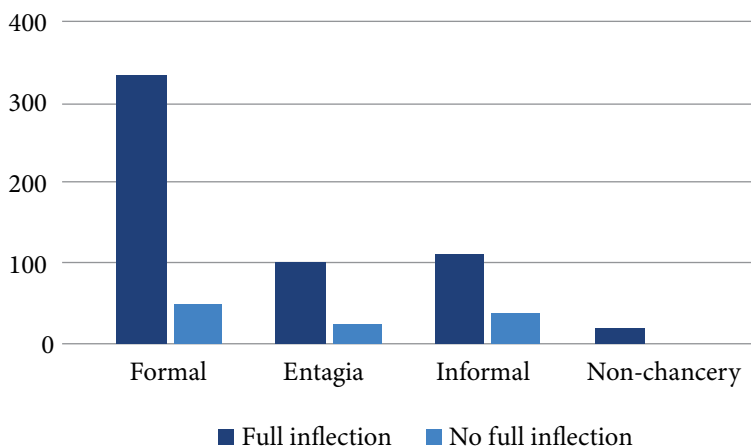


Figure 6.3: Case marking across document types showing the number of annotated forms per register. The bars on the left represent forms that are fully inflected for tripartite case marking; the bars on the right represent forms that are not.

6.3 Sound masculine plural suffix

Forms of Arabic that mark tripartite case distinguish between the nominative case suffix *-ūna* (ـون) and oblique suffix (marking genitive and accusative) *-īna* (ـين) on independent nouns, and related forms *-ū* (ـو) and *-ī* (ـي) in construct. The general levelling of the oblique form to all syntactic environments is a well-known feature of the language of the Arabic documents written on papyrus, regardless of document type or whether they were written by an official scribe or a private person (e.g. already described in Hopkins 1984, 106; and Grohmann 1954, 105).¹⁴ The attested forms in the corpus support these descriptions and show that a little over 97 per cent of all attested masculine plural suffixes occur in the oblique form (209 of 215 attested plural suffixes; see [Table 6.1](#)), as well as more than 94 per cent of all nouns with a sound masculine plural suffix that occur in subject position, which would take the nominative form in a tripartite case system, but also occur with an oblique suffix (34 of 36 attestations; see [Table 6.2](#)).

The overwhelming dominance of the *-īna* forms in all syntactic positions clearly demonstrates that this usage was completely accepted and can, in terms of usage patterns, be called the normative or standard

Table 6.2: The distribution of *-ūna* and *-īna* across syntactic positions

Attested form	Syntactic position			Total
	Accusative	Genitive	Nominative	
Nom. <i>-ū(na)</i>	0	4	2	6
Obl. <i>-ī(na)</i>	8	167	34	209
Total	8	171	36	215

form within the corpus of early documentary Arabic. This is consistent with Kaplony's claim that the early Arabic scribal standard, which he refers to as 'Documentary Arabic', was markedly different from what would later become canonised by the Arab grammarians as Classical Arabic (2019, 314).

Even though it was already well known that the oblique forms of the sound masculine plural suffixes were generally levelled in the Arabic documents written on papyrus, the distribution of the few *-ūna* forms that were used in subject position and those that were used in non-nominative environments offers interesting insight into its use and status. As shown in [Table 6.2](#), there are only two attestations of nominative *-ūna* used on nouns in subject position,¹⁵ as it would be used in Classical and Quranic Arabic. Both occur in the same Quranic verse, used in protocol texts (CPR III 114 and P.KarabacekPapyrusprotokolle p. 43 a).¹⁶

A distinction between the language of the Quran and other uses of Arabic language was clearly recognised by the end of the ninth/beginning of the tenth century CE by Arabic grammarians such as al-Zajjājī (d. +/-950 CE) (Versteegh 1995, 3), who asserted that even though it is unproblematic not to use case inflection in some contexts, it is necessary to get it right to interact with the text of the Quran (al-Zajjājī, n.d., 95, in the translation by Versteegh 1995, 164). Such a distinction seems to be upheld by those who quoted these Quranic verses as part of the protocol texts. Moreover, the use of the nominative *-ūna* suffix in these quotations, in line with the undotted consonantal skeleton (*rasm*) of the Quran, suggests that the scribes who wrote these protocol texts (CPR III 114 and P.KarabacekPapyrusprotokolle p. 43 a) knew the Quranic text either through recitation that included the nominative case ending or through a written source that did.¹⁷

6.4 Dual suffix

Dual marking shows a similar distribution of case distinction as sound masculine plural marking in Arabic varieties that preserve it and distinguishes a nominative *-āni* (-ان) suffix from oblique *-ayni* (-ين), and related construct forms *ā* (-ا) and *-ay* (-ى). For these forms, the oblique is also the norm for all cases, similar to the use of the sound masculine plural suffixes. The vast majority (90 per cent) of attested forms occur in the oblique form (36 of 40). The four examples of nominative forms all occur within the same document (P.RagibJurisdiction 1 r° 2, 8, 10, 13), where they are used hypercorrectly.

This document is a series of witness statements to monetary obligations. Yūsuf Rāḡib recognised four different hands in his publication of the text (2007, 194–95). Each author witnesses one or more debts in the same year, forty-two AH. For both numerals, forty and two, the intended case ending would be visible in the orthography. Two is a dual form, which takes *-āni* as the nominative and *-ayni* as the oblique, and forty takes the masculine plural *-ūna* or *-īna* suffix. The document seems to vary freely between nominative and oblique forms within the same construction. According to the syntactic position of the numeral in the formula, all numerals should be in their oblique form in a variety of Arabic with a tripartite case system: *itnayn wa-'arba'in*. However, this combination does not occur in the document. The first author wrote *itnān wa-'arba'in*, the second wrote *itnayn wa-'arba'ūn*, the third wrote (twice) *itnān wa-'arba'ūn*, which is at least a grammatically possible combination of case endings, and the last wrote *itnān wa-'arba'in*.

P.RagibJurisdiction 1

hand 1, lines 2–3

إلى مل اثنان وأربعين قضا المؤمنين

<i>'ilā</i>	<i>mil'</i>	<i>itn-ān</i>	<i>wa-'arba'-in</i>	<i>qaḍā'</i>
PREP	filling	two-M.DU.NOM	CONJ-forty-M.PL.OBL	reckoning.CST

al-mu'min-īn

DEF-believers-M.PL.OBL

'until the end [of the year] forty-two according to the reckoning of the believers'¹⁸

hand 2, lines 5–6

إلى مل الغيل من سنة اثنين وأربعون سنة قضا المؤمنين

ilā mil' al-ḡayl min sanat iṭn-ayn
 PREP filling.CST DEF-basin PREP year.CST two-M.DU.OBL

wa-'arba'-ūn sanat qadā' al-mu'min-īn
 CONJ-forty-M.PL.NOM year.CST reckoning.CST DEF-believers-M.PL.OBL

‘until the end of the year forty-two of the year according to the reckoning of the believers’

hand 3, line 8

إلى مل اثنان وأربعون قضا المؤمنين

ilā mil' iṭn-ān wa-'arba'-ūn qadā'
 PREP filling two-M.DU.NOM CONJ-forty-M.PL.NOM reckoning.CST

al-mu'min-īn
 DEF-believers-M.PL.OBL

‘until the end [of the year] forty-two according to the reckoning of the believers’

hand 3, lines 10–11

إلى مل اثنان وأربعون سنة قضا المؤمنين

ilā mil' iṭn-ān wa-'arba'-ūn qadā'
 PREP filling two-M.DU.NOM CONJ-forty-M.PL.NOM reckoning.CST

al-mu'min-īn
 DEF-believers-M.PL.OBL

‘until the end [of the year] forty-two according to the reckoning of the believers’

hand 4, line 13

من سنة اثنان وأربعين سنة قضا المؤمنين

min sanat iṭn-ān wa-'arba'-īn sanat
 PREP year.CST two-M.DU.NOM CONJ-forty-M.PL.OBL year.CST

qadā' al-mu'min-īn
 reckoning.CST DEF-believers-M.PL.OBL

‘... of the year forty-two of the year according to the reckoning of the believers’

One individual, who mentions the date twice in his part of the text (hand 3, lines 7–11), consistently uses the only nominative forms, even though an oblique form would be expected in a tripartite case system and was the norm in any syntactic position in the language of the Arabic documents, as we have seen. The other three hands each use a slightly different form for the whole numeral, combining nominative and oblique forms, which should be impermissible in any case system.¹⁹

The combination of grammatical forms that should not co-occur and the amount of variation within the text strongly suggests that we should interpret these forms as hypocorrections (for the impossible combinations) and hypercorrections (for the use of the nominative in genitive position). Therefore, it seems that the authors of this document were aware of some prestigious register of written Arabic that demanded the distinction between nominative *-āni* and *-ūna* and oblique *-ayni* and *-īna* suffixes, but they were not quite confident in their use. It is interesting to note, in this respect, that witnesses were not chosen primarily for their merit as scribes, but rather for their reputation and social standing (Sijpesteijn 2013, 218–19). At the same time, this text is an official administrative document. This particular combination of untrained writers and an official context appears to have prompted the witnesses to labour to produce a more elevated written register. However, in doing so they did not only overshoot their grammatical target, producing hypo- and hypercorrect grammatical forms; they tried to make a case distinction that was not even a part of the common epistolary and documentary norm, misapprehending the contextual, genre-specific expectations surrounding the use of such forms. If this interpretation is correct, it underlines the distance of the writers from more formal written registers and suggests a lack of comfort with the grammar, as well as a lack of understanding of the contextual applicability of the linguistic register that they were trying to produce.

6.5 *Tanwīn 'alif*

The indefinite accusative that would be marked with the *tanwīn 'alif* in a system of tripartite case marking similar to that of Classical Arabic is attested on about 70 per cent of the 217 annotated nouns.²⁰ This suggests that, unlike the use of *-ūna* plural suffixes in subject position,

tanwīn 'alif accusative marking was, at least to some extent, productive in documentary Arabic in this period.

6.5.1 *The distribution of tanwīn 'alif*

In his grammar of early Arabic, mostly based on documentary material, Hopkins observed that '*tanwīn* 'alif may be absent in every syntactic environment in which it would have been obligatory in C[lassical] A[rabic]' (Hopkins 1984, 167). Even though Hopkins' observation is correct, this does not mean that the use of *tanwīn* 'alif marking was random. An important difference in the use of *tanwīn* 'alif marking across the corpus seems to be between different types of text. Comparing the use of *tanwīn* 'alif in constructions that are canonically associated with the accusative across registers, two things stand out: formal documents use a much wider range of syntactic constructions than either *entagīa* or private documents; and register has a strong impact on the use of *tanwīn* 'alif marking following a tripartite case system (see [Table 6.3](#) and [Figure 6.4](#)). Within the different registers, *tanwīn* 'alif is much less commonly used to mark nouns in syntactic positions Classically associated with the accusative case in the informal documents than in formal documents. Moreover, when we look at the *entagīa*, or tax-demand notes, we see that these highly formulaic documents are extremely consistent in their marking of *tanwīn* 'alif in the limited number of high-frequency constructions. This last point shows that formulaic language usage likely also impacted the use of case. Since official documents such as *entagīa* are particularly formulaic, this probably explains, at least in part, why the accusative case seems to be marked more consistently in official documents, despite the wider range of syntactic constructions attested in them.

Table 6.3: Number of annotated forms per register grouped by full tripartite case marking or not on nouns formally eligible for indef. acc. marking with *tanwīn ‘alif*

	No tripartite case	Full tripartite case	Total
Formal	36	203	239
Entagion	11	93	104
Informal	25	92	117
Total	72	388	460

Note: Because the discussion of a documentary standard focuses on a development in bureaucratic environments, the small group of forms annotated in non-chancery texts (eight in total) have been grouped under ‘informal’ documents here. Also note that one example of an exercise text was taken out, as it could be argued that such a text, if produced in a ‘formal’ educational setting, could be considered part of more formally produced documents, despite the possible lack of experience of the writer.

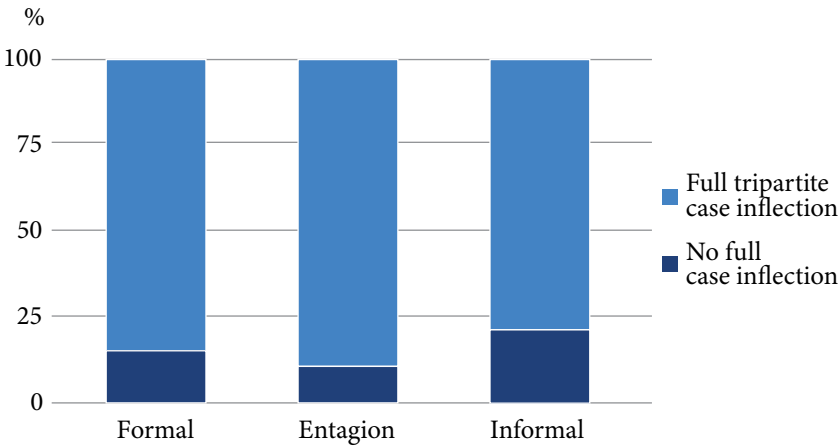


Figure 6.4: Proportion of tripartite case marking on nouns eligible for indef. acc. marking, per register. The bottom section of each bar indicates the percentage of annotated forms in the given register that were not fully inflected for tripartite case marking; the top section represents the percentage that was fully inflected for tripartite case marking.

6.5.2 *Tanwīn 'alif in non-accusative position*

In terms of the extension of the use of *tanwīn 'alif* to environments not canonically associated with the accusative case, Phillip Stokes observed that, in Christian translations of the Gospels into Arabic, the use of *tanwīn 'alif* outside canonical environments was much lower than previous scholarship suggested, as he found that between 77 per cent up to 96 per cent of *tanwīn 'alif* marking occurred in constructions Classically associated with the accusative in a representative sample, depending on the manuscript family (2023a, 243–246; 264). In the Arabic papyri under discussion here, the extension of *tanwīn 'alif* is on the more limited end of that range, with 95.5 per cent of the annotated nouns marked with *tanwīn 'alif* occurring in Classical accusative constructions (151 of 158; see [Table 6.4](#)).

So, only a small proportion of nouns that are marked with *tanwīn 'alif* occur outside of syntactic accusative environments (4.4 per cent, or seven of 158 nouns; see [Table 6.4](#)). Interestingly, all examples of *tanwīn 'alif* used in subject position occur in letters written in the same chancery and are part of a dossier known as the Qurra papyri,²¹ albeit in documents written by different scribes. The four examples of *tanwīn 'alif* used in genitive position occur in documents from different sources. Two examples are attested in the same text (P.MuslimState 4) following the preposition *min*; two other examples both occur as the item of which a fraction is mentioned, one in a receipt (P.DiemAphrodito p. 272) and one in a business letter (P.HanafiBusinessLetter).

Table 6.4: Distribution of *tanwīn 'alif* on indefinite triptotic nouns

Attested form	Syntactic position			Total
	Accusative	Genitive	Nominative	
No <i>tanwīn 'alif</i>	66	140	110	315
<i>tanwīn 'alif</i>	151	4	3	158
Total	21	144	113	474

Note: The total number of nouns that were eligible for accusative marking with *tanwīn 'alif* in this table is higher than that mentioned in [Table 6.3](#). This is because not all nouns that could be annotated for case occur in documents of which the register could be established, and which, therefore, needed to be left out of [Table 6.3](#).

In subject position

The attested forms that are marked with *tanwīn* 'alif and that occur in subject position can be found in two different syntactic constructions, once on the last noun that is part of a list of two nouns that form the predicate of a nominal sentence (P.Qurra 4, 19–20), and twice on the final noun that is part of a list of two or more nouns that form the subject of the verb *kāna* 'to be' (P.Heid.Arab. I 1, 20–22; P.BeckerNPAF 1, 21–22). Both types are mentioned as typical constructions in which the use of *tanwīn* 'alif is extended in Hopkins' description of early Arabic grammar (Hopkins 1984, 168–69), but they are also mentioned in Blau's work on Christian Arabic (Blau 1967, 28:329–43 paragraphs 224–26).²²

P.Qurra 4, r° 19–20

line 19

لقد كنت أظنّ أنّ عملك

laqad kun-tu 'a-zunnu 'anna 'amal-ka
 CONJ was-1SG.PERF 1SG.IMPERF-think CONJ work-POSS.2SG.M

line 20

هو أنجح وخيرا

huwa 'anḡaḥ wa-ḥayr-an
 PRON.3SG.M EL:successful CONJ-good-INDEF.ACC

'I used to think your administration was more successful and better'
 (EL = elative)

P.Heid.Arab. r° 1, 20–22

line 20

فلا يكوننّ في أمرك

fā-lā ya-kūn-anna fī 'amri-ka
 CONJ-NEG 3SG.M.IMPERF-be-ENER in business-POSS.2SG.M

line 21

عجز ولا تأخير و

'aǧz wa-lā ta'ḥīr wa-lā
 deficiency CONJ-NEG delay CONJ-NEG

line 22

تَجَبُّسَا

taḥabbus-an

withholding-INDEF.ACC

‘So in your business there should not be any deficiency, delay or holding back’
(ENER = energetic mood)

P.BeckerNPAF 1, r° 21–22

line 21

أَنْ يَكُونَ عِنْدَكَ أَمَانَةٌ

'an ya-kūna

CONJ 3SG.M.IMPER-be

'inda-ka

with-2SG.M

'amāna

trustworthiness

line 22

وَأَجْرًا وَتَنْفِيذًا لِلْعَمَلِ

wa-ṣṣgrā'

CONJ-efficiency

wa-tanfīd-an

CONJ-promptness-INDEF.ACC

li-l-'amal

PREP-DEF-work

‘that you should show trustworthiness, efficiency and promptness in your office’

In P.Qurra 4, r° 20 the noun marked with the *tanwīn 'alif* is the predicate of a nominal clause. In Blau's discussion of comparable constructions in the Christian papyri (1967, 28:331 paragraph 224.1.1.1.) he suggests that especially the opening of the clause with *'n* may have caused a hypercorrect insertion of the indefinite accusative marking, as nouns that are governed by *'n* Classically take the accusative case. However, Phillip Stokes shows in a recent article, based on several Arabic translations of the Gospels, that none of the examples of nouns that actually are governed by *'n*, in the corpus he examined, were marked with *tanwīn 'alif*, making it unlikely that the authors overzealously ‘corrected’ instances where *'n* occurred (Stokes 2023a, 256 and 259). Given the consistency with which *tanwīn 'alif* is extended to specific constructions in the Arabic translations of the Gospels he examined, Stokes argues instead for interpreting the extension of the use of *tanwīn 'alif*, in these environments that are not associated with the accusative case in Quranic and Classical Arabic, as innovative usage of this morpheme after it had lost its accusative function, and therefore as part of a living linguistic variety (Stokes 2023a, 314). Besides the

syntactic construction in which the nouns occur that are marked with *tanwīn 'alif*, it is worth noting that, in both cases, it is only the last noun of an enumeration that is marked as such. This particular feature also finds a parallel in the Christian Arabic material Blau described both on enumerated verbal subjects and on nominal predicates (Blau 1967, 28:340–41 paragraph 226.2–4).

Despite the clear parallels between the examples from the Qurra papyri and the corpus of Christian Arabic manuscripts that was examined by Phillip Stokes, in aggregate, the data from the papyri look a little different. Even when confined to only the Qurra papyri, there are examples of nouns governed by *'n* that are marked with the indefinite accusative *tanwīn 'alif* (P.Qurra 4 r° 7: [the plate was published in Abbott 1938, pl. Iva]; P.BeckerPAF 12 [l. 6–20] r° 6). Therefore, we cannot completely rule out the possibility of the influence of sentences in which *'n* governs a noun in the accusative case. However, of the eight examples in the early Arabic papyri of nouns that are governed by *'n* and that are eligible to be marked with *tanwīn 'alif*, only half are marked as such (P.MuslimState 31 r° 5; P.Qurra 4 r° 7; P.BeckerNPAF 7 r° 6; P.Berl. Arab. II 23 r° 6). While it is impossible to make any absolute statements about the entire corpus on the basis of just eight examples, this means that in this small sample this particular construction is left unmarked much more frequently than the overall rate of accusative marking in syntactic positions commonly associated with the accusative case, a little over 70 per cent for the full corpus.²³ The common alternation between nominative *'abū* and accusative *'abā* in the same construction in the early Arabic papyri (Kootstra 2022, 404) suggests that the lack of *tanwīn 'alif* marking in this construction was not merely an absence of case marking, but rather a reinterpretation of the construction where the subject of the subordinate clause would take nominative case, regardless of whether it was governed by *'n*. A parallel to this seems to be found in the use of the five nouns in the Arabic Gospel translations, where Phillip Stokes found that more than half of the attestations of the five nouns governed by *'n* occurred in nominative form rather than the accusative, although the frequency of accusative forms in this construction seems to increase over time (Stokes 2023b, 15). If there was indeed variation in the interpretation of the case inflection of nouns governed by *'n*, this could have contributed to hypercorrect usage of the accusative of nouns in the vicinity of *'n*.

The other examples in P.Heid.Arab. I 1, 20–22 and P.BeckerNPAF 1, 21–22 are comparable to what Blau groups under *-an* marking the subject of existential clauses (Blau 1967, 28:333–35 paragraph 224.2). He suggests that especially in sentences where *kāna* (‘to be’) does not take a predicate (*kāna at-tāmma*), a hypercorrect accusative may be inserted, due to interference of instances when *kāna* does take a predicate (*kāna an-nāqīṣa*), which takes accusative case marking in Classical Arabic and varieties of Arabic that use similar tripartite case marking. Within the corpus of early Arabic documents under examination here, the complement of *kāna* is quite consistently marked with *tanwīn ‘alif*, when eligible (14 of 18 examples),²⁴ and so the insertion of a hypercorrect *tanwīn ‘alif* on the subject of *kāna* could be a plausible explanation for the occurrence in P.Heid.Arab. I 1, 20–22 and P.BeckerNPAF 1, 21–22.

In genitive position

All four nouns that are marked with *tanwīn ‘alif* in genitive position are commercial products, produce, or money. These are all items that are often mentioned in transactions, where their quantities are commonly specified. Moreover, all examples occur in contexts where the stipulation of specific amounts is common, such as tax-demand notes and business letters. Counted nouns that follow a numeral between 11 and 99 in Classical Arabic, and forms of Arabic with similar tripartite case systems, are marked with the accusative case (e.g. *talāṭa ‘ašara kitāb-an* ثلاثة عشر كتابا ‘thirteen books’). Therefore, the occurrence of *tanwīn ‘alif* on nouns that are often used in such counted constructions, even when not following a numeral between 11 and 99, makes it likely that the examples can be understood as hypercorrections or interference from counted constructions.

P.MuslimState 4 r^o 15

ما أصاب الرجال من قمحا أو شعيرا

<i>mā</i>	<i>‘ašāba</i>	<i>al-riḡāl</i>	<i>min</i>	<i>qamḥ-an</i>	<i>‘aw</i>	<i>šā‘ir-an</i>
REL	be fall.3MS.PERF	DEF-men	of	wheat-INDEF.ACC	or	barley-INDEF.ACC

‘What [in terms of taxes] has fallen on the men of wheat or barley’

Given the fact that the forms *qamḥan 'aw ša'īran* ('wheat or barley') follow the preposition *min* ('of'), the expected case ending in a variety of Arabic with a tripartite case system would be the genitive, which would not be visually marked in the orthography of the papyri.

However, in a typical *entangion* the verbal form *'aṣāba-kum* 'the tax has befallen you (pl.)' is commonly followed by a specification of the kind of tax and the amount that needs to be paid (see for comparison P.Heid.Arab. I c, which follows the typical formula). This context may have prompted the scribe of P.MuslimState 4 to add the indefinite accusative *'alif* on the produce (wheat and barley) following the verb, regardless of its syntactic function. Alternatively, the author of the text may have interpreted the two nouns as part of the object of the transitive verb, following definite *al-riḡāl* ('the men').

P.Heid.Arab. I c r° 4–5

أصابكم من جزية سنة ثمان وثمانين سبعة وأربعين دينرا

line 4

'aṣāba-kum

befall.3MS.PERF-2MPL.PRON

line 5

<i>min</i>	<i>ḡizya</i>	<i>sanat</i>	<i>ṭamān</i>	<i>wa-ṭamān-īn</i>	<i>sab'a</i>	<i>wa-'arba'īn</i>
PREP	jizya.tax	year	eight	CONJ-eighty-OBL	seven	CONJ-forty-OBL

dīnār-an

dinar-INDEF.ACC

'of the jizya tax of year eighty-eight, forty seven dinar befell you (pl.)'

Another example of a lexeme that might be expected to be found in association with specific quantities is the word *filfil* 'pepper', which occurs in P.HanafiBusinessLetter r° 2–3 following the fraction *niṣf* 'half'. Fractions typically form a genitive construction with the following noun (e.g. 'half of X'). The phrase occurs in a letter that lists several different business transactions, so, again, in a context where goods often occur following numerals that would commonly require a following accusative in varieties of Arabic that preserve accusative marking in this syntactic environment.

P.HanafiBusinessLetter r° 2–3

line 2

وبرطل

wa-bi-raṭl

CONJ-with-pound

line 3

ونصف فلفلًا

wa-niṣf fiḥfil-an

CONJ-half pepper-INDEF.ACC

‘with a pound and a half of pepper’

Finally, there is one example in which the word *dinar* is marked with *tanwīn ‘alif* in a construction where it would typically be marked with a genitive in a tripartite case system similar to that of Classical Arabic. The example occurs in a fragmentary document mentioning a sum of money (P.DiemAphrodito p. 272.2), where the word *dīnār* follows a fraction, in a construction similar to the one encountered in the previous example. Diem reads the text as follows:

P.DiemAphrodito p. 272 r° 2–3²⁵

line 2

دينارا ونصف د[ي]نرا في النصف [من]

dīnār-an wa-niṣf d[ī]nār-an fī al-niṣf [min]

dinar-INDEF.ACC CONJ-half dinar-INDEF.ACC in DEF-half [of]

line 3

س[نة] اثنتين وعشرين

[s]anat iṭnayn wa-‘ašrīn

{year} two CONJ-twenty

‘... dinar and half a dinar in the middle of year twenty-two’

Since the word *dīnār* occurs so often in counted constructions between 11 and 99, where accusative case marking is appropriate, P.DiemAphrodito p. 272 offers a very likely place to find hypercorrect use of *tanwīn ‘alif*.

In his article on the Aphrodito (i.e. Qurra) papyri, Diem (1984, 169) noted that the inflection for the indefinite accusative following

numerals 11 to 99 is remarkably consistent with the Classical tripartite system.²⁶ With only a third of the attested eligible counted nouns lacking *tanwīn 'alif* marking (seven out of 21), the Qurra corpus seems generally representative of the whole dataset of early Arabic documents in this respect, where we find that about 35 per cent of eligible counted nouns lack *tanwīn 'alif* marking in this construction (13 of 37).²⁷ However, when we look at specific high-frequency contexts, it seems that formulaic language use also had an effect on the use of case inflection (see [Table 6.5](#) and [Figure 6.5](#)).²⁸ As can be seen in [Table 6.5](#), more than 80 per cent of the attested forms of *dīnār* are marked with

Table 6.5: *Tanwīn 'alif* marking on recurring counted nouns following numerals 11–99

Lexeme	Not marked with <i>tanwīn 'alif</i>	Marked with <i>tanwīn 'alif</i>	Total
dīnār	4	20	24
raṭl	2	1	3
'irdabb	6	2	8
Total	12	23	35

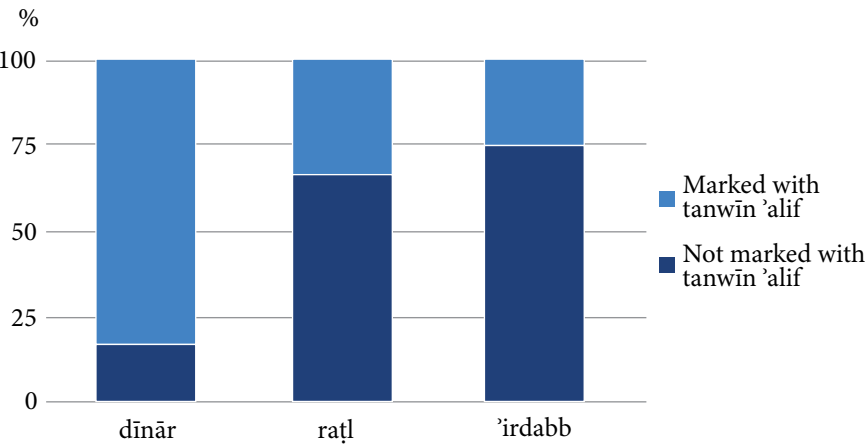


Figure 6.5: Counted nouns eligible for marking with *tanwīn 'alif* following numerals 11–99 and the proportion of attestations with and without *tanwīn 'alif* marking

tanwīn 'alif (20 of 24 attestations). However, for the less common *raʾl* and *irdabb* (both units of measurement) this ranges from two thirds to 75 per cent of the attested forms (of three and eight attestations, respectively). Within the Qurra papyri the pattern is even more pronounced. In this corpus all 12 attestations of the noun *dīnār* are marked for case, with only one exception (P.BeckerNPAF 15 (l. 2–7).4), while of the other recurring lexical items attested in this construction (*raʾl* and *irdabb*, seven attestations in total) only *irdabb* receives *tanwīn 'alif* marking, twice (P.Heid.Arab. I 1 r^o 7 and P.Heid.Arab. I 5 r^o 6). This divide, with the most common collocation being the one that is far more consistently marked for case, suggests that formulaicity influenced the choice, or knowledge, of case inflection for this construction in the early Arabic documents, and in the Qurra corpus in particular. This may have been an additional trigger for the hypercorrect inflection of *dīnār-an* following the fraction *niṣf* in P.DiemAphroditō p. 272 r^o 2–3.

6.5.3 *Tanwīn 'alif and the language of the Qurra scribes*

Some of the connections between linguistic features found in the Qurra papyri and other types of historical and modern Arabic raise interesting questions about the identity of the scribes of the Qurra papyri and how their language relates to the corpus of early documentary Arabic. The use of *tanwīn 'alif* in subject position, for example, is found not only in the Qurra papyri, but also more consistently in other types of historical and modern Arabic. This suggests that these were not just slips of the pen, but that they may have had some reality in the spoken language of the scribes or a written register that differed from Classical Arabic usage. The occurrence of these constructions specifically in the Qurra papyri may partially be due to the greater variation in syntactic constructions that are attested in official documents compared to private documents, but they coincide with several other linguistic features that the Qurra papyri seem to share with more literary registers of Arabic, such as the relatively frequent use of the energetic mood,²⁹ and the occurrence of the negative form *lam yaku* 'there/he is not' for *lam yakun* (P.BeckerNPAF 10 r^o 8; P.Heid.Arab. I 4 r^o 7, 8).³⁰

Both the *lam yaku* forms and the energetic mood do not seem to have been common in documentary Arabic outside of the Qurra papyri, either.³¹ The energetic mood is more commonly associated with

a literary register.³² However, the only other text that regularly employs the energetic is the Quran (Zewi 1999, 34–36). Both *lam yakun* and the *lam yaku* forms that lost the word-final *n* occur in the Quranic Consonantal Text (e.g. 8:35, 40:28, 19:67; 75: 37, 16:120, 40:28, 85; 9:74).³³ The fact that the attestations of the shortened form *yaku* in the Qurra papyri occur outside Quranic quotations, in non-formulaic context, seems to suggest that there may have been some linguistic reality to the loss of the *n* in word-final position following short vowels, for the scribes who wrote these documents, similar to the extended use of *tanwīn 'alif* attested in the same dossier. The fact that some of these less common forms are more closely associated with more literary registers of Arabic, while the extension of the use of *tanwīn 'alif* can be found in (Christian) literary production from the Levant, could suggest that some of the Qurra scribes were also, or possibly primarily, trained in literary written production instead of documentary writing, or that they spoke a variety of Arabic that was linguistically closer to that register.

6.6 Conclusions

Breaking down the distribution of Classical case marking across document types shows a clear distinction between formal documents and private documents in the first half of the eighth century CE, with formal documents showing significantly more consistent case marking. The lack of comparative data for the earlier periods makes it impossible to determine whether this distinction between private and formal documents existed already in the seventh century, or whether it was part of the increasing divergence between these two registers as the result of the development of a distinct scribal register in writing style and orthography that was observed by Petra Sijpesteijn (2020). However, by the eighth century CE, more consistent tripartite case marking seems to have been part of the scribal register. Despite the apparent existence of a scribal register that more closely adhered to a Classical tripartite case marking than private writing, as observed before, this register seems to have been distinct from Classical Arabic, already from the beginning of the writing tradition as it has come down to us in preserved documents. The clearest illustration of this is the consistent levelling of the oblique masculine plural suffix for all environments in all documentary registers. The lack of consistency in the marking of

nouns governed by 'n with *tanwīn 'alif*, and their common interpretation as nominative in reflexes of the five nouns, also seems to have been widespread in the corpus.

While the general levelling of the oblique *-īna* and *-ayni* forms for the plural and dual, respectively, was already a well-known feature of the Arabic documentary texts, the specific distribution of the few nominal forms may shed some additional light both on the existence of different registers and on people's awareness of them. The occurrence of *-ūna* in subject position in a Quran citation in two protocol texts suggests that the authors of these texts were aware of the case distinction as it occurs in the Quranic Consonantal Text, through knowledge of either the written or recited text. At the same time, the hypo- and hypercorrect usage of the nominative form by several witnesses to a debt acknowledgement suggests that these authors had some awareness of the existence of a register that distinguished a nominative plural suffix, but were confident neither in how to use it nor in which contexts it was necessary to do so.

A closer look at distribution also showed the influence of local variation, in this case setting a particular chancery, that of Qurra bin Šarik, apart from the rest of the corpus. In addition to this, a focus on distribution instead of individual examples also revealed the impact of formulaic language usage. The impact for formulae is particularly visible within the subgenre of *entagia*, in which counted constructions are very common. While this appears to have caused the more consistent marking of the noun 'dinar' in counted constructions following numerals 11 to 99, the regular usage of this word in constructions with *tanwīn 'alif* marking also seems to have contributed to this use being extended to environments where it was not needed in Classical Arabic, likely as hypercorrections or through interference.

The presence of what look like hypo- and hypercorrect forms in both chancery and non-chancery documents suggests that not all authors of these documents spoke a variety of Arabic that still had full tripartite case inflection that functioned in a similar way to that which became Classical Arabic. However, the relatively common use of tripartite case inflection throughout the documentary papyri written in Arabic before the mid-eighth century CE also suggests that varieties of Arabic that still had some case distinction were still spoken. Especially similarities in the distribution of case marking across syntactic

constructions documented for Christian Arabic and in the Arabic documentary papyri may point to a living case system underlying some of the non-canonical usages of the accusative attested in them.

Notes

- 1 The research for this chapter was done as part of the FWO-funded project Chaos before Order? at Ghent University (file no. 62432). My gratitude goes out to Phillip Stokes for reading an early draft and discussing it with me. I would like to thank the editors, Klaas Bentein and Marja Vierros, for their comments. I am especially grateful to Simon Kootstra-Ford for his insightful comments on this chapter. Any remaining mistakes are, of course, my own.
- 2 Muslims entered Egypt in 639 CE and captured Alexandria by 642 CE (Sijpesteijn 2007, 427).
- 3 On the existence of an Umayyad and Abbasid scribal standards see also Kaplony (2019, 316–17), who asserted that there existed an Umayyad Documentary Standard Arabic which was ‘shaped by the interests of the Umayyad Muslim state’ and which had an ‘openness’ towards linguistic variation.
- 4 Note that throughout this chapter, whenever Classical or Classically is used with a capital C, this is a reference to the Classical Arabic norm.
- 5 On the term Neo-Arabic and its relation to Classical Arabic and the emergence of diglossia see for example Blau (1977) and Ferguson (1959).
- 6 In a recent article, Andreas Kaplony proposed to make the language of the Arabic documentary papyri even more central to our conception of written standard Arabic, instead of looking at Classical Arabic as the normative variety (2019, 313).
- 7 I follow the commonly accepted reconstruction of Proto-Arabic with a tripartite case system as proposed in Huehnergard (2008) and minutely argued for by Al-Jallad and Van Putten (2017), *contra* the idea that there were parallel forms of proto-Arabic and that all caseless varieties of Arabic descend from a caseless Proto-Arabic (Owens 2006; Retsö 1994).
- 8 www.naher-osten.lmu.de/apd, accessed 15 December 2023. The APD is a project under the patronage of the International Society for Arabic Papyrology (ISAP). For contributors see www.apd.gwi.uni-muenchen.de/apd/about.jsp, accessed 15 December 2023.
- 9 Whenever a siglum is given, it follows the siglum it has in the APD, under which it can be found through the ‘Name’ field on the ‘document’ tab, www.apd.gwi.uni-muenchen.de/apd/show_new.jsp, accessed 15 December 2023).
- 10 In Arabic, sound plurals are those forms that are pluralised by adding a suffix to the singular form (e.g. *muslim* ‘a muslim’ ~ *muslim-ün* ‘muslims’). This forms a contrast with so-called ‘broken plurals’, which are forms that are pluralised through pattern replacement (e.g. *kitāb* ‘a book’ ~ *kutub* ‘books’).
- 11 This is clearly reflected in the various outcomes of loss of case distinction following phonological changes as documented, for example, for the Arabic that underlies the Quranic Consonantal Text (Van Putten and Stokes 2018), the

- Safaitic inscriptions (Al-Jallad 2015, 69–71), or the Arabic Psalm fragment (Al-Jallad 2020).
- 12 This percentage closely follows that found in the study of case inflection of *ʿab* in the first three centuries AH, which found about 80 per cent of the forms were fully inflected following tripartite case marking according to their syntactic position (Kootstra 2022, 390). Phillip Stokes found similar high frequencies of case marking Arabic Gospel manuscripts (9th–15th centuries CE) on the five nouns, and nouns ending in *-āʾ* (< **-āy* or **-āw*) in Classical Arabic (Stokes 2023b, 29).
 - 13 Besides these definitions of ‘formal’ and ‘informal’ documents, I have also kept the *entagia*, or tax-demand notes, as a separate category. The *entagia* are a clearly defined administrative category based on the content of the texts. The division between formal and informal documents includes more fuzzy categories. Informal letters include private and business correspondence; formal documents include official administrative letters, but also contracts which would include witness statements that could be written by less practised authors. Non-chancery documents are those that fall outside of both ‘formal’ and ‘informal’ categories as described here. For example, this includes P.Mird 71, which Grohmann categorised as a literary text (Grohmann 1963, 82).
 - 14 See also Diem (1984, 270) for the observation regarding numerals that teens and dual forms seem to occur exclusively in their oblique forms in documents from the first century AH.
 - 15 In the edition in the APD of P.BeckerNPAF 16 (ll. 2–7), a nominative form *ʾišrūna* ‘twenty’ is suggested in nominative position, with Caetani’s reading *ʾišrina* (1912, V:236) as emendation to the text; www.apd.gwi.uni-muenchen.de/apd/show2.jsp?papname=Becker_NPAF_16&line=1, accessed 31 October 2023. On the plate that was published by Caetani, it is clearly visible that the papyrus indeed reads *ʾišrina*, using the oblique form.
 - 16 The texts paraphrase sūras 9:192 and 61:9: *muḥammad rasūl Allāh ʾarsala-hu bi-l-hudā wa-dīn al-ḥaqq li-yuḥzira-hu ʾalā al-dīn kulla-hi wa-law kar-iha al-mušrikūna* ‘Muḥammad is Allah’s prophet whom He sent with the (true) guidance and the true religion, making it prevail over all others, even to the dismay of the polytheists’. The same text occurs in CPR III 116, but in this protocol the word *mušrik-ūna* is no longer visible on the document. Therefore, we cannot be sure that the same *-ūna* form was used in this document as in the other two.
 - 17 Such a separation between Quranic Arabic and Documentary Arabic is, in a broad sense, in line with Kaplony’s conclusion that the language of the Quran had little impact on Documentary Arabic (2019, 314). He bases this assertion on the outcomes of the research in the collected volume that he edited together with Michael Marx (Kaplony and Marx 2019). This work contains one chapter on Quran quotations in Arabic letters written on papyrus (Potthast 2019). In the conclusion of this chapter, Daniel Potthast remarks on the low number of direct or near Quran quotations in the Arabic letters up till the tenth century, on the basis of which he concludes that ‘the Qurʾān did not play an important role in the matters of daily life with which the letters were concerned’. This statement, while in a general sense in line with Kaplony’s conclusion cited here, was, however, mostly concerned with the use of Quranic quotations as a cultural

phenomenon and does not speak to the question of how much the language of the Quran impacted the written norm linguistically. While one might argue that the absence of direct quotations suggests that, therefore, the language of the Quran did not play a large role in documentary writing in any way, based only on Potthast's contribution this would be an argument from silence.

- 18 The translation of the phrase *sanat qaḍā' al-mu'minīn* as 'the year according to the reckoning of the believers' follows May Shaddel's interpretation of it (2018). In this article he convincingly argued against previous interpretations by Yūsuf Rāḡib (2007) and Jelle Bruning (2015).
- 19 Note that the gender marking in lines 1 and 3 are only mismatched if we assume an elliptical *sanat* in this position. We would expect a feminine noun *sanat* to agree with the feminine form of the numeral two: *iṭnatayn* (اسن). In both lines 2 and 4, the authors also opted for the masculine (*iṭnayn* اسن and *iṭnān* امان, respectively), this time following the explicitly stated feminine *sanat*, which suggests that none of the authors was inflecting *iṭnayn* for gender. There is no doubt about the number of denticles in the text, but it might still be argued that the *iṭnayn* form following *sanat* in line 5 is a defectively spelt feminine form in the nominative in which the long *ā* is left unrepresented: *iṭnatān* (اثنان ← اسن) (I would like to thank Marijn Van Putten for suggesting the possibility of defective spelling of long word-internal *-ā-*). If we were to consider this a defectively spelled form of *iṭnatān*, the second hand would be the only author to use a feminine form of the word 'two' in the document. However, all the other hands on the document write *iṭnān plene*, with an 'alif indicating the long *ā*. Note that *sanat iṭnayn wa-...* using the masculine form of *iṭnayn* is very common in the papyri of the first three centuries AH (compare e.g. P.RagibLettreFamiliale, P.HanafiWill, P.Khurasan 9, 10, 10, 14, etc.), which makes it more likely that the authors were using a masculine oblique form than a defectively spelt feminine nominative.
- 20 This roughly coincides with the numbers of nouns marked and unmarked with accusative *tanwīn* reported by Kaplony (2019, 326) for Umayyad Documentary Arabic: 135 examples (75 per cent) with *tanwīn 'alif*, and 44 (25 per cent) without.
- 21 The Qurra papyri are a multilingual dossier of letters and *entagia* that were sent from the chancery of Qurra bin Šarik, who was the governor of Egypt between 90 AH/709 CE and 96 AH/715 CE. Most of the currently known Arabic letters from this corpus were published by C. H. Becker (1906a, 1906b, 1911) and Nabia Abbott (Abbott 1938).
- 22 Even though variation in historical sources of Arabic is often described along denominational lines (e.g. Judaeo-Arabic, Christian Arabic, and Muslim Arabic), in a recent publication Magdalen Connolly demonstrated that the focus on denominationally demarcated corpora seems to have led to an overstatement of the differences between the spoken varieties of Arabic of people belonging to different religious groups. Her article engages with an ongoing debate on whether we can distinguish Arabic linguistic varieties along denominational lines and to what extent (e.g. Blau 2000 and references therein). Blau notes that there is quite a bit of overlap between the use of indefinite accusative marking or '*tanwīn -an*' in the Christian papyri and modern Bedouin dialects (Blau 1967, 28:329 paragraph 224). However, the most common construction in which this

occurs in modern dialects (called dialectal *tanwīn*) does not occur in either the Christian Arabic manuscripts that Blau based his grammar on or in the papyri under discussion here. For a more recent discussion of the function and development of dialectal *tanwīn* see Stokes (2020).

- 23 Note that if only three more examples were added to the current sample (bringing it up to seven examples in eleven total attestations), that would bring the distribution close to 70 per cent, similar to the rate in the overall corpus.
- 24 E.g. P.BeckerNPAF 1 r^o 24–25. Available on the APD: ‘P.BeckerNPAF 1 = P.Cair. Arab. 146 = P.AbuSafiyyaBardiyyatQurra 5’, in *The Arabic Papyrology Database: Tekst*, www.naher-osten.lmu.de/apd, accessed 15 January 2025.
- 25 I follow the reading proposed by Diem (1984, 272), except for the addition of ‘*addad-an* ‘counted’ on the first line, as the lack of syntactic context makes the case endings of this word and the first dinar on line 2 irrelevant for the current discussion.
- 26 He notes that he had not found a single example where *dīnār* was not marked with *tanwīn* ‘*alif* following numerals 11 to 99, but see P.BeckerNPAF 15 (l. 2–7) r^o 4 *ṭalāṭīn dīnār* ‘thirty dinar’.
- 27 Diem’s observation about the common marking of *tanwīn* ‘*alif* on counted nouns in the Qurra corpus (1984, 169) and the findings presented in the current contribution seem to stand in sharp contrast with the statement by Kaplony that in Umayyad-, Abbasid-, and Fatimid-period documentary Arabic ‘in combinations of numbers, counte[d] words, and counted items, the ‘*alif* is easily dropped’ (Kaplony 2019, 326). As he does not specify this statement further, it is difficult to be certain where the discrepancy in interpretation comes from. It may be a matter of perspective, as one in three nouns lacking *tanwīn* ‘*alif* following numerals does mean that an example is never hard to find. In relation to other commonly recurring syntactic constructions where one would expect to find *tanwīn* ‘*alif* in a system with tripartite case marking, however, counted nouns are left unmarked only slightly less commonly than direct objects, of which about 40 per cent are left unmarked (30 of 73 attestations), as well as nouns governed by *n*, of which half are left unmarked (of eight attestations). Adverbs and complements of *kāna* ‘to be’, on the other hand, are more commonly marked with *tanwīn* ‘*alif* than counted nouns, both having close to 75 per cent of their attested forms marked with *tanwīn* ‘*alif* (eight of 32 and four of 18 examples, respectively). So, while counted nouns are not the category most consistently marked with *tanwīn* ‘*alif* in the period under investigation here, they certainly do not stand out for how commonly they were left unmarked compared to other constructions.
- 28 Note that there is one instance of *dīnār* with *plene* spelled long ā دينار (P.RagibQurra 2); for the clarity of the graph the difference in spelling is left out.
- 29 The energetic mood is formed by adding the suffix *-anna* or *-an* to the short form of the imperfective (jussive). It is most commonly used to express future events (Jones 2005, 255) and has an emphatic or assertive force. The relatively frequent occurrence of the energetic in the Qurra papyri has been noted before, by, for example, Hopkins on the energetic in early Arabic documentary sources (1984, 70–71) and Becker, specifically in relation to the Qurra dossier (Becker 1906b, 30).

- 30 From the beginning of the eighth century there are more dossiers of related groups of texts available to us, one of which is the Qurra dossier. From this period onwards it becomes possible to observe local variation in scribal habits (Sijpesteijn 2020, 458; and for specific examples 2013, 32, 224–25, 227–28).
- 31 A search for كفي in the APD yielded only the examples that occur in the Qurra papyri (P.BeckerNPAF 10 r° 8; P.Heid.Arab. I 4 r° 7, 8), accessed 24 November 2023.
- 32 In her comparative study of the use of the energetic in Semitic languages, Zewi gives several examples from the Quran, *sīra* (accounts of the life of the Prophet Muḥammad), *hadīṭ* (accounts of the statements and actions of the Prophet Muḥammad), poetry, and literary prose.
- 33 For comparison, the form *yakun* occurs in, for example, Q17:11, 4:85, 168, 8:65, 66, 112:4, 6:131, and 98:1.

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PART II

Quantitative Studies

CHAPTER 7

Diminutives in the Greek papyri

A corpus-based investigation

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Abstract

Diminutives are ubiquitous in papyri, but so far have been understudied. One reason for this is that it is rather difficult to retrieve a large and representative sample of diminutives, due to a lack of derivational annotation in papyrus corpora and the difficulty of separating non-diminutive and diminutive meanings of suffixes such as -iov. One of the main aims of this paper is to describe a methodology to retrieve such a sample, making use of a large annotated corpus and techniques from distributional semantics in order to distinguish various meanings of diminutive suffixes. This method was mostly successful, although the small size and the formulaic nature of the papyrus corpus provide difficulties for distributional semantics. Additionally, this paper provides a first exploratory analysis of the factors conditioning variation between diminutive and non-diminutive forms from the framework of alternation studies, through the use of conditional inference trees. This analysis suggests that register, regional, and diachronic factors play a

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role in this choice, with a major increase in the use of diminutives happening in the Fayum region, while cross-regionally diminutives are mostly confined to low-register texts.

7.1 Introduction

Fifteen years ago *The Language of the Papyri* was published, in which the editors state that ‘[w]e are still dealing today with linguistic resources of extraordinary richness which have hardly begun to be explored’ (Evans and Obbink 2010, 2). Currently the linguistic analysis of Greek papyri is a booming field, and thanks to the papyri our knowledge about everyday Greek, sociolinguistics, and language change in the postclassical period has expanded greatly. The focus of this chapter is on diminutive suffixes, which, despite these developments, have received little attention so far.

Anyone who has intensively worked with papyri knows that diminutive suffixes are highly frequent in these texts: nouns ending in *-ιον*, for example, occur more than three times as often in papyri than in literary texts.¹ Such a highly frequent phenomenon lends itself perfectly to a corpus-based analysis. However, one of the reasons that this has not been attempted before is that it is quite difficult to retrieve diminutives. For example, a simple search for words ending in *-ιον* in the Papyrological Navigator at Papyri.info will retrieve many spurious hits such as *ἄξιον*, *προσκεφάλαιον*, and *ἐπιτήδειον* (and if other inflectional endings are added, the amount of false positives increases). Searching in lemmatised and morphologically annotated corpora, such as the duke-nlp corpus (also known as Trismegistos Words; Keersmaekers and Depauw 2022) already makes this easier, by limiting the search to nouns of which the lemma ends in *-ιον* or *-ίον*. This also returns numerous false positives, such as forms of *δηνάριον* and *ἔλαιον*. In other words, since the papyrus corpora lack derivational morphological annotation, a dedicated search strategy is necessary to retrieve diminutive forms.

This chapter therefore does not aim to offer a comprehensive study of diminutives in the Greek papyri or very definite results, but focuses primarily on the methodology to retrieve a large set of diminutives from the corpus. This is the subject of [Section 7.3](#), after briefly discussing the literature on diminutives and how to define them in [Section 7.2](#). Next, a preliminary analysis of this large dataset, using statistical

techniques, is given in [Section 7.4](#). [Section 7.5](#) further reflects on the main results, discusses possible problems with the methodology, and raises questions that are still to be answered.

7.2 Background: diminutives in Greek

As for the papyri, the only dedicated study on diminutive suffixes so far are the sections in Palmer's grammar of the post-Ptolemaic papyri (1945, 84–91), which mostly focuses on providing exhaustive lists of examples. For classical Greek, meanwhile, there are the extensive monographs of Petersen (1910, 1913); Swanson (1958) and Watt (2013) discuss diminutives in the New Testament and Meluzzi (2017) in Aristophanes; there is also an overview article by Grandi (2014), while Chantraine (1933) and Lühr and Balles (2008), offering a general treatment of derivation in Ancient Greek, also have some sections on diminutive suffixes.

One central issue is how to define a diminutive, given that on the one hand there are multiple suffixes in Greek that have diminutive meaning (e.g. -ιον, -ισκος, -αριον) and on the other hand typical 'diminutive' suffixes such as -ιον have a wide variety of meanings, not all of which are related to 'diminutive' semantics. It is generally accepted that the diminutive suffix -ιον derives from an adjectival function 'relating to' (Chantraine 1933, 64; Lühr and Balles 2008, 240; Petersen 1910, 132), which gave rise to a wide variety of meanings, including diminutives, but also words describing entirely different relationships with their base (e.g. ἰσθμιον 'necklace' from ἰσθμός 'neck'; Lühr and Balles 2008, 223) as well as locative nouns (e.g. χαλκεῖον 'forge' from χαλκεύς 'smith'; Lühr and Balles 2008, 222). As a consequence, the term 'diminutive' has been employed very broadly, referring to all words possessing the suffix -ιον, as well as more narrowly, referring to those forms that have an evaluative meaning (see Grandi 2014), that is, where a diminutive suffix is used to either comment on the physical properties of an entity ('small') or the speaker's attitude towards the entity ('good'/'bad') (Grandi 2014, 489). However, it is not always easy to draw a line between evaluative and nonevaluative diminutives (Grandi 2014, 489; Petersen 1910, 138–39).

This chapter focuses on variation between diminutives and their base forms (e.g. παιδίον 'little child' vs παῖς 'child'), from the field of alternation studies (e.g. Gries 2017; Pijpops 2020). This field, having its

roots in variationist sociolinguistics, investigates which factors condition the choice between variant constructions. If we employ this perspective, the assumption should be that diminutives and base forms are interchangeable to some extent, that is, they are variant constructions. Even if we limit ourselves to diminutives having evaluative meaning, the question whether the diminutive is interchangeable with its base form depends on the form under discussion, which I divide into three categories.

For some words (type A), the diminutive refers to an entity that is referentially distinct from the base form: Petersen (1910, 165), for example, cites the example of *θυλάκιον* ‘seed capsule’, that is a distinct concept from *θύλακος* ‘bag’, and the two words cannot be called interchangeable in any way (since *θύλακος* cannot be used to refer to the concept ‘seed capsule’).

In cases where the diminutive simply adds a meaning nuance (type B: the evaluative meanings discussed by Grandi 2014, e.g. ‘little’, ‘dear’), it is debatable whether it is interchangeable with its base form. On the one hand, if we assume that the meaning is altered by using the diminutive suffix, it is referentially distinct from its base form and it cannot be called interchangeable, as the speaker has no choice, given that they cannot use the base form to express the same meaning they wanted to express. On the other hand, the nuances of meaning the diminutive suffix adds are related to the subjective perspective of the speaker (see e.g. Petersen 1910, 155) and are often employed for pragmatic effects; for example, the diminutive of an object being asked for is used to soften the request (cf. Petersen 1910, 163; Meluzzi 2017, 138–40). In such cases the diminutive could be called interchangeable to the extent that the base form could also be used without the meaning being substantially altered.

Finally, sometimes (type C) the diminutive suffix does not even add a meaning nuance, but the diminutive and the base are entirely interchangeable, such as *πωλίον* vs *πῶλος* (both ‘foal’) (Petersen 1910, 166).² In this case the diminutive obviously qualifies as a variant construction. It is important to point out that many words can belong to multiple classes: for example, the word *θυλάκιον* does not necessarily have to mean ‘seed capsule’ but is also used with the meaning ‘little bag’ (or simply ‘bag’), as in P.Cair. Zen. 1 59069 (TM 725), ‘*θυλάκιον ἐσφραγισμένον α*’, for example.

For the papyri, it has been remarked that type C diminutives are rather frequent, although there are still contexts where it is clear that we are dealing with a type B diminutive (Amundsen 1965, 14–16). If the diminutive and base word are semantically equivalent, other factors than semantics might play a role: previous work has pointed out the role of extralinguistic factors such as register (e.g. Watt 2013, 67) or gender (e.g. Sommerstein 1995, although Meluzzi 2017 offers counter-evidence). Such factors are the focus of this chapter, under the assumption that they are an important driving force for the distribution of diminutives in the papyri.

The analysis is carried out on a dataset containing both type B and type C diminutives, which are not distinguished; the procedure of extracting diminutives from the papyrus corpus and isolating type A diminutives is discussed in [Section 7.3](#). The reason that this study makes no distinction between type B and C diminutives is that it is difficult to distinguish them both on a practical and on a conceptual level. On a practical level, there are no easy automated methods to do so (although it is possible for type A diminutives; see [Subsection 7.3.2](#)), and even when trying to distinguish them in a manual way, in most cases there are no overt contextual clues suggesting whether the diminutive was used to emphasise, for example, smallness or endearment or not. On a conceptual level, it is difficult to decide where to draw the boundary between diminutives that are semantically equivalent with their base word and those that are not, as was discussed earlier in this section.

This has important consequences from a statistical as well as a theoretical perspective. From a statistical perspective, it could be the case that since I did not exclude type B diminutives, patterns that seem to be related to extralinguistic factors might be related to semantic factors instead (e.g. texts in register X contain many diminutives because in register X small entities are more common, rather than because there is a real register difference). These problems are discussed in [Section 7.5](#). From a theoretical perspective, this study conflates forms where there is a choice between diminutive suffix and base form (so, alternations) with those where there might not strictly be a choice. It should be pointed out, however, that for the field of alternation studies in general it has been difficult to define in which cases the language user has a choice (see Pijpops 2020, 286–89). This study therefore avoids taking an explicit stance on which diminutives are interchangeable and which

are not, while taking into account that the prevalence of diminutives in certain contexts does not always mean that the base form was an option that the language users could have chosen.

7.3 Methodology

7.3.1 *Identifying possible candidates*

To compile a list of (possible) diminutive suffixes, I relied on the suffixes mentioned as ‘Diminutiva’ in Lühr and Balles (2008, 240–46) (under the assumption that this work is exhaustive).³ These are -ιον, -ισκος/-ισκη, -ιδιον, -αριον, -αδιον, -ακιον, -φιον, -ισκαριον, -ισκιον, -υδιον, -υδριον, -υλλιον, and -ις. I extracted all lemmas that end with one of these suffixes (controlling for accent variation, e.g. the search included both lemmas ending on -ιον and -ίον) from the duke-nlp automatically annotated corpus (Keersmaekers and Depauw 2022). Next, to control the size of this dataset and be able to assess the semantic value of the diminutive suffix (see [Subsection 7.3.2](#)), I filtered out all lemmas that occur fewer than ten times in the whole corpus. This yielded 333 unique lemmas (type frequency) of 69,897 tokens (token frequency). Not all of these lemmas were diminutives. I therefore manually checked the list and further reduced it on the basis of the following criteria:

- I removed coincidental matches. For example, one of the matches for -ισκος was δίσκος, which obviously does not have this suffix.
- I removed loanwords: typically the suffix is not native to Greek but from the source language (e.g. πραισίδιον ‘garrison’ from Latin *praesidium*). In some cases -ιον is also used as a suffix to create loans (see Palmer 1945, 86): Greek τούρτιον ‘flatbread’, for example, derives from Latin *torta*. It is doubtful whether -ιον has diminutive force here, but at any rate these examples were also excluded, since there was no Greek base without suffix to which these instances of -ιον could be compared.
- I removed words that had a deverbal (e.g. ἐντάγιον ‘order for payment’, from ἐντάσσω) or deadjectival (e.g. ἐγκύκλιον ‘tax on sales’, from ἐγκύκλιος) origin.
- I removed compounds when there was no Greek base without suffix. For example, although ἡμικάδιον (‘half a kados’, viz. a liquid

measure) could be called a diminutive, *ἡμικάδος does not exist, but it is rather derived from ἡμι- + κάδιον. In some cases there is not even a diminutive base, for example, ἡμιαρτάβιον (‘half an artaba’, viz. a capacity measure) could similarly be analysed as ἡμι- + ἀρτάβιον, but *ἀρτάβιον does not occur in Greek. This might point to the use of -ιον as a compounding (rather than diminutive) suffix (or alternatively, ἡμιαρτάβιον might simply have been created on the basis of analogy with words such as ἡμικάδιον).

- I excluded instances of the suffixes -τηριον and -ειον (for places and instruments) such as πορθμεῖον ‘landing place’ and δεσμοτήριον ‘prison’ (Lühr and Balles 2008, 222). More doubtful were instances of -ιον that have similar functions, such as βιβλιοφυλάκιον ‘place to keep books’ and γεώργιον ‘field’ (cf. Lühr and Balles 2008, 222). Obviously, it is important to note that <ι> and <ει> are phonetically identical in postclassical Greek, so there is only a spelling difference between -ιον and -ειον, and the two suffixes often seem to be used interchangeably in papyri (see also Palmer 1945, 79). Nevertheless, I initially included these forms but marked them as ‘locative -ιον suffix’.

This yielded the results presented in [Table 7.1](#). As can be judged from this table, -ιον, -αριον, and -ιδιον are the main suffixes used to form diminutives in the Greek papyri.⁴

Table 7.1: Diminutive suffixes in the Greek papyri, for lemmas occurring at least ten times

Suffix	Type frequency (lemmas)	Token frequency
-ιον	150	28,645
-αριον	21	1,237
-ιδιον	16	1,094
-υδιον	4	78
-ισκη	1	135
-ισκος	1	28
-υδριον	1	28
-αδιον	1	20

After excluding these from the automatically extracted list, I linked each diminutive to the noun that it derives from. This was done in two ways: by data automatically extracted from the LSJ lexicon (Jones et al. 1996) (e.g. for παιδίον the dictionary entry of LSJ states ‘Dim. of παῖς’) and with a rule-based approach, where for all lemmas present in the knowledge database of Morpheus (Crane 1991) a diminutive form was generated on the basis of their inflectional class (e.g. since Morpheus lists the lemma νόμισμα with the inflectional class *ma_matos*, we know that the diminutive form would be νομισμάτιον) and afterwards the diminutives in the papyrus corpus were matched against this list. The latter approach would sometimes yield more than one option (e.g. πεδίον could theoretically be from πέδη or πέδον), and so the LSJ list was given priority when it contained a base word for the given diminutive word. Next, I manually checked the list using several scholarly sources (Beekes 2009; Lühr and Balles 2008; Petersen 1910) to make sure that the link between diminutive and base word was valid.

7.3.2 Isolating forms with a diminutive meaning

As discussed in [Section 7.2](#), the ‘diminutive’ suffixes in Greek typically have a wide range of meanings. Importantly, for the diminutives that were called ‘type A’ the suffix can completely alter the denotational meaning of a word. For example, the most common diminutive word in the database I compiled was κεράτιον (accounting for more than one third of all ιον-diminutives), which typically is a measure of weight/price in papyri rather than meaning ‘little horn’ (as we would expect for a diminutive of κέρας). To retrieve the diminutives that are roughly interchangeable with their base form (see [Section 7.2](#)), it is necessary to isolate these instances from the list of diminutives.

There are two ways to do so: (a) by investigating all the secondary literature that is available on the target diminutives on this list or (b) by careful close reading of the corpus examples of all the target diminutives. While both options are very time-intensive, the former option is also rather problematic, given that most sources on diminutives are biased towards literary Greek and may not take all the papyrological evidence into account or display it very prominently (for example, the first meaning that the LSJ dictionary cites for κεράτιον is, in fact, ‘small horn’). Ideally then, the latter option should be able to be automated,

so that one could take the specific contexts these words appear in in the papyrus corpus into account while saving time.

To make things more concrete, such a method should be able to distinguish diminutives that are more or less interchangeable from the ones where the suffix drastically changes the denotational meaning from the word. Luckily, such a method exists, viz. the broad family of techniques called ‘distributional semantic models’, which have already been applied to Greek numerous times (e.g. Keersmaekers and Speelman 2023; Rodda, Probert, and McGillivray 2019; Stopponi et al. 2023). These techniques represent each word as a vector describing the contexts in which the respective word occurs. Words that occur in similar contexts will have (mathematically) similar vectors, and are assumed to have similar meanings. While this chapter does not discuss the technicalities of calculating such word vectors,⁵ it is important to note that this is to a large extent an automated way to do traditional philological analysis: just as we know that *κεράτιον* refers to money because it is often combined with *ἀποδίδωμι*, *χρεωστέω*, etc., such models determine *κεράτιον*’s similarity with other money terms and its dissimilarity with *κέρας* based on the contexts it occurs in.

Concretely, I created word vectors for all the diminutives and their base words occurring in the papyrus corpus based on the contexts that they occur in. One should note that these models typically require very large amounts of data: the papyrus corpus of 4.5 million tokens is rather small in this respect, and problems with regard to data scarcity are discussed in what follows. Next, I measured the mathematical distance between diminutive and base word using the cosine similarity measure (see Turney and Pantel 2010, 160–61). In case the diminutive and base word occur in similar contexts, this similarity will be high, while it will be low when the contexts are very different.

An example of the results of this method, containing ten words chosen at random, is shown in [Figure 7.1](#). Some diminutives that are judged highly interchangeable with their base form by the algorithm are *δακτυλίδιον* ‘(small) ring’ and *ἐπιστόλιον* ‘(small) letter’, which seems to correspond to their use in the papyri.⁶ Some diminutives that occur in very different contexts from their base form are the aforementioned *κεράτιον* as well as *κάδιον*. Since *κάδιον* and *κάδος* both seem to refer to jars in papyrus texts, it seems more puzzling why the algorithm judged them to be very dissimilar. However, since *κάδιον*

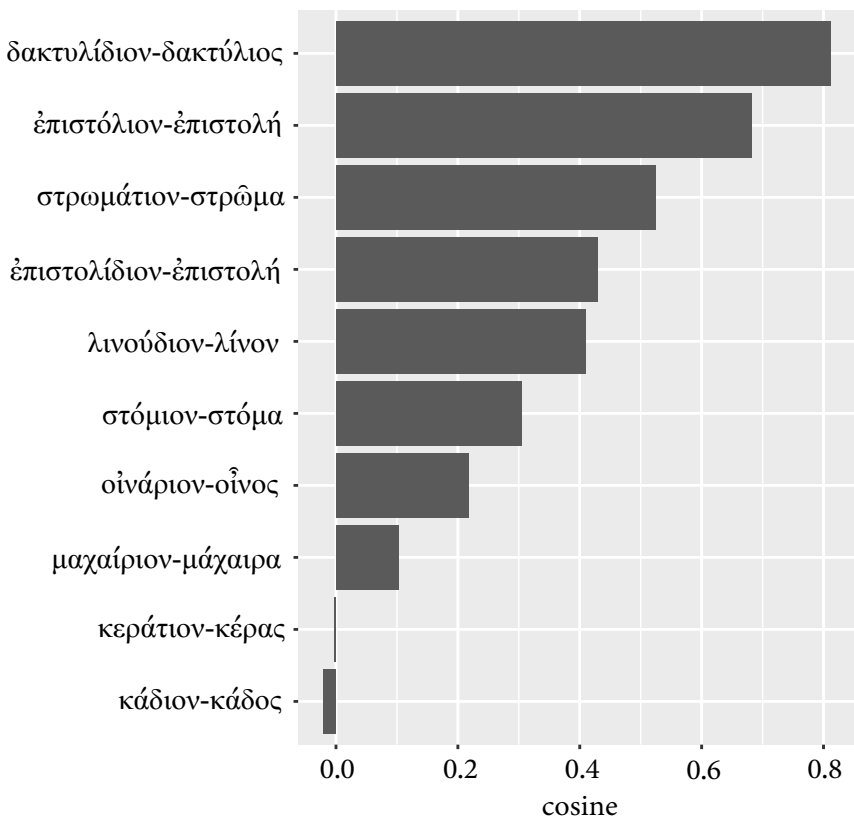


Figure 7.1: Cosine similarities between diminutives and their base forms, for a sample of ten words chosen at random

only occurs 15 times in the papyri, this is likely simply related to data scarcity.⁷

To further evaluate how well the algorithm performs, I looked at the ten words that were judged most similar to their base forms and the ten words that were judged the most dissimilar (while being fully aware that this is an extremely small sample). The most similar words were δακτυλίδιον ‘ring’ (vs δακτύλιος), ἀρνίον ‘lamb’ (vs ἀρήν), νομισμάτιον ‘solidus’ (vs νόμισμα), ἐρίφιον ‘kid’ (vs ἔριφος), χιτώνιον ‘dress’ (vs χιτών), ἐπιστόλιον ‘letter’ (vs ἐπιστολή), χρυσίον ‘golden coin’ (vs χρυσός), μαφόρτιον ‘veil’ (vs μαφόρτης), ληκύθιον ‘flask’ (vs λήκυθος), and τυρίον ‘cheese’ (vs τυρός). The only problematic case on

this list is χρυσίον, which means ‘golden coin’ instead of ‘gold’ as χρυσός does. However, they both often occur in transactional contexts, for example combined with words such as ἀπόδοσις or ἀπαιτέω, which has likely caused their high vector similarity.

The most dissimilar words were δένδριον (vs δένδρον), κοράσιον (vs κόρη), πλινθίον (vs πλίνθος), κηπίον (vs κήπος), ταξίδιον (vs τάξις), πλινθούργιον (vs πλινθουργός), ὄναριον (vs ὄνος), κάδιον (vs κάδος), κεράτιον (vs κέρας), and στάθμιον (vs σταθμός). Judging by lexicons and the corpus evidence, the algorithm was right in detecting that πλινθίον and πλίνθος have very different referents (typically ‘rectangle’ vs ‘brick’), as do ταξίδιον and τάξις (‘journey’ vs ‘rank’, or other meanings inherited from classical Greek), πλινθούργιον and πλινθουργός (‘brickworks’ vs ‘brickmaker’), and κεράτιον and κέρας (see earlier in this section). κοράσιον and κόρη also have somewhat different referents (κοράσιον typically refers to ‘slave girl’, while κόρη simply means ‘girl’ or sometimes ‘pupil’).⁸ On the other hand, κηπίον and κήπος seem to be used roughly synonymously (‘garden’), as do ὄναριον and ὄνος (‘donkey’), κάδιον and κάδος (see earlier in this section), and στάθμιον and σταθμός (a weight measure). Finally, for δένδριον it is difficult to say whether it truly has a different referent from δένδρον ‘tree’ or not: all 11 examples of δένδριον in the papyri occur in the same text (*Stud. Pal.* 10 75, TM 33215) in a similar formulaic context (ἐκκλησίας τοῦ NAME [e.g. Ἀγίου Ἀποστόλου] κοληφάνια NUMBER [e.g. ιβ] εἰς τέντρια NUMBER, where the editor has corrected τέντρια to δένδρια) where it is difficult to say what the meaning of δένδριον is (if τέντρια is actually from the lemma δένδριον to start with).

In general the formulaic and repetitive nature of the papyrus corpus complicates the use of distributional semantic models, since it can heavily skew the frequencies of the words with which our target word is frequently combined. This is especially problematic since the papyrus corpus is not a very big corpus, and low frequency has undoubtedly caused several of the words listed above to be judged dissimilar even though they are similar in meaning. Sometimes there is also a very big frequency discrepancy between diminutive and base word, such as ὄναριον, which occurs only 12 times vs ὄνος, which occurs 2,820 times. These discrepancies are in themselves a big problem, given that the contexts of low-frequency words and high-frequency words tend to be very different.⁹

In statistical terms, if this small sample is representative, we can therefore say that this method has high precision (i.e. low amount of false positives) but lower recall (i.e. considerable amount of false negatives): while the top words with the highest cosine similarity do seem to be cases where the diminutive suffix does not alter the meaning of the word too much, in the bottom words there are also quite a few words where the meaning is not changed too much likewise. As the goal of this chapter is not, however, to give an exhaustive overview of all diminutive uses in the papyri but to retrieve a large dataset of diminutives that are more or less variable with their base words, these results were satisfying enough to proceed.

Concretely, I included every diminutive that had a cosine similarity of at least 0.5 (an arbitrarily chosen number) to its base form in this study. These were 20 words belonging to seven semantic fields, as listed in [Table 7.2](#). I further manually filtered this list to the words in bold, by excluding some terms where there are still substantial meaning differences between base word and diminutive: αἰγίδιον is typically used for the young of a goat instead of a goat; χρυσίον was discussed above; ὄψαρίδιον seems to have a more specific meaning ('fish') than

Table 7.2: Diminutives retrieved as highly similar to their base form by the distributional models (diminutives in bold were included in this study)

Semantic field	Diminutives
Clothing	δακτυλίδιον/δακτύλιος 'ring', χιτώνιον/χιτών 'chiton', μαφόρτιον/μαφόρτης 'veil', πορφύριον/πορφύρα 'purple garment', κοσμάριον/κόσμος 'jewel', άλυσίδιον/άλυσίς 'necklace'
Animals	ἀρνίον/ἀρήν 'lamb', ἐρίφιον/ἐριφος 'kid', ὀρνίθιον/ὄρνις 'bird, chicken', αἰγίδιον/αἴξ 'kid' vs 'goat'
Money	νομισμάτιον/νόμισμα 'solidus', χρυσίον/χρυσός 'golden coin' vs 'gold'
Household objects	ληκτόθιον/λήκυθος 'flask', στρωμάτιον/στρώμα 'mattress', κλειδίον/κλείς 'key'
Food	τυρίον/τυρός 'cheese', ὄψαρίδιον/ὀψάριον (ὄψον) 'fish, delicacy'
People	παιδάριον/παῖς 'slave' vs 'child'
Writings	ἐπιστόλιον/ἐπιστολή 'letter', βιβλίδιον/βιβλίον 'petition' vs 'document'

Table 7.3: Distribution of diminutives included in this study

Semantic field	% base forms	% diminutives	Standard deviation
Clothing	0.748 (541)	0.252 (182)	0.231
Animals	0.751 (377)	0.249 (125)	0.119
Money	0.804 (18389)	0.196 (4477)	NA
Household objects	0.841 (232)	0.159 (44)	0.105
Food	0.672 (133)	0.328 (65)	NA
Writings	0.891 (1685)	0.109 (207)	NA
Total	0.807 (21357)	0.193 (5100)	0.184

ὀψάριον ('delicacy') (additionally, ὀψάριον is also a diminutive, so it is rather problematic to include it in this list); παιδάριον mainly seems to be used with the meaning 'slave', while παῖς can also be used for children; and βιβλίδιον again has a more specific meaning ('petition') than βιβλίον (any kind of document).

After filtering out these words, 15 terms remained; some general statistics of these forms are listed in [Table 7.3](#). Diminutives seem particularly frequent with clothing terms and animal terms (as well as food terms, but this category contains only one representative, namely τυρίον).¹⁰ In general there is a lot of variation between words, as can be judged from the standard deviation of 18.4 per cent: the number of diminutives ranges from 11 per cent (στρωμάτιον and χιτώνιον) to 75 per cent (μαφόριον).

7.4. Analysing variation and change in the use of diminutive suffixes

To analyse which factors cause the use of the diminutive suffix in quasi-interchangeable situations, I added a number of possible explanatory factors to the dataset. Focusing on variables that were easy to add to the dataset in an automatic way, these were:

- semantic class (the six classes discussed in [Section 7.3](#), viz. clothing, animals, money, (household) objects, food, writings);
- period (Ptolemaic, Roman, Byzantine);

- region where the text was written (Fayum, Lower Egypt, Upper Egypt, Western Desert, Eastern Desert, Western Coast, other Egypt, Palestine, (other) non-Egypt);
- text type (administrative, i.e. accounts, contracts, lists, and receipts; high-register, i.e. declarations, official letters, petitions, pronouncements, and reports; low-register, i.e. private and business letters; other);¹¹
- material (papyrus, pottery, other material).

All the extralinguistic information was retrieved from the Trismegistos databases (Depauw and Gheldof 2014).

It is plausible that several of these factors interact: the importance of region may be different across time periods, or the semantic classes that have a high number of diminutives may be different for various text types, for example. A good tool for exploring the interaction between several variables are conditional inference trees (see e.g. Levshina 2015, 291–300). The aim of a conditional inference tree model is to divide a complex dataset into subparts according to a number of possible explanatory variables. This is done in the following way: we start from the full dataset A, containing the variable we are interested in (e.g. the use of diminutive vs base form) which can be divided according to a number of explanatory variables (e.g. period, text type, material). From these factors we select the factor with the lowest *p*-value (e.g. period), which means that the chance is highest that a dataset where period can explain differences in diminutive use differs statistically from a dataset where this is not the case. Subsequently, we split this dataset into two datasets B and C according to this factor (e.g. dataset B, containing all data from the Ptolemaic period, has the diminutive in 30 per cent of all cases, while dataset C, containing all data from the Roman and Byzantine period, has the diminutive in 70 per cent of all cases) and investigate if each of these sub-datasets can be further split according to the most significant factor for the respective dataset. This splitting process continues until no more statistically significant factors (according to a certain threshold, e.g. $p=0.05$, which means that there is a 5 per cent chance that the influence of the given factor is completely random) can be found.

It is important to be very careful applying conditional inference trees (or any statistical method in general) to this dataset, however. In particular, it is very noisy: unlike typical research in variational

linguistics, where a careful effort is undertaken to make sure that the variants that we are looking at are actually interchangeable, this dataset inevitably still contains several diminutives that are not interchangeable with their base form, as discussed in [Section 7.2](#). This is the case because I did not check all the corpus examples: it is likely that the dataset still contains instances where the diminutive and base forms have different types of referents, because of, for example, polysemy (the base form might have more meanings in some cases than the diminutive) or because the diminutive suffix adds an additional nuance (e.g. smallness). Conditional inference trees are therefore primarily used to generate hypotheses rather than to test them (i.e. to find general prevalent patterns in the dataset that could be investigated with further research).

Concretely, using R (R Core Team 2022) package *partykit* (Hothorn and Zeileis 2015), I made the parameters of the conditional inference trees somewhat stricter than the default ones to filter out as much statistical noise as possible: I set the threshold for a split to $p=0.01$ (meaning that only one in 100 splits with a p -value of 0.01 is entirely due to chance, rather than one in 20), the minimum number of instances that should be present in a ‘node’ (meaning the sub-dataset that is created from the split) to 50 (instead of seven), and the maximum depth of the tree (meaning the times that a dataset is further split into a smaller dataset) to three, so as not to present too-complex patterns in the dataset that are difficult to interpret. For the sake of clarity, I made separate trees for each period, so as to easily see diachronic changes in the dataset, although a tree for all three periods will also be discussed.

[Figure 7.2](#) presents the conditional inference tree for the Ptolemaic period. It is rather simple and can be read as follows: for the whole dataset (1,211 instances) the rate of diminutives is somewhat low (only in 5 per cent of all cases). There is a genre contrast, however, with diminutives being much more present in low-register texts (in 12 per cent of all cases) than in high-register and administrative cases (only 3 per cent). For both high-register/administrative texts and low-register texts, no further statistically significant factors can be found to split the dataset further.

[Figure 7.3](#) presents the conditional inference tree for the Roman period. In general, there is a much higher rate of diminutives than in the Ptolemaic period (23 per cent of all cases). There are also semantic contrasts: diminutives are more present with words referring to

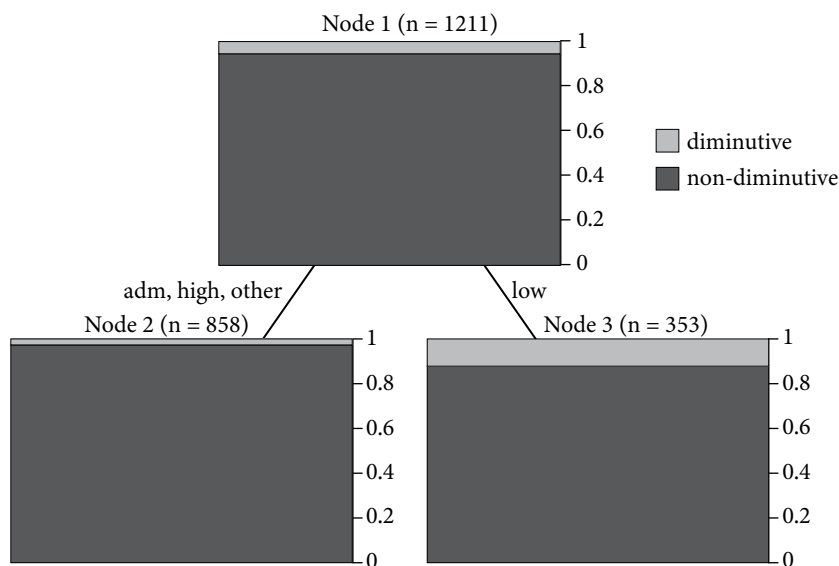


Figure 7.2: Conditional inference tree of diminutive use in the Ptolemaic period

animals, clothing, food (τιρίον), and money (νομισμάτιον) than to household objects and writings (ἐπιστόλιον). For both of these classes, there are genre contrasts, with diminutives again being more prevalent in low-register texts than high-register and administrative texts.

There are also regional variations, although they are a little different for the two semantic groups. For the diminutives referring to animals, clothing, food, and money, the most significant regional differences are between the Western Desert (66 per cent diminutives) and the other regions (28 per cent diminutives). Inspecting the data in more detail, most of the data points for the Western Desert are from the fourth century CE (65/71 or 92 per cent; the rest of the data points are from the third or the fourth century), as opposed to the other regions (513/1,438 or 36 per cent are from the fourth century); a large number of data points are from the village of Kellis (57/71 or 80 per cent); and there are no high-register texts, so there might be temporal, local, and/or genre factors involved.¹²

For words referring to household objects or writings (ἐπιστόλιον), there is a (smaller) regional contrast between the Fayum and texts outside Egypt that show a larger rate of diminutives (37 per cent) in

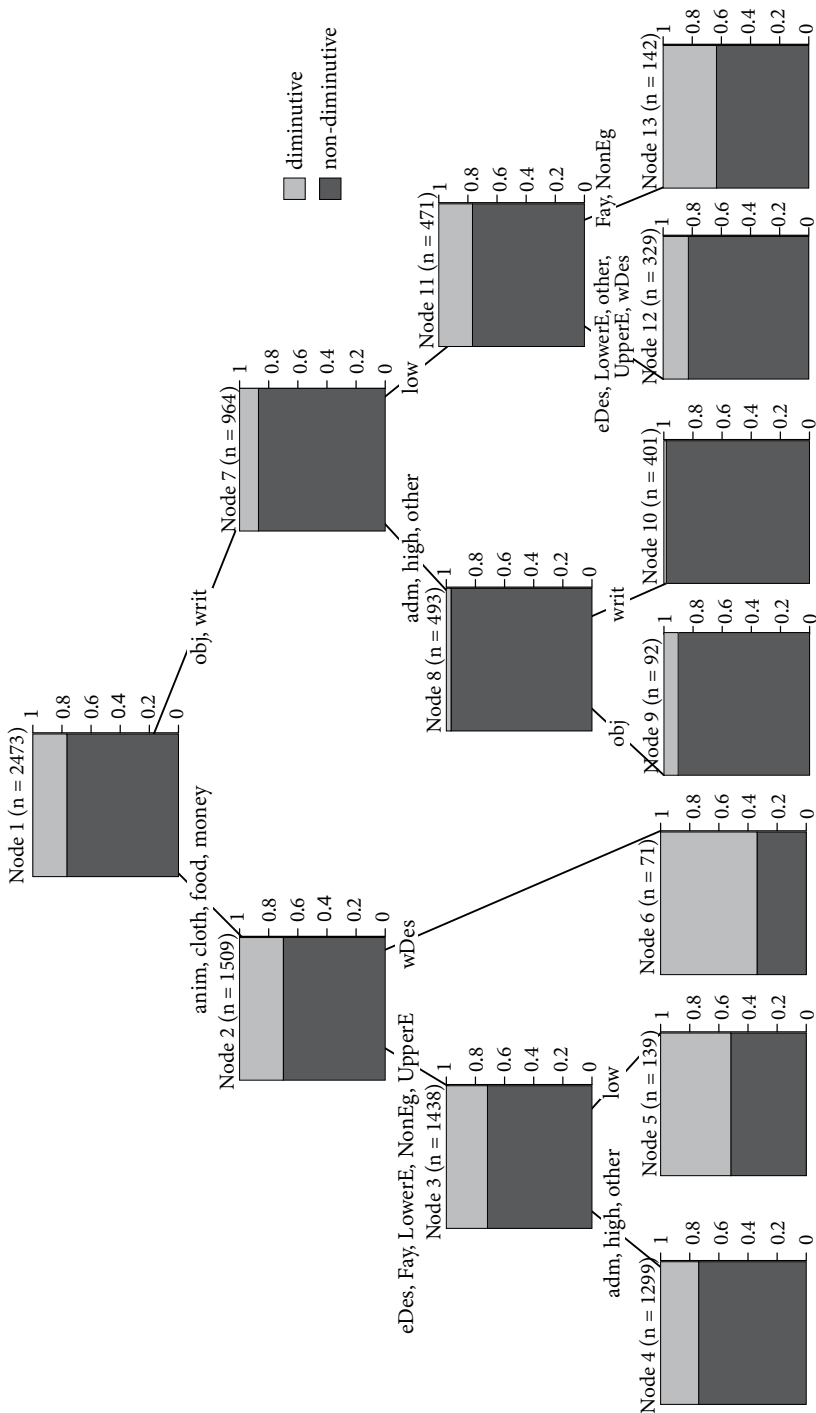


Figure 7.3: Conditional inference tree of diminutive use in the Roman period

low-register texts than the other regions (17 per cent). Finally, there is also a contrast between the diminutive ἐπιστόλιον, which is very rarely used instead of ἐπιστολή in administrative and high-register texts (only in 2 per cent of all cases), and the words referring to household objects, which show some diminutives there (in 10 per cent of all cases).

[Figure 7.4](#) presents the conditional inference tree for the Byzantine period, showing a slightly lower rate of diminutives again (18 per cent), but overall comparable to the Roman period (where the rate of diminutives was 23 per cent). Firstly, one should note that this tree is extremely skewed toward the pair νόμισμα/νομισμάτιον: 20,612 (98 per cent) of the instances are this pair, as opposed to only 327 instances of the other pairs. Again, there are regional contrasts, primarily between the Fayum (as well as the Western Desert and Lower Egypt), where the high rate of diminutives (64 per cent) is even more striking than in the Roman period, and the other regions, with much lower rates of diminutives (13 per cent). Note that the number of data points for the Western Desert (3) and Lower Egypt (33) is rather low as compared to the Fayum (1808).

Within the Fayum, Lower Egypt, and the Western Desert, there are again genre contrasts, but they are rather surprising: this time the rate of diminutives is much higher in high-register and administrative texts (66 per cent) than in low-register texts (27 per cent). It is difficult to explain why this is the case, although it is important to note that this time the data of low-register/other texts is highly skewed towards one text, viz. P.Rain. Unterricht 80 (TM 39240), a school text containing 21 instances of the word νόμισμα, which are one third of all non-diminutive forms in this sub-dataset.

In the other regions, there are contrasts related to register as well: firstly, the rate of diminutives is much lower in texts written on papyrus (12 per cent) than on other materials (in particular pottery) (46 per cent), which again might point toward to diminutives being a low-register phenomenon. For texts written on papyrus, there is also a contrast between high-register texts (7 per cent diminutives) and administrative/low-register texts (13 per cent), although in general the rate of diminutives is rather low. Finally, for the texts written on pottery/other materials the main region causing a high rate of diminutives is Upper Egypt: the Western Coast does not show any diminutives (for the regions Eastern Desert, non-Egypt, and Palestine, there are no texts that are not written on papyrus). For both regions all instances are the

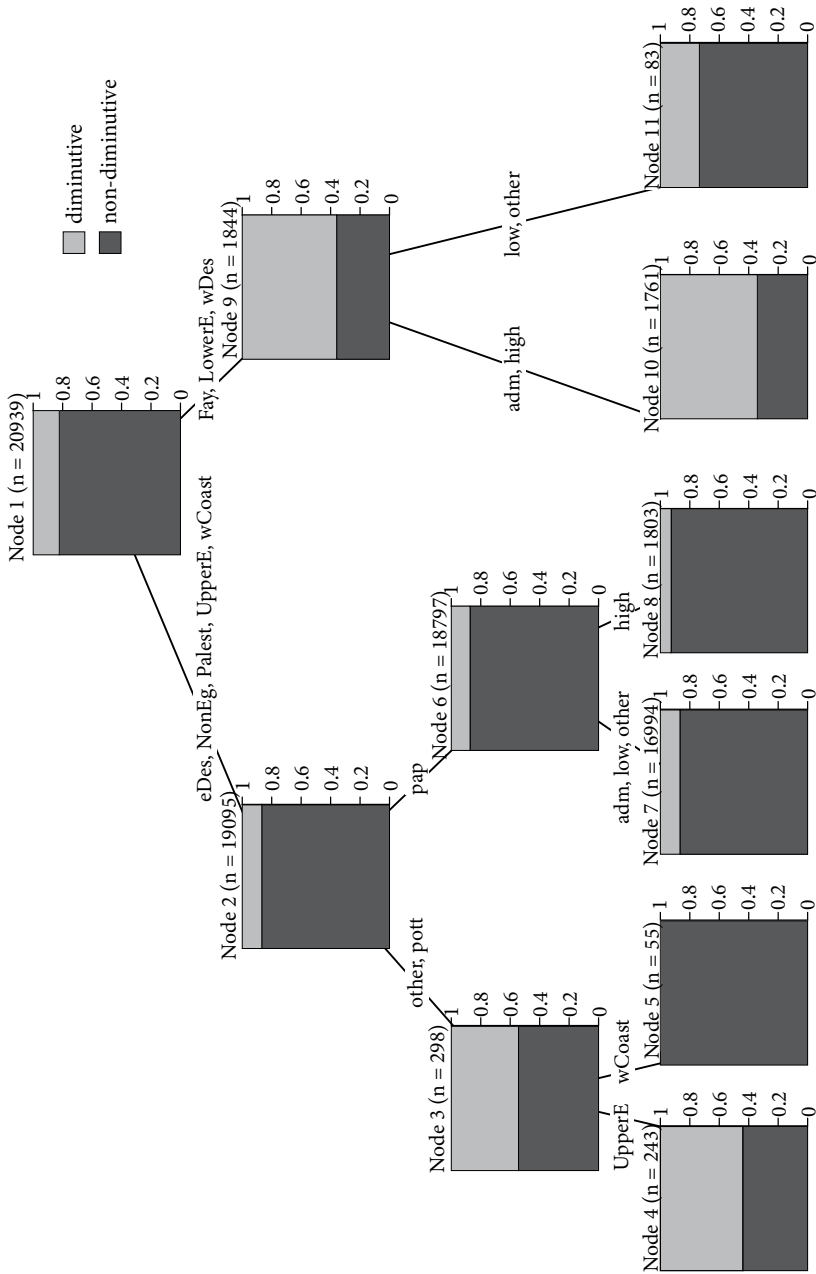


Figure 7.4: Conditional inference tree of diminutive use in the Byzantine period

pair νόμισμα/νομισμάτιον, but the text types are rather different: the data from the Western Coast are almost all payment orders (50/55 cases), all coming from the village of Abu Mena, while the data from Upper Egypt are mainly (accounting) lists and (tax) receipts (208/243 cases).

From the discussion in this section a diachronic picture emerges, but it is important to be careful. While the Ptolemaic period shows a lower rate of diminutives than the other periods, for example, it might be the case that certain text types or regions that also have a low rate of diminutives are over-represented in this period and there is no actual language change going on. Therefore I generated a final tree incorporating period as a factor, to get a good overview of the major change patterns. To compensate the addition of another factor, I increased the maximum depth of the tree to four (instead of three).

Figures 7.5a and 7.5b show the two branches of this final tree. It is immediately clear that the major diachronic change patterns can be situated in the Fayum region (as well as the Western Desert, Figure 7.5a), where there is an immediate split in terms of diachrony, while on the left branch of the tree (Figure 7.5b) no split occurs (at least not at the maximum level of depth specified).¹³ In particular, in the former region, there is a strong increase in diminutives from the Ptolemaic period (5 per cent diminutives) to the Roman period (27 per cent diminutives) to the Byzantine period (64 per cent diminutives). For each of these periods, there are register contrasts following the patterns discussed above. Outside the Fayum, the rate of diminutives is rather low across time, and factors such as text type and material (relating to register), regional factors, and semantics seem to play a bigger role.

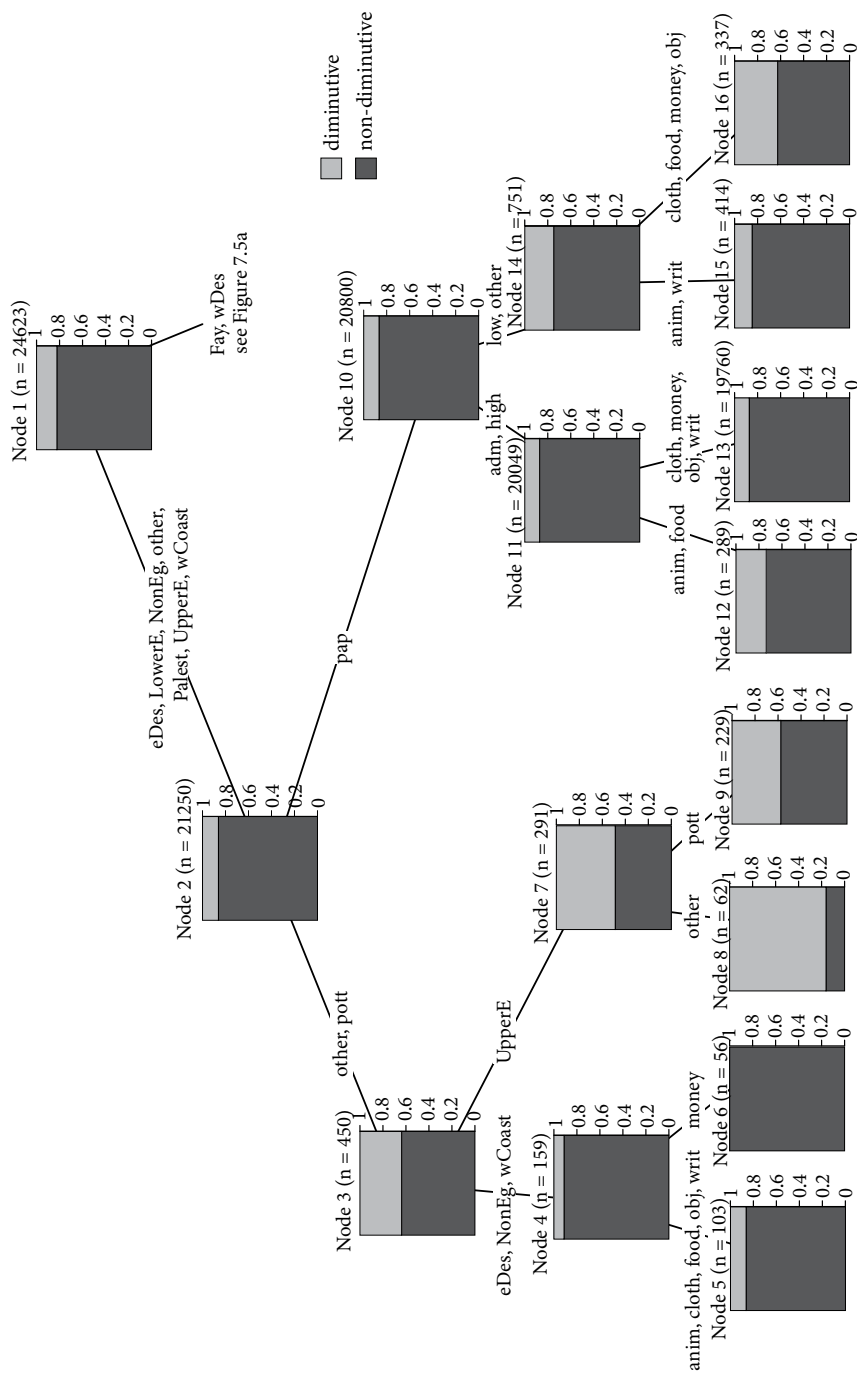


Figure 7.5b: Conditional inference tree of diminutive use in all regions except the Fayum and the Western Desert in all three periods

7.5 Discussion

This study is a first attempt to give a broad overview of the factors conditioning the use of the diminutive suffix in the Greek papyri, focusing on cases where the diminutive was broadly interchangeable with its base form. It uses quantitative techniques to analyse a large, automatically extracted dataset from the papyrus corpus. Although this dataset is rather messy, several major explanatory factors still emerged, including region, diachrony, and register.

As for region, diminutive suffixes seem to be particularly popular in the Fayum. It is also in this region that major change happens, showing an increasing number of diminutives from the Ptolemaic to the Roman to the Byzantine period, while in the rest of Egypt the situation seems to be more stable. Regarding register, diminutives seem to be in general a low-register phenomenon, except in Byzantine texts from the Fayum region (where diminutives are actually more frequent in high-register and administrative texts). This might point to the Fayum region being the ‘leader’ of the change, where diminutives are becoming more quickly interchangeable with non-diminutive forms, even in higher registers. Nevertheless, one should be careful not to overinterpret these results, especially because the data of the Byzantine period is highly centred around the pair νόμισμα/νομισμάτιον.

The semantics of the diminutive word also seems to play a role, although very definite conclusions are difficult to make. It is only in the decision tree of the Roman period that there was a high-level split between two categories of words (viz. words referring to animals, clothing, food, and money, which show a higher rate of diminutives than words referring to household objects and writings). Other than that, there are also some more specific patterns tied to specific regions and text types that are more difficult to interpret. Of course, it is not given that the semantic classes I used were the best classification (especially because some of them, in particular clothing, show very high standard deviations): it could be the case, for example, that there are very specific local preferences for the diminutive with certain lemmas rather than being tied to broader semantic groups. At any rate, the number of words included in each class was rather small (sometimes only one), and perhaps clearer semantic patterns would be revealed if a broader range of lemmas was selected.

Let us now reflect critically on the methodology used in this study, which consisted of two central techniques: the use of distributional semantic methods to distinguish ‘interchangeable’ diminutives from ‘non-interchangeable’ diminutives, and the use of quantitative methods (specifically conditional inference trees) to analyse the various factors conditioning diminutive use jointly.

As for distributional semantic methods, a first important methodological remark that must be made is the fact that for the papyrus corpus, distributional semantic methods are clearly at their limits, since it is a relatively small and highly peculiar corpus containing many repeated formulae that have a large impact on the context frequencies of our target words. A more targeted approach that takes the formulaic character of the papyrus corpus into account when calculating context frequencies would therefore be necessary (see also Levy, Goldberg, and Dagan 2015 on reducing the effect of frequency). Nevertheless, on a very rough level the method was able to isolate diminutives that are more or less interchangeable with their base form from those that are non-interchangeable (or where there is not enough corpus evidence that they are interchangeable). However, the word ‘rough’ is crucial here, since there were some problematic cases included in the results, for example, αἰγίδιον which is not interchangeable with αἴξ; the shared collocates of ‘goat’ and ‘young of a goat’ are likely too similar for the model to make an informed decision.

Although this problem was solved by checking the results manually, what is important to point out is that diminutives are often polysemous, while the method employed here simply looked at the similarity in meaning of the ‘aggregate’ of all base form uses, covering all their meanings, and likewise all diminutive uses. For example, κεράτιον was excluded because it was too dissimilar to κέρας, which seems justifiable, since κεράτιον is typically a measure of weight rather than referring to ‘little horn’, but it cannot be excluded that the ‘little horn’ meaning sometimes also occurs in papyri, as it sometimes does in literary texts (Jones et al. 1996). While for κεράτιον this seems like a stretch, for other words it is more plausible: for κοράσιον, for example, it might be the case that sometimes the intended meaning is ‘little girl’ rather than ‘slave girl’. A possible solution might be to employ other quantitative models in the field of distributional semantics that try to model the meaning of a word in context rather than the aggregate meaning of a word (see Geeraerts et al. 2023, 65–87).

As for quantitative methods, caution needs to be employed when applying statistical methods to this dataset. There are two reasons for this. Firstly, the papyrus corpus is certainly not a balanced corpus, so that trends that seem to be caused by one factor (e.g. diachrony) might be caused by others (e.g. region, due to certain regions being over-represented in certain periods). Additionally, the formulaic language and large degree of repetition in general can skew certain patterns.

Secondly, this dataset in itself is rather messy, since it will inevitably contain many diminutives that are not strictly interchangeable with their base form. Of course, one could wonder to what extent a line can be drawn between ‘interchangeable’ diminutives and ‘non-interchangeable’ diminutives, or, in other words, in which cases we can establish that the diminutive changes the denotational meaning of a word. If a Greek speaker uses the diminutive suffix to convey a particular nuance such as smallness or positive/negative evaluation, the meaning is not very strongly altered (as opposed to cases such as *κεράτιον*)—and therefore also difficult to pick up by statistical methods—but it might not be strictly interchangeable with the base form. It is an open question how much this statistical ‘noise’ was drowned out by the large amount of data used in this study: if we assume that this has an effect on factors such as region (i.e. that regional patterns were distorted because the dataset contained too many ‘non-variable’ diminutives), it would also logically be the case that in certain regions people refer more often to smaller objects or objects that they evaluate positively/negatively, which seems a little implausible. Nevertheless, for some factors this seems more plausible; for example, it might be true that in lower text registers people more frequently evaluate objects positively/negatively than in higher registers. An alternative method might be to filter the dataset manually to include only cases that are truly interchangeable. However, this would be a rather subjective exercise, given that in most cases there are no overt contextual clues whether the diminutive adds a meaning nuance or not (even in cases where the meaning is more strongly altered, such as *αἴζ* ‘goat’ vs *αἰγίδιον* ‘kid’; it is often difficult to say whether *αἰγίδιον* actually refers to ‘kid’ or not).

At any rate, one could argue that the problems addressed here might call for an alternative methodology, such as a so-called ‘close reading’ approach. I would argue that the opposite is the case: given the complexity of the problem, it is implausible that the myriad of

factors explaining the use of diminutive suffixes in the papyri could be discerned with the human eye or that the large datasets needed to disentangle these factors properly can be analysed without statistical techniques. Although one could certainly have objections to the level of noise present in this dataset, it is precisely because of the automated way of creating the dataset that complex, large-scale patterns could be unearthed, while a fully manually annotated but smaller dataset might lead to data scarcity. Whether the statistical techniques employed here were able to filter out the noise in this dataset is a question that is open for further research.

One further limitation of this study is that I focused on factors that could be easily added to the data because they were already present in existing databases (viz. the Trismegistos project), while other sociolinguistic factors (e.g. gender, ethnic background, social class) might have a more important effect on the use of the diminutive suffix than the ones I examined. Nevertheless, it is clear that statistical techniques show promising potential for the complex topic of diminutives in the papyrus corpus.

Notes

- 1 These numbers were obtained by querying the duke-nlp corpus (Keersmaekers and Depauw 2022) and the GLAUx corpus (Keersmaekers 2021) for nouns of which the lemma ends in -ιον (or -ίον). This returns 75,173 results on 5,127,085 tokens in total for the papyri (relative frequency 14.7/1,000 words) vs 102,428 results on 24,200,537 tokens for the literary texts (relative frequency 4.2/1,000 words). Obviously this is only a very rough estimate of the frequency of diminutives, as will also be discussed in this chapter.
- 2 Sometimes these are called ‘faded diminutives’, but, confusingly, the term is employed for words of both type A and type C (e.g. Petersen 1910, 164–66).
- 3 Lühr and Balles (2008, viii) state that their work covers multiple time periods, although they do not specify whether this also includes papyri. If we compare their list with Palmer (1945), the only suffixes mentioned by Palmer that are not present in this list are -ασιον and -αριδιον, which would be covered by the general search for -ιον and -ιδιον and are extremely infrequent regardless.
- 4 -ακιον, -φιον, -ισκαριον, -ισκιον, and -υλλιον are also present, but none of the diminutives formed with these suffixes occurred more than ten times.
- 5 The models used are described in Keersmaekers and Speelman (2023), in particular the DepHeadChild model discussed there, with Singular Value Decomposition applied to reduce the vector to 100 dimensions.
- 6 E.g. P.Oxy. 10 1273 (TM 21791): ὃ προσφέρει ἡ αὐτὴ ἐκδότις ἐπὶ τῇ αὐτῇ θυγατρὶ αὐτῆς καὶ γαμουμένη ἐν φερνῇ ... **δακτυλίδιον** μεικρὸν τετά[ρ]ταις ἡμισυ ‘to whom the same giver presents as dowry for the same daughter of her who is

marrying ... a small **ring** of half a quarter'; SB 14 12200 (TM 30927): ἐκομισά-
μην τὸ ἐπιστόλιον ὃ ἔπεμψάς μοι τῇ κθ 'I received the **letter** that you sent to me
on the 29th'.

- 7 Looking at the context words that κᾰδίον and κᾰδος co-occur with, there is not a large degree of overlap: the only shared ones are χᾰλκεος and καί, which are not very helpful for determining that they refer to similar objects.
- 8 However, the most likely reason that κοράσιον and κόρη were found to be very dissimilar is that forms of the lemmas κουρά/κουρεύς 'cutting'/'hairstresser' were often wrongly lemmatised as κόρη in the corpus.
- 9 Without going into too much technical detail, after calculating the contexts in which a given target word (i.e. in our case ὀνάριον and ὄνος) typically occurs, these context words are weighted by the information-theoretical measure PPMI, which makes sure that very frequent context words such as ὁ and καί do not dominate the results (see Keersmaekers and Speelman 2023 for more detail). However, this measure is heavily influenced by the frequency of the target words, so that the vectors of low-frequency words and high-frequency words will contain rather different numbers. There has been some effort to reduce this influence (Levy, Goldberg, and Dagan 2015), which could also have an effect on the papyrus corpus. At any rate, if a specific word has a low frequency, the chances are obviously much higher that most contexts it occurs in will not be descriptive of its meaning (especially if these contexts are very formulaic) than for high-frequency words, and so the problem remains.
- 10 However, the category of clothing terms has a standard deviation of 23 per cent: indeed, some of these words show very high rates of diminutives (e.g. μαφόρ-τιον, 42/56 times or 75 per cent; δακτυλίδιον, 30/60 times or 50 per cent), while others have very low rates (e.g. χιτώνιον, 43/384 times or 11 per cent; πορφύ-ριον, 19/94 times or 20 per cent).
- 11 This is meant only as a proxy for the expected formality of a text, and one may argue about some of these classifications, for example whether texts such as petitions are truly all 'high-register' (see also Bentein 2015). Nevertheless, the plots below show that there are often stark differences between the texts that I labelled as 'high' and 'low' register. For a more detailed study, however, one may look at how diminutives behave in each of the text types individually instead of using an a priori classification of texts as 'high' and 'low' register as I did.
- 12 A plausible hypothesis might be that the distribution is skewed towards one particular text, but this is not the case: the 71 data points for the Western Desert contain 35 unique texts, and the text with the most data points only has six.
- 13 It is only after setting the maximum level of depth to six that a diachronic pattern emerges in the left branch of the tree: in administrative texts from these regions written on papyrus for words in the 'animal' and 'food' categories, there is a higher rate of diminutives in the Roman period (54 per cent, N=74), than in the Byzantine/Ptolemaic periods (23 per cent, N=111). However, this pattern is so peculiar that it can hardly be called a 'major' change pattern and might simply be a statistical quirk.

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CHAPTER 8

Defining the infinite

The articular infinitive in the Greek documentary papyri

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Abstract

Using the definite neuter article to turn the infinitive into a head of a noun phrase was already a feature of Classical Greek, but the use of this so-called articular infinitive structure has been claimed to have risen significantly in frequency in the written Koine. In this chapter, I analyse the use of the articular infinitive using several digital corpora of Greek with morphosyntactic annotation. The corpora include documentary papyrus texts, historical and rhetorical prose literature, and the New Testament. We get information on how often and in which ways the feature was used in postclassical Greek documents as compared to the literary and biblical languages. I explore the occurrences of the articular infinitive in respect to chronology, text type, morphology, and in which syntactic functions it was used. The structure was not used as much in the papyri as the claims of its popularity made us expect; in fact, it was used less than in the literary texts and the New Testament. Several other differences were also found, including a strong preference in the papyri for prepositional usage.

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8.1 Introduction

This chapter's main aim is to describe and discuss the use of the articular infinitive—a well-known but relatively rare feature of Ancient Greek syntax—in the documentary papyri.¹ The starting point has been the commonly mentioned rise in popularity of the articular infinitive during the Koine Greek period (e.g. Horrocks 2010, 94–95, 129–30). Therefore, this feature is of interest when considering the development of postclassical Greek infinitives, where the general consensus is that the use of non-finite complements *decreased* (Bentein 2018; Joseph 1983, 2020). The infinitives mostly fell out of use by the medieval Greek period, and the numerous infinitive forms as we know them in Ancient Greek are no longer used in Modern Greek. In the introduction to their volume on postclassical Greek, Dariya Rafiyenko and Ilja Seržant (2020, 11) called for further studies as regards the use of the articular infinitive in more colloquial registers of the Koine. The purpose of this chapter is to answer that call and see what our linguistically annotated corpora of Greek literature and the New Testament, on the one hand, and of documentary papyri, on the other, tell us about the use of this particular feature in terms of chronology, popularity, and register, and examine its use in different cases and tenses, with different prepositions, etc. This chapter first describes what the articular infinitive was and how it developed, including a short survey of previous studies of the feature. Since this study utilises syntactically annotated digital corpora for both literary and documentary sources, [Section 8.2](#) presents the annotation styles and the different corpora, as well as the possibilities and shortcomings of computational queries. [Section 8.3](#) presents the results, and [Section 8.4](#) concludes and discusses what kind of value a corpus study can entail for a phenomenon on which several studies appeared already in the late seventeenth century.

8.1.1. *Phenomenon: what is an articular infinitive?*

The Greek infinitive was a versatile creature; it had—at least by the classical period—forms in all four tense-aspect stems, in active, middle, and passive voices (in practice, 11 different forms). Moreover, the infinitive could be nominalised either with or without the definite article in the neuter singular in classical Greek.² This way, the infinitive could be used in several functions like a noun and, with the definite

article, it could also be declined in grammatical cases (by declining the article; the infinitive itself did not change its form). The plain (i.e. unarthrous or non-articular) infinitive could also be used nominally, of course, and in different functions that were usually indicated by grammatical case, such as locative, instrumental, or other case usages, but without the article the infinitive did not usually get other modifiers (Schwyzer and Debrunner 1950 II, 359 f.). Gildersleeve stated its stylistic position like this (1887, 333): ‘the articular infinitive comes much nearer to the abstract noun [than the unarthrous one], and the abstract noun was a recognized means of σεμνότης [“solemnity”]’. Both the plain and the articular infinitive could then be used like any other noun phrase, that is, as a subject, object, or complement. For example, from the present tense infinitive of the verb παιδεύω ‘I educate’ we get the noun phrase ‘educating’ in the nominative and accusative form as τὸ παιδεύειν, in the genitive as τοῦ παιδεύειν, and in the dative as τῷ παιδεύειν. The articular infinitive never seems to be used in the plural (Jannaris 1897, 482) even if that would, in theory, be possible. In example (1) of the articular infinitive (presented and translated in Gildersleeve 1900, §315), from the comic playwright Aristophanes (c. 446–c. 386 BCE), the articular infinitive (boldface) is a subject in a predicative position and the copula (‘is’) has been left out:

(1) κακὸν τὸ **πίνειν** (Ar. *Vesp.* 1253)

‘A bad thing this **drinking**’

The articular infinitive retains its verbal characteristics in that it has voice and tense-aspect, it can take arguments like a subject or an object,³ and it can be modified with adverbs. The subject of an (articular) infinitive is not always expressed, because it often refers to action in general, or the subject is identical to that of the matrix clause (van Emde Boas et al. 2019, 602). If expressed, the subject of the infinitive is in the accusative case, forming the so-called ‘accusative and infinitive’ construction (*accusativus cum infinitivo* or *AcI*), which is a regular way to express the subject of also the non-articular infinitives, used especially after verbs denoting saying and thinking.⁴ Example (2) of an accusative subject (italicised) with the articular infinitive (boldface) is from the New Testament:

(2) μετὰ δὲ τὸ **συνῆσαι** αὐτοὺς ἀπεκρίθη Ἰάκωβος λέγων (Acts 15.13)

‘After *they had fallen silent*, Jakob answered saying ...’

8.1.2 Chronological development and the assumed rise in popularity

Antonios Jannaris (1897, 482) observes that due to the absence of the article in Homeric Greek, we find the articular infinitive only in later stages of the language;⁵ according to him, the first appearances are found in the poets of the sixth and fifth centuries BCE: Theognis, Simonides, and Pindar.⁶ He explicitly mentions that, after developing completely in classical Attic, the articular infinitive is transferred to the postclassical period ‘with a steadily increasing popularity and extension of usage’ (Jannaris 1897, 482). The late nineteenth and early twentieth century witnessed a great number of studies on the articular infinitive.⁷ Basil Gildersleeve’s study in 1878 is among the earliest ones. He examined Pindar, the dramatic poets, Herodotus, Thucydides, and the Attic orators. He later continued with Xenophon and Plato (1882) and returned to the subject again in 1887. Almost the same authors, with the addition of Homer, Hesiod, and the lyric poets, were studied by Franz Birklein (1888). Of later authors, Polybius especially was thoroughly studied by E. G. W. Hewlett (1890), and Hamilton Ford Allen compared the use of infinitive in Polybius and in Biblical Greek (1907). The careful counts made by these scholars show that the feature developed from the accusative use but other cases were used already in the early days, and the construction was modified by adverbials and could receive an object etc. The construction was combined with prepositions somewhat later, but already at least by the dramatic poets. It was also noted that the use of the articular infinitive was a stylistic choice of the author, and that a given author could use it more in some works than in others, and in different sections of one work (e.g. Xenophon’s works show different counts; there are more articular infinitives in the *Hellenika*, which was influenced by Thucydides, and then again, Thucydides used it more in the argumentative and speech sections than in the narrative parts of his work; Birklein 1888, 51; Gildersleeve 1887, 335).

Several early scholars connect the articular infinitive to ‘popular’ or ‘daily’ speech, and this is often also seen as a reason for its popularity in Attic writers and then in Koine Greek. For example, Gildersleeve (1878, 3) says that ‘the wonderful resources of the construction τὸ φαγεῖν, τὸ πιεῖν must have been common in daily speech before they found their way into poetry’. In his grammar of the Ptolemaic Papyri

(1926, 320), Edwin Mayser mentions that the articular infinitive's development peaked in the Attic orators, especially Demosthenes, and in Plato, and it went from these genres into the everyday speech of the Hellenistic period (that is, the direction was opposite to the one Gildersleeve suggested, but the common factor was its appearance in speeches). According to Mayser, its use in Ptolemaic papyri was not limited to official documents with literary colour, but it also developed a fairly lively growth ('ein ziemlich lebhaftes Wachstum') in non-literary texts of a lower style such as private letters (Mayser 1926, 320–21). In particular, the combination of articular infinitive and a preposition is seen as a spoken feature. Gildersleeve (1887, 336) states that 'διὰ τὸ, in which Thucydides and Xenophon riot, cannot have been strange to popular speech.' An opposite view is given more recently by Willi (2007, ch. 5.9–10), who sees the articular infinitive (and other nominalisation) as deeply rooted in the spread of literacy and literate culture. For later periods, Mandilaras (1973, 332) analyses the situation in the following way: 'the articular infinitive gained great flexibility in the Attic writers, especially Thucydides. Through them, and after having enriched its functions, the articular infinitive passed into the Koine.' He goes on to report that in the papyri the prepositional articular infinitive is very frequent and that it gained ground because earlier final and causal constructions had suffered a loss of expressive force (Mandilaras 1973, 338).

In his history of the Greek language, Geoffrey Horrocks states quite generally that the articular infinitive experienced a significant rise in frequency in the written Koine (2010, 94–95, 129–30), also mentioning specifically the 'pleonastic genitive article with infinitive where plain infinitive would have been Classical' (Horrocks 2010, 156). On the genitive case of the article, it has been noted that it took on a life of its own, moving from the adnominal genitive functions to later being used to express purpose and then acting only to reinforce the infinitive (marker of subordination).⁸ It seems clear that the older studies, and some conceptions that have stayed alive for a long time after, need further examination, especially in documentary sources that were not accessible for the late nineteenth- and early twentieth-century scholars in the amount and form they are today. Is the articular infinitive more popular in the Koine? How does it reflect the decreasing use of non-finite complements in Greek? Can we say anything of its use in everyday speech in the postclassical period? Computer-assisted queries may

give further data for analysis and provide more statistical information, but we must also acknowledge the limitations of our corpora and the ways they can be queried. That is the focus of [Section 8.2](#).

8.2 Data from treebanked corpora

Treebank is a short term for a morphosyntactically annotated digital corpus of texts. For Ancient Greek, there are several treebanked corpora, produced in various different projects by several scholars and for different types of texts. Mostly they follow similar annotation guidelines according to the Ancient Greek Dependency Treebank framework (Bamman and Crane 2011; Bamman, Mambrini, and Crane 2009; Celano 2014; cf. Haug 2015). The morphological annotation allows us to computationally query all infinitives, since the part-of-speech and other morphological information is coded in the so-called ‘postag’. The syntactic dependencies (the tree structure of a sentence) then allow us to query articles that are governed by infinitives as well as other dependents the infinitive might have, such as object, subject, or adverbial modifier. We can also query what is governing the infinitive, for example instances when the articular infinitives depend on a preposition or on a verb. Treebanked corpora require burdensome manual labour or careful coding for automated parsing, so treebanked data is quite limited when we consider the scope of all Greek literature.⁹

8.2.1 *Introduction of treebanks used in this study*

In this study, I am using different treebanked corpora, listed in [Table 8.1](#), in order to compare the use of the articular infinitive in documentary papyri with the literary texts and the New Testament. I am using for the most part the query interface Kiln for Treebanking (KTB) developed by Polina Yordanova-Nanev, since all the above-mentioned corpora are included in it.¹⁰ The great bulk of documentary papyri (duke-nlp) is the only corpus that has been automatically annotated; for other corpora the process is semi-manual (Keersmaekers and Depauw 2022; text types of labels and lists are excluded in KTB). For this reason, I also use the smaller subset of manually annotated papyrus data (PapyGreek) for comparing with the overlapping part, if there are differences in the finds (Vierros and Henriksson 2021). Another search engine, the PapyGreek Search (see Henriksson and Vierros

Table 8.1: Treebanked corpora used in this study

Corpus	Material	Size in KTB: all tokens (word tokens only)	Chronological scope	Parsing method
duke-nlp	Documentary papyri	3573339 (2789539)	4th cent. BCE– 8th cent. CE	Automatic
PapyGreek	Documentary papyri	64819 (56062)	4th cent. BCE– 7th cent. CE	Manual
Prose literature	Historical and rhetorical prose	649145 (568217)	5th cent. BCE– 4th cent. CE	Manual
PROIEL	New Testament	153638 (132323)	1st cent. CE– 4th cent. CE	Manual

2025), is currently available for that data, and I will provide links to the queries when necessary. Vanessa Gorman’s annotations in the prose literature corpus follow the earlier version of the guidelines (Bamman and Crane 2008),¹¹ whereas the papyri have been annotated according to the 2.0 guidelines (Celano 2014). The PROIEL corpus had separate guidelines (based on the AGDT but with additional features; Haug et al. 2009); the version used in KTB takes into account only the features we find in the general AGDT framework.

To give an example of how the articular infinitive structure is annotated syntactically, we can look at one papyrus in PapyGreek corpus (BGU 16.2635). See example (3) for the sentence and [Figure 8.1](#) for its syntactic tree. The articular infinitive is in the dative case (τῷ γεγραπῆκέναι) and it depends on the predicate verb (μελ[ί]σε[ι]ται) with an ‘object’ relation, since it is an obligatory argument to the verb. The article depends on the infinitive with an ‘attribute’ relation (as all articles do in relation to their heads). In this case, the articular infinitive itself also has a subject (in accusative: τοὺς παρ’ ἐμοῦ ‘those beside me’, i.e. ‘my agents’) and a negated infinitive object (μὴ κεκόμισθαι).

- (3) Φιλικὸς δὲ μελ[ί]σε[ι]ται λ{ε}ῖαν τῷ τοὺς παρ’ ἐμοῦ γεγραπῆκέναι
μὴ κεκόμισθαι τὰ ἔρια, μὴδὲ τὸ ἔλαιόν σου.

‘Philikos will be very concerned about my agents’ **having written**
that they have received neither the wool nor your oil.’ (transl. Brash-
hear 1995, 133)

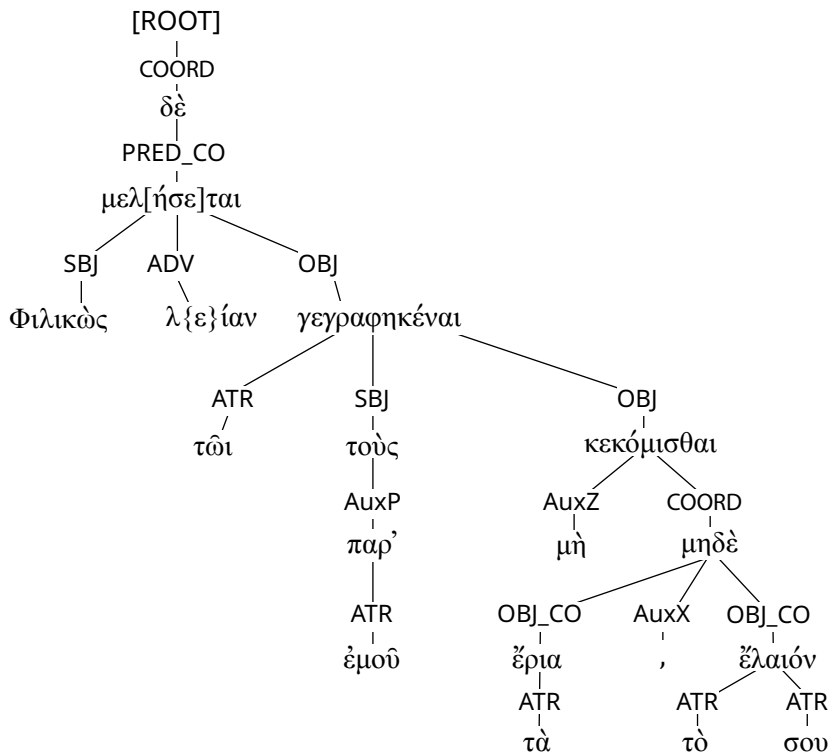


Figure 8.1: Syntactic tree of BGU.16.2635, sentence 3. Annotation: <https://papygreek.com/text/1057/arethusa>. (Annotated by Polina Yordanova.)

8.2.2 What to count: some challenges in querying

In [Subsection 8.2.1](#) we saw a simple case of articular infinitive structure, where one infinitive is modified by one definite article. That is easy to count as one instance of articular infinitive, and we have several ways for finding those in the annotated corpora (more details in this subsection). The situation gets more complicated when we have a conjunction, such as ‘and’ or ‘or’, coordinating several infinitives and the definite article is not necessarily repeated with each infinitive, even though the context suggests that the definite article extends its function to all the infinitives in the coordinated structure.

In the early studies, Gildersleeve and others counted the occurrences of the articular infinitive and gave an average number per one

Teubner edition page for prose authors, so that they could get comparable figures between different authors. More importantly, Gildersleeve mentioned that he had counted the instances *by articles*, not *by infinitives*, which means that when one article defined several coordinated infinitives, it was counted as only one instance. (Gildersleeve summarises the differences in counting in his article (1887, 331). See also Hewlett 1890, 268–69.) This is a matter that requires some attention in our annotated corpora, as well.

In the treebanking framework, we have three basic possibilities for coordinated articular infinitives that are schematically presented in [Figure 8.2](#). Option A differs from B and C in that the article is actually repeated for each infinitive, and therefore there is no other option than to have the articles depend on their head infinitives directly. Options B and C indicate cases with only one article. In option B it has been placed under the first infinitive directly, leaving the other infinitive looking like the article does not concern it at all. In option C, the annotator has interpreted the article as defining both infinitives, and marked this by placing the article under the coordinator, through which it can be understood to define both infinitives. Option C has been utilised more by some annotators than others, who might use option B even in cases where the article clearly defines all coordinated infinitives. Option B is present in all the other corpora except the automatically parsed duke-nlp corpus. This has an effect on the numbers: in options A and C we get two (or more) articular infinitives and can study each infinitive's properties; in option B we get only the first one and miss the fact that

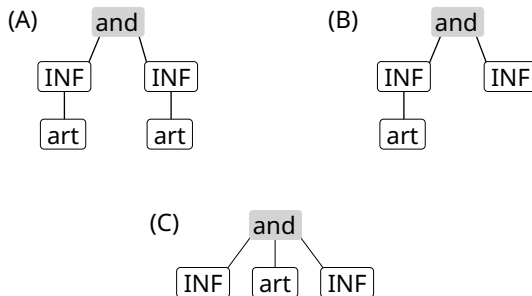


Figure 8.2: Options for annotating the article(s) with coordinated infinitives

the other infinitive is articular too, and therefore we lose the possibility of analysing the other infinitives' arguments and adverbials.

In the KTB query, we can start by searching for the infinitives, and then we have a special function button for 'has article' that finds all instances where a neuter article defines an infinitive directly (non-coordinated cases and option A), as well as when an article defines the infinitives through a coordinator (option C, in which case we both infinitives are counted and listed as results). If the annotation has been performed following option B, the query finds only the first infinitive, and the count is similar to the one mentioned by Gildersleeve.

In PapyGreek Search, we have to take the issue of coordination into account by formulating two different searches (search 44 vs search 45),¹² by which we find, for example, example (4) with a coordinated articular infinitive. Both infinitives are governed by the adposition χάριν, which requires the genitive case; thus the genitive definite article is needed for both infinitives, but it appears only once in the text (Figure 8.3).

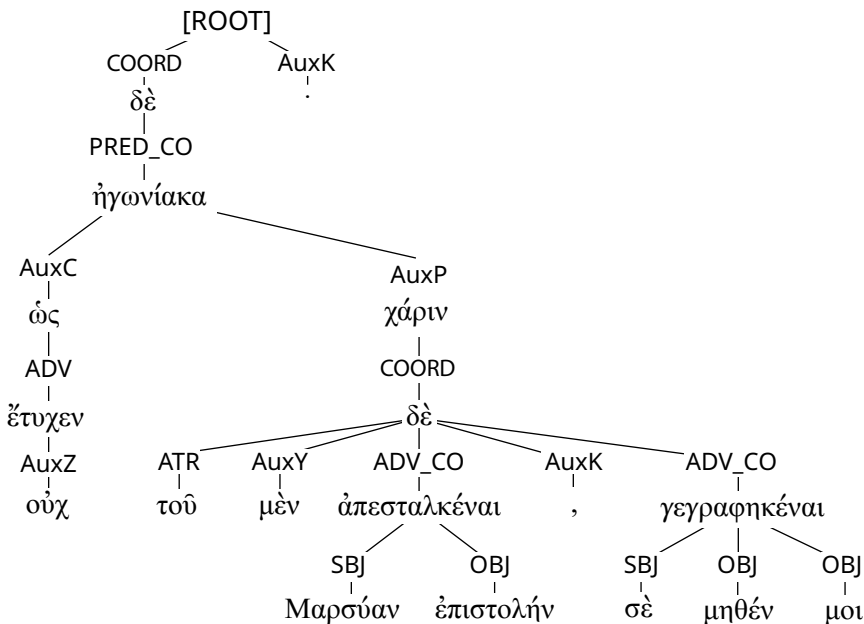


Figure 8.3: Tree with two coordinated articular infinitives with their own subjects, modified by a shared article, and depending on an adposition. P.Bad.4.48, sentence 9 in PapyGreek. Annotation: <https://papygreek.com/text/22413/arethusa>. (Annotated by Petri Lahtinen.)

- (4) ἡγωνίακα δὲ οὐχ ὥς ἔτυχεν χάριν τοῦ Μαρσύαν μὲν ἀπεσταλκέναι ἐπιστολήν, σὲ δὲ μηθέν μοι γεγραφεμέναι (P.Bad.4.48, sentence 9, 127 BCE)

‘I have been anxious to no ordinary degree because Marsyas **sent** a letter, but you **have** not **written** anything to me.’ (transl. Bagnall and Cribiore 2008, 107)

As mentioned above, the code in KTB’s ‘has article’ button requires that the definite article for the infinitive is in the neuter case. However, in several instances the automated parser in duke-nlp has interpreted the article as masculine, and therefore we do not find some instances of the articular infinitive construction using this search; one such instance is example (4), which we found through PapyGreek Search. In KTB we have other possibilities, too, to find the articular infinitives: we can just search for an infinitive and ask the part-of-speech of its first-level dependent to be ‘article’. This way of querying limits some further options when looking at the infinitive’s other dependents. When looking at the numbers in [Section 8.4](#), I will take both ways of querying into account but mainly refer to the strict query with neuter articles.

Another issue that can skew our numbers but has nothing to do with annotation or querying is the formulaicity often present in papyrus documents. For example, one papyrus document is a register containing a series of guarantees (P.Cair.Masp.3.67328, 521 CE) that gives us 12 instances of the seemingly same articular infinitive structure. It is in a formulaic sentence that is repeated over and over again for different instances of guarantees in the register. In this case, the query engine and annotation are doing what they should, but we just need to reflect upon how to interpret our data that contains such attestations. When doing raw calculations, however, all instances should be counted.

8.3 What does the data tell us?

Despite the limitations of the digital corpora mentioned earlier and the uncertainty regarding the accuracy and completeness of the results, linguistically annotated corpora offer a wealth of data that can be accessed quickly through efficient queries. We should not overlook the valuable possibilities these corpora offer. In this section, I present some statistics and usage percentages of the articular infinitive based on the annotated corpora currently available to us. One of the key advantages

is that we can compare the documentary material with literary texts (I am focusing solely on the prose corpus) and Biblical Greek.

8.3.1 *Proportion of articular infinitives of all infinitives*

First we can examine how commonly used the articular infinitive is when compared to the general usage of plain infinitives. I have searched for all infinitives in the corpora, and then looked at how many of them are modified by an article and how many appear without an article (see [Figure 8.4](#), [Figure 8.5](#), [Figure 8.6](#), and [Figure 8.7](#)). As for the documentary papyri, our corpora (duke-nlp and PapyGreek) show the identical percentage: 6 per cent of the infinitives are modified by the definite article.¹³ In the New Testament, the amount of infinitives is somewhat smaller when compared to the papyri,¹⁴ but twice as many of them are articular: 12 per cent. In prose literature, if we take the whole corpus together, the figure is 9 per cent.¹⁵

When examining the literary corpus, it is useful to analyse different authors individually, as distinct stylistic patterns are revealed. As noted in late nineteenth-century studies, an author's usage may vary across different sections of their work, though this study does not delve into such fine details. Thucydides (fifth century BCE), who was highlighted as the primary user of the articular infinitive in the early studies, in fact uses it rather sparingly, at around 6 per cent, which aligns closely with the documentary papyri. However, his usage is notably higher than that of Herodotus (1 per cent). Demosthenes, another author frequently mentioned in earlier studies, exceeds Thucydides, with a usage rate of 8 per cent. Demosthenes has the highest percentage among the orators, while, for instance, Lysias shows a very low number of attestations (1 per cent). Some other authors exhibit even more frequent use than Demosthenes: Xenophon (fifth/fourth century BCE), with an average of 11 per cent, and especially Aristotle (384–322 BCE), whose usage reaches 21 per cent (though this figure is based solely on his *Politics*). Polybius (c. 150 BCE) surpasses even the New Testament, with a rate of 16 per cent. The higher frequency of the articular infinitive in both Polybius and the New Testament seems to support the idea that this structure was more common in Koine Greek, at least in literary contexts. Aristotle's particularly high usage warrants further study: do his style or his topics create a greater need for abstract nouns which the articular infinitive readily accommodated? For a visual comparison,

Figure 8.4: Percentages of articular and non-articular infinitives in papyri (duke-nlp)

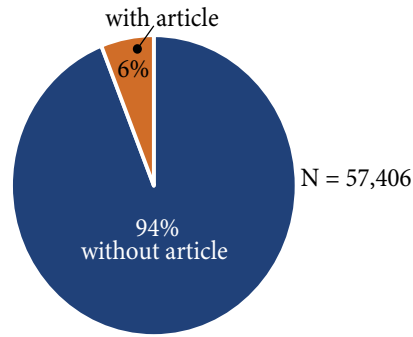


Figure 8.5: Percentages of articular and non-articular infinitives in PapyGreek

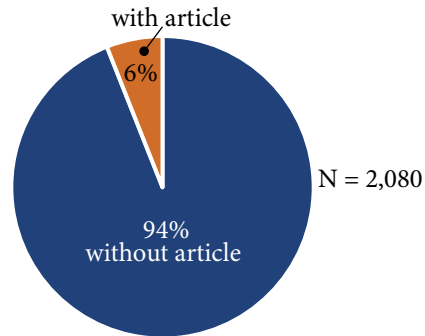


Figure 8.6: Percentages of articular and non-articular infinitives in NT

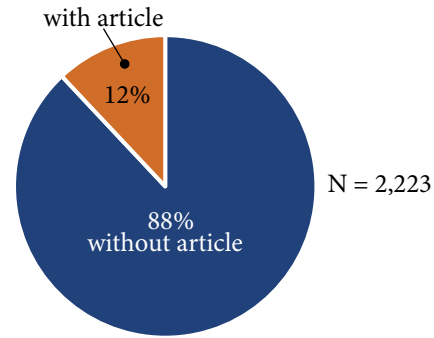
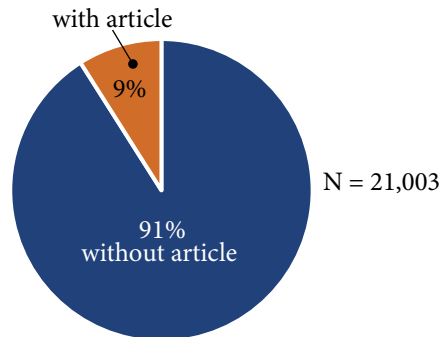


Figure 8.7: Percentages of articular and non-articular infinitives in literature



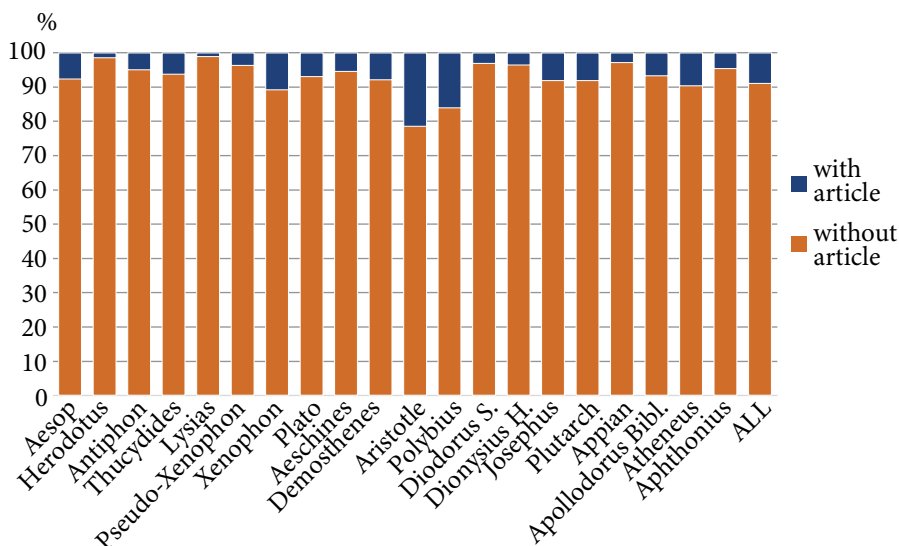


Figure 8.8: Proportions of usage of articular and non-articular infinitives by different authors in the prose literature corpus

see [Figure 8.8](#), which shows the proportion of articular infinitives among each author's infinitives in the literary corpus.

8.3.2 Chronological distribution and text types in papyri

What can we say about the chronological distribution in the documentary papyri, then? The papyri are the only source that provides us with similar text types across several hundreds of centuries, whereas in literature we must always also take into account the author's own time and style (and we cannot search all possible literature that has survived). The duke-nlp corpus has the best coverage (even if the data is noisy), and there we cannot see a clear increase in usage of the articular infinitive in later centuries in proportion to the overall usage of infinitives (see [Figure 8.9](#)); in fact, the Ptolemaic period, especially the second and first centuries BCE, seems to have an increasing trend in the use of the articular infinitive (in line with Polybius' usage at the same time), but the trend returns to smaller percentages in the Roman and Byzantine periods (excluding the eighth century CE, from which

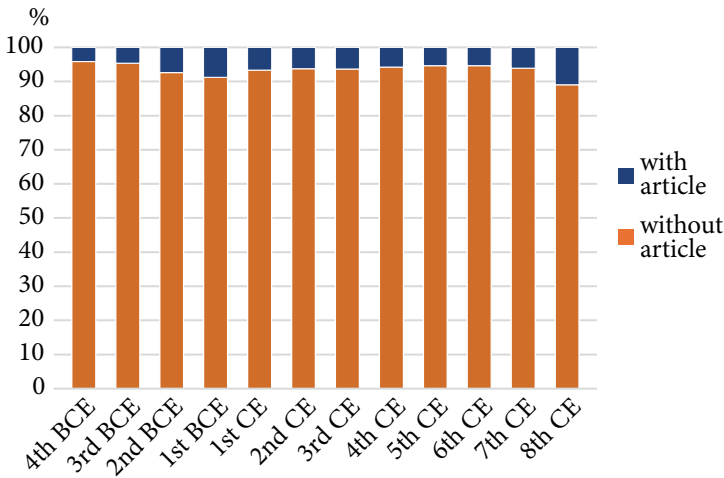


Figure 8.9: Proportions of use of articular vs non-articular infinitives in documentary papyri (duke-nlp corpus) by century

a very limited amount of data survives). The overall use of infinitives per century does not clearly decrease in the papyri, either; it shows a steady incidence of slightly over 2 per cent as compared to all word tokens in most centuries. Some fluctuation can be seen, such as a notable decrease to 1 per cent in the third century CE.¹⁶

Since the documentary papyri consist of several different types of texts, it is also interesting to see if there are differences between the documentary genres. The duke-nlp has been roughly divided by text type into categories including letters, administration, contracts, declarations, pronouncements, lists, and receipts.¹⁷ The lists and accounts do not contain infinitives in great numbers, so we exclude them from the discussion. Different text types appear to contain quite evenly an average of 7 per cent articular infinitives from all infinitives. A notable difference can be found in letters, in which category the articular infinitive is used less, at approximately 5 per cent of all infinitives. The letters and some other categories in administration contain formulaic greetings that very often contain the (non-articular) infinitive *χαίρειν*. We can speculate that this usage skews the results slightly. However, even when we remove either all attestations of *χαίρειν* from the total sum of infinitives in letters (c. 5,000) or only those infinitives that the KTB recognises as being in a

greeting formula (c. 2,000), the incidence of the articular infinitive does not rise above 6 per cent. The letters are sometimes thought to be written in a more colloquial register than other genres. If this was so, the suggestion of earlier scholarship that the articular infinitive was a popular part of everyday language is not supported by papyrus letters, since the structure was not as popular in letters as it was in other, more official genres.¹⁸ This does not apply to infinitives in general, since letters in fact have a higher infinitive/token ratio (3.4 per cent) than contracts (2 per cent) or administration documents (1.7 per cent).

8.3.3 *Articular infinitives governed by prepositions*

The prepositional use of the articular infinitive was mentioned in [Subsection 8.3.2](#) as gaining in popularity. In light of our numbers, this is indeed true. In the papyri, 82 per cent of the articular infinitive instances are governed by a preposition (in duke-nlp, strict measure; in PapyGreek's smaller corpus 77 per cent). The New Testament has a smaller percentage, 59 per cent, and in the literature the proportion is still lower, only 38 per cent. The literary authors have great differences between them, though. Thucydides and Polybius are the leaders, with 65 per cent and 66 per cent of their articular infinitives being governed by a preposition.¹⁹ Next comes Diodorus Siculus, with 54 per cent, followed by Xenophon and Plutarch, both with c. 40 per cent. Demosthenes is at 36 per cent and Aristotle and Plato at 28 per cent and 26 per cent, respectively. We can note that Aristotle, who had a high percentage of articular infinitives, uses them mostly without prepositions. In the papyri, the text type again plays some role. In administration and contracts, almost 90 per cent of the articular infinitives are prepositional, whereas in letters the proportion is clearly smaller, at 69 per cent.

The most popular preposition with the articular infinitive by far in both papyri and literature is *διά*. The preposition *διά* has a causal meaning 'on account of, because' when used with the accusative case. With the genitive case, *διά* can express purpose, in the same way as with the adposition *ἕνεκα* (often a postposition). The case of the infinitive with *διά* seems always to be accusative in the papyri.²⁰ The second most common preposition is *πρός*.²¹ It can be used with three cases: with the accusative, meaning 'toward'; with the genitive, 'from'; or with the dative, 'among, besides'. In the papyri, it appears mostly with the accusative, but dative is also found occasionally (e.g. *πρός τῷ μένειν*

p.berl.moeller.1 sentence 6). In the New Testament, the selection of prepositions is different: the most popular one is εἰς ‘into, to’, which is used twice as much as ἐν ‘in, into’ and διὰ.²² Interestingly, ἐν is not very popular in the literature or in the papyri, while εἰς is among the top three in both the other corpora. See [Figure 8.10](#), [Figure 8.11](#), and [Figure 8.12](#) for the distribution of different prepositions used with the articular infinitive in the corpora.

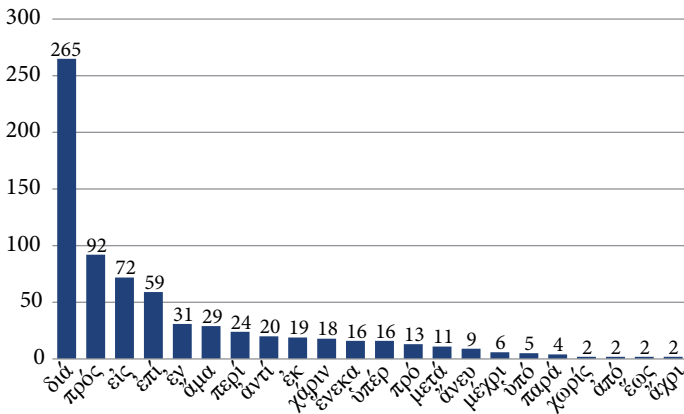


Figure 8.10: Prepositions governing the articular infinitive in the literary corpus

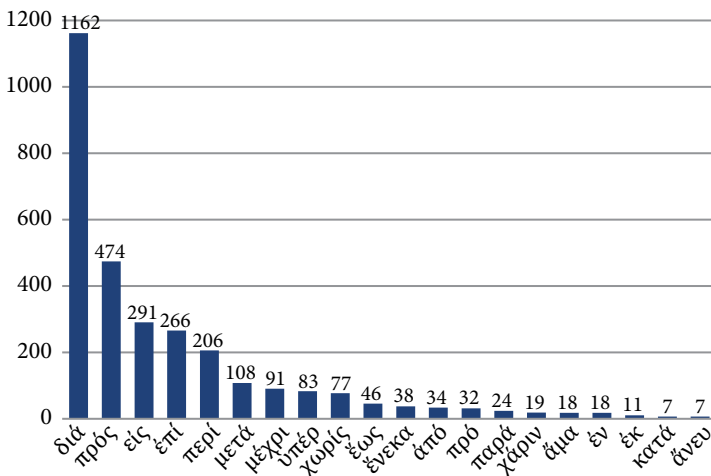


Figure 8.11: Prepositions governing the articular infinitive in the documentary papyri (duke-nlp)

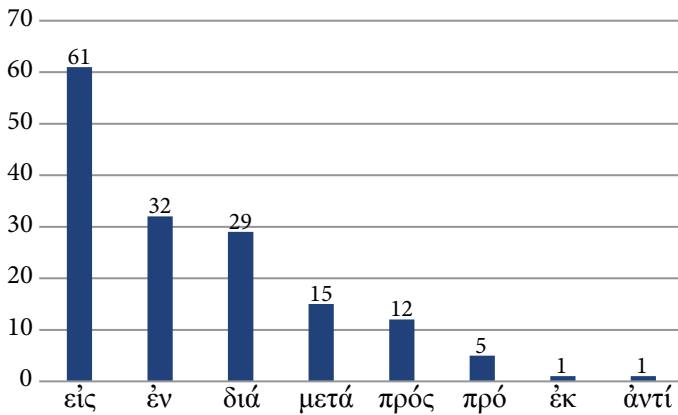


Figure 8.12: Prepositions governing the articular infinitive in the New Testament (PROIEL)

8.3.4 The grammatical cases and syntactic roles of the articular infinitives

The syntactic role of the articular infinitive appears to be marked most often as ADV in all our corpora. The label ADV marks an optional constituent of a verb, either directly under the verb or via a preposition or conjunction. The prepositional instances of the articular infinitive structure can also act as obligatory arguments for verbs, in which case they are usually marked as OBJ. The factors affecting which grammatical case of the articular infinitive obtained include the syntactic role of the structure or the adposition it was a dependent of.

When the articular infinitive was not governed by a preposition, its head was most often a verb in all corpora. Governed by a verb, the articular infinitive was more often a subject in the literary corpus, but an object in papyri. In the dependency grammar framework, both direct and indirect objects are annotated with the same label OBJ, but usually their case tells which one is in question. In example (5) the articular infinitive is a subject, and in example (6) it is an object. The head word is indicated in italics.

- (5) τὸ *φροντίσαι*, τοῦ Σέ[ρα]π[ι]ς (l. Σεράπιδος) θέλοντος, *ἐστίν* πρὸς ἐμέ, τὸ [δ]ὲ *ἀσφαλίσασθαι* τὸν διδόντα ἐστὶ πρὸς σέ καὶ ὅτι, θεῶν ἐπιτρεπόντων, τὰ ἐνθάδε σου προ[χω]ρεῖ. (O.Did.411, c. 140 CE)

‘**Procuring** it, Sarapis willing, is my job, but it is yours **to secure** the one who supplies it and that, Gods permitting, your affair here progresses.’ (transl. A. Bülow-Jacobsen in O.Did. 2012, 346)

- (6) ... καὶ πολλαῖς με πληγαῖς ἠκίσαντο ὥστε **τῷ ζῆν** κινδυνεῦσαι.
(P.Oxy.50.3561, 165 CE)

‘... and assulted me with numerous blows so as to *endanger* my **life** [i.e. the living].’ (transl. J.E.G Whitehorne, P.Oxy.50 1983, 157)

When the articular infinitive is governed by a noun, it is usually in an attributive role in the genitive case, as in example (7).

- (7) ἐὰν ἔλθῃς εἰς τὰς *ἡμέρας* σου **τοῦ τεκῖν** (l. τεκεῖν), γράψον μοι εἶνα
(l. ἵνα) εἰσελθῶ καὶ τὴν λοχίαν σου ποιήσω, ἐπὶ οὐκ οἶδά σου τὸν
μῆνα. (O.Florida.14 sentence 2, 2nd century CE)

‘If you are coming to your *days* **of giving birth**, write to me so that I may come and perform your delivery, since I do not know your month.’ (transl. Bagnall and Cribiore 2008, 167)

8.3.5 *The subject and other arguments of the articular infinitive*

Infinitives can have a subject as an argument (normally in the accusative case). In all three corpora, the percentage of infinitives (both articular and non-articular) having a subject from all infinitives is 22–24 per cent. The articular infinitive is no exception. The data tells us that the subject is the most common argument of an articular infinitive in the papyri and in the New Testament, whereas in the literature the object is much more common (see [Figure 8.13](#), [Figure 8.14](#), and [Figure 8.15](#)).²³

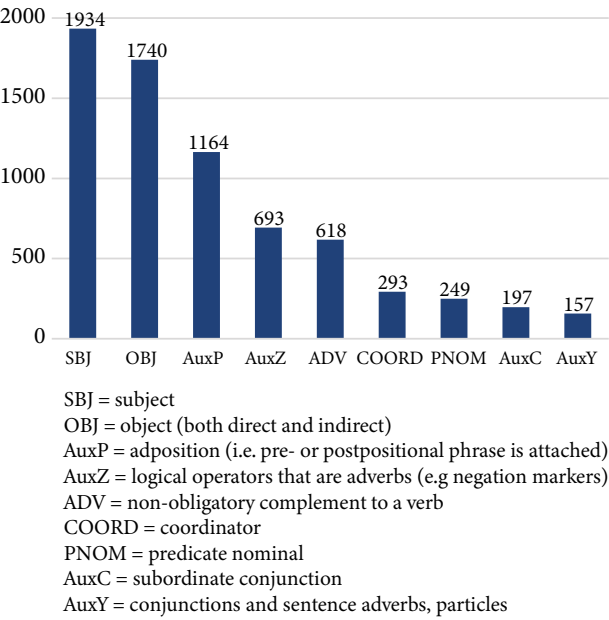


Figure 8.13: The syntactic roles of the first-level dependents of the articular infinitive in the papyri (duke-nlp). The labels are named according to the AGDT annotation framework; see, for example, Celano (2014).

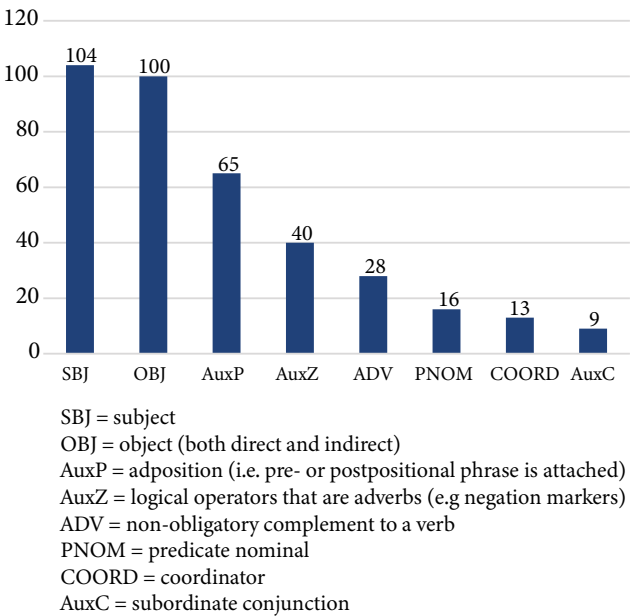


Figure 8.14: The syntactic roles of the first-level dependents of the articular infinitive in the New Testament (PROIEL)

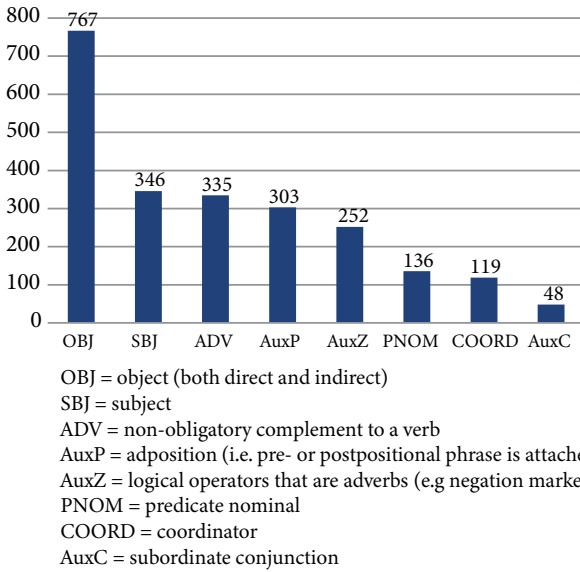


Figure 8.15: The syntactic roles of the first-level dependents of the articular infinitive in the literary corpus

8.3.6 The tenses of the articular infinitive

The present infinitive predominates across all corpora, but notable differences emerge when examining other tenses. In the papyri and the New Testament, the present and aorist tenses are employed with nearly equal frequency (see [Figure 8.16](#) and [Figure 8.17](#)). This observation is consistent with Bentein's (2018) findings regarding the occurrence of present and aorist tenses and their polyfunctionality in non-finite complementation in later Greek. In contrast, our literary corpus shows a significantly lower frequency of the aorist tense than of the present tense (see [Figure 8.18](#)). The perfect infinitive appears less frequently overall, as anticipated, but is most commonly found in the papyri (22 per cent), with minimal occurrences in the New Testament (3 per cent) and a modest presence in the literary texts (7 per cent). The future tense is exceedingly rare, appearing only in 2 per cent of the papyri, in 1 per cent of the literary texts, and not at all in the New Testament.

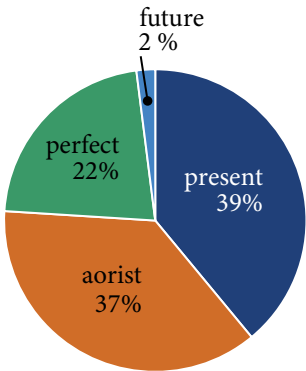


Figure 8.16: Tenses of the articular infinitive in the papyri (duke-nlp)

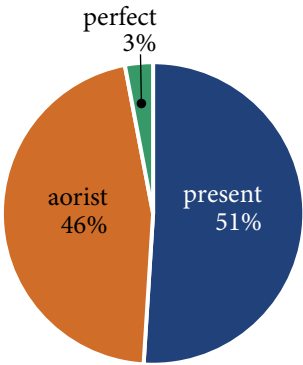


Figure 8.17: Tenses of the articular infinitive in the New Testament (PROIEL)

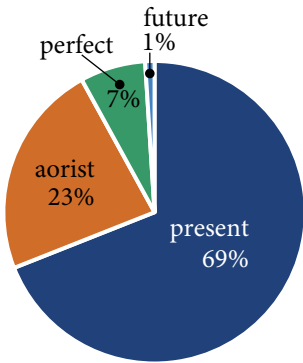


Figure 8.18: Tenses of the articular infinitive in the literary corpus

8.4 Concluding remarks

The purpose of this chapter was to examine the usage of the articular infinitive within the history of written Ancient Greek, with a particular focus on its development in documentary materials and during the postclassical period. Additionally, it aimed to highlight the utility of linguistically annotated corpora as a methodological tool for investigating linguistic questions in the history of Greek. It provided new insights into the use of this feature, which had been studied thoroughly prior to the advent of computers. However, it also revealed some limitations of the digital approach, particularly concerning the reliability of annotated data and the potential for small differences in annotations to impact significantly the ability to query the data.

Despite these limitations, the annotated corpora provided general figures that are reasonably reliable. It is evident that the articular infinitive was used in documentary papyri throughout their existence, with no significant increase or decrease in its usage over time. This construction was not particularly common, accounting for only 6–7 per cent of all infinitives. The articular infinitive appeared less frequently in the papyri compared to the New Testament and prose literature. While it was already known that literary authors varied in their use of the articular infinitive, our calculations confirmed that, for instance, Polybius employed it much more frequently than several other authors. Interestingly, Aristotle seems to have used it even more than Polybius.

The fact that the papyri contain fewer instances of the articular infinitive than several literary authors challenges the commonly held assumption, noted by many earlier scholars, that the articular infinitive gained popularity in later Greek and was particularly characteristic of spoken language. In the documentary papyri, it was not absent from more colloquial registers, such as letters, but was more commonly found in administrative texts.

The increasing use of the articular infinitive with prepositions, as recognised by many early scholars, is supported by the corpora. The papyri predominantly use this construction with prepositions, much more so than in the New Testament or the literature. In the papyri, this usage is less prevalent in letters than in other text types. The formulaic nature of the language in the papyri likely influences these results. Digital corpora also allow for the generation of detailed tables showing the popularity of different prepositions. Interestingly, the selection of

prepositions in the papyrological and literary corpora is quite similar, whereas the New Testament differs from both. Queries from the corpora also reveal differences in the tenses of the infinitives used, as well as the arguments and modifiers associated with the articular infinitive. In general, the articular infinitive appears to have been used in more complex ways, with a greater variety of dependents, in the papyri compared to the literature.

What is the value of a corpus study like the present one? It allows us to gather more data in a shorter period of time, which can be used to verify or falsify previous studies conducted on more selective data. The data can also provide general trends of development that can be compared across different genres and time periods. However, as the appetite for such research grows, it is hoped that more securely annotated data, combined with high-quality metadata on chronology and text types, will become available.

Notes

- 1 The work presented in this chapter has been performed under the project Digital Grammar of the Greek Documentary Papyri (PapyGreek) and has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (Grant agreement no. 758481).
- 2 See e.g. Schwyzler and Debrunner (1950 II, 368 n. 2); van Emde Boas et al. (2019, 601 ff.). Rijksbaron (2006, 112–15) presents and discusses several examples of the articular infinitive from, for example, Plato, Thucydides, and Xenophon.
- 3 As Luraghi (1999) points out, unlike in Latin, in Greek the subject of the infinitive is not obligatory, but is, however, more often expressed than with finite verbs, because the subject–verb agreement is lacking.
- 4 See Rijksbaron (2006, 96–102) for more detail on dynamic, declarative, and supplementary infinitives and how their subjects are indicated. Keydana (2017) examines the unembedded AcI as a case of hearer-induced grammaticalisation.
- 5 Birklein (1888, 2–3) discusses some examples in Homer, where the infinitive is used substantively without an article, as well as a case where we have τό with the infinitive but cannot really decide if it is a pronoun or an article (*Od.* 20,52).
- 6 For Theognis, Jannaris' reference is 256 (actually 255: τὸ τυχεῖν). For Simonides, Jannaris' reference is 95,1, which I interpret to be frg. 93, 1 τὸ δοκεῖν; in addition I found, for example, frg. 37,21 τὸ μὴ γενέσθαι and epigr. 253,1 τὸ καλῶς θνήσκειν. For Pindar, Jannaris does not give a specific locus; I found, for example, 2,51 τὸ δὲ τυχεῖν and 8,60 τὸ μὴ προμαθεῖν.
- 7 Many of these scholars were not aware of each other during their writing period; see, for example, Birklein (1888, n. 1) concerning Gildersleeve (1878, 1887), and Allen (1907, 7) concerning Hewlett (1890).

- 8 See Burguière 1960, 127–45. Also Mandilaras noted (1973, 334, 337) that the genitive AcI was used in expressions of purpose, derived from its epexegetical and consecutive sense, for example with verbs signifying care and neglect, such as ἀμελέω. Martti Leiwo, however, who studied the construction μὴ ἀμελήσης ‘do not neglect (to do X)’ in the Mons Claudianus ostraca (2nd century CE), noted that it was used with seven different types of arguments, but the articular infinitive in the genitive was not one of them; plain infinitive was used, though (Leiwo 2012, 6).
- 9 The articular infinitive cannot, unfortunately, be queried in the Thesaurus Linguae Graecae (TLG) online corpus in a watertight manner. TLG allows the user to perform a proximity search with morphological categories. In this case we could search for each neuter article preceding an infinitive, but then two problems follow: first, we would need to estimate how far the article can be from the infinitive in order to set the word limit within which these two appear from one another, and second, the more difficult issue, we would need to read and analyse each result to see if the article really modifies the infinitive and not some other word in the selected space.
- 10 <https://gitlab.com/polinayordanova/treebanking>; see also Vierros and Yordanova (2022). Note that the corpora might have been modified slightly, or some data may be excluded from KTB compared to the raw data from sources mentioned here. The query links will not be provided, as the system is not yet publicly available as a user interface.
- 11 The majority of the annotations are by Vanessa Gorman (see Gorman 2020), but some treebank annotations from the AGDT (https://perseusdl.github.io/treebank_data/) and Aphthonius *Progymnasmata* (Yordanova) corpora are included. For a full list of authors covered by Gorman, see the files in <https://github.com/vgorman1/Greek-Dependency-Trees>.
- 12 Every infinitive with an article defining it: <https://papygreek.com/search/45>, 98 results (4 January 2024); two (or more) infinitives with one article modifying both: <https://papygreek.com/search/44>, seven results (4 January 2024).
- 13 Here we must also take into account that in duke-nlp some articles defining an infinitive were found to be annotated mistakenly as masculine, so that the specially designed code for articular infinitives does not find them. When queried in another way (infinitive’s first dependent has the part-of-speech ‘article’ in any gender), the number rises from 3,648 to 4,043, giving us slightly over 7 per cent as the total share. Whether the extra 395 instances are actually all articular infinitives is not certain; a random check shows that many of them are, but I also found instances where the article is mistakenly attached under the infinitive (e.g. CPR.8.82, sentence 7).
- 14 The percentage of all infinitives from all word tokens in the corpora is 2.1 per cent in duke-nlp, 1.6 per cent in PROIEL, and 3.7 per cent in the prose literature.
- 15 In raw numbers, 1,544 infinitives have an article and 19,459 do not. Notable difference exists when compared to the much smaller verse corpus: only 1.7 per cent of the infinitives have the article (103 out of a total of 6,221).
- 16 More detailed and careful calculations on the number of infinitives used in papyri should be done in a separate study.

- 17 There can be several genre labels for one document (e.g. receipt+administration, or contract+administration), so the numbers of articular infinitives are duplicated in those cases when looking at the documents by genre.
- 18 We must, naturally, be aware of the letter genre containing several different styles; purely private letters may contain more colloquial language and the official letters less so, but the scribe/writer always aimed at a more or less literate product. The duke-nlp corpus does not differentiate between private or official letters, and sometimes it would be difficult to draw the line.
- 19 The Aesopian corpus shows an even higher percentage (72 per cent), but the number of tokens annotated from him is so low that we should not compare these results here.
- 20 Some formulaic expressions that are repeated in many documents contain διὰ τό, like phrases denoting illiterate people or slow writers: διὰ τὸ μὴ εἰδέναι αὐτὴν γράμματα ‘because she does not know letters’ and διὰ τὸ βραδύτερα αὐτὸν γράφειν ‘because he is writing very slowly’.
- 21 This differs from the table in Mayser’s grammar of the Ptolemaic papyri (1926, 332–33), where, for example, περὶ τοῦ has more attestations than πρὸς+accusative or dative together. Mayser had a much more limited amount of data, and he covers only the three pre-Christian centuries. Even in Mayser, though, διὰ τό was clearly the most frequently occurring combination with the infinitive.
- 22 εἰς with the articular infinitive in NT usually means ‘for doing X’, for example: μὴ γὰρ οἰκίας οὐκ ἔχετε εἰς τὸ ἐσθίειν καὶ πίνειν; ‘don’t you have the right to food or drink (i.e. for eating and drinking)?’ 1 Cor. sentence 404.
- 23 The most common dependent’s relation in all cases is, of course, the attribute, as all articular infinitives have the article, which is marked as attribute. Therefore the ATR label has been omitted from the tables.

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PART III

New Insights on Greek Syntax

CHAPTER 9

Rewriting the history of the optative in the postclassical Greek papyri and literary texts (III BCE–VI CE)

Persistence, formulae, and innovation

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Abstract

In this chapter, I rewrite the received history of the optative and redefine the role that it may play in describing the history of postclassical Greek (III BCE–VI CE). First, I identify the main problems faced by the different histories of the optative (e.g. problems of teleological and unrepresentative description) and suggest that these problems reflect wider issues in describing the history of (postclassical) Greek. Second, I outline the persistence of the potential optative in postclassical Greek papyri and literary texts, in contrast to existing accounts which take the ‘decline’ perspective. I also pay particular attention to the role played by formulae in the data, both in form and functional distribution, as these formulae are mainly limited to the papyrological

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evidence. Third, I briefly contextualise the changes in use and distribution of the wish optative within the wider reorganisation of the wish system in postclassical Greek. Fourth and finally, I describe the formal and functional specialisation as well as persistence of the wish optative in postclassical Greek papyri and literary texts.

9.1 Rewriting the history of the optative and postclassical Greek

In histories of Greek, one of the most stable elements in descriptions of postclassical Greek (III BCE–VI CE)¹ is the mention of the loss or decline of the optative mood (Adrados 2005, 194; Browning 1983, 30; Horrocks 2010, 102; Meillet 2009, 315; Thumb 1901, 249). Though often repeated, the real corpus evidence for such a loss or decline has remained rather specious (see also la Roi 2025d). To illustrate, the most common ‘evidence’ for the decline of the optative has been to point to the New Testament, where it is used more sparsely than in classical Greek (cf. Bianconi and Magni 2022, who summarise several reasons for this ‘decline’). For example, Meillet had already made exactly this point in 1930:

En grec moderne, il ne subsiste que le subjonctif, et la disparition de l’optatif est **un fait relativement ancien**. **En effet, dans le Nouveau Testament** où les occasions de l’employer ne manquaient pas, **l’optatif est une rareté**; et c’est chez Luc, l’auteur qui a **le plus le caractère littéraire, qu’on en trouve le plus d’exemples**. L’optatif avec ἄν **a disparu**. (Meillet 2009, 275, from the reprinted edition of 1930; my emphasis)

This statement in my view reveals at least three deeper problems for the description of the history of the optative in postclassical Greek as well as for the description of postclassical Greek within the history of Greek more generally:

- Modern Greek is the *teleological* reference point for any change as well as continuity in postclassical Greek, thereby disregarding any continuity or change which does not fit the picture from Modern Greek;
- the New Testament, despite being heavily influenced by written language contact from the Septuagint (see la Roi 2025d), is treated as a fully reliable reference point for a period of nine centuries;

- the use of the optative is seen as directly related to an author's level of style, even without contrastive corroboration with other authors.²

In fact, with regard to the third point, only if one assumes a very early loss of the optative does it make sense to say even that early post-classical Greek texts by Menander or in the Septuagint show a 'retarded' process of loss (Evans 2022, 9; Horrocks 2010, 102).³ Put differently, if one joins Meillet and others in viewing the optative through a perspective of 'decline' or 'loss' (e.g. of at least the potential optative with ὅν by the time of the New Testament, an idea which is refuted by the corpus evidence given later in this chapter and in earlier studies), one puts oneself in the unwanted position of then having to explain every *presence* of this construction as an 'unexpected' resurrection from the dead or as an Atticism (cf. the points made by la Roi 2025d).⁴

I would like to offer a more charitable and holistic perspective on the history of the optative in postclassical Greek (III BCE–VI CE) here by reassessing both the continuity and change of the optative in post-classical Greek papyri and literary texts. By combining the evidence for the optative from papyri, literary texts, and secondary literature, I aim to give a more representative picture of its continuity and change than the views offered mainly on the basis of a small selection of the corpus such as the Septuagint, the New Testament, or a selection of papyri.⁵ To gather the corpus evidence, I have applied three different methods: I used advanced proximity searches in the Thesaurus Linguae Graecae (viz. for the optative alone, and ὅν and the optative with a distance of three words); I exported and analysed all optatives in documentary papyri from Trismegistos Words; and I checked the counts given in secondary literature against current views on the development of the optative in postclassical Greek. For the literary texts, I am currently unable to offer the same detailed statistics as I do for the papyri, because I did not exclude any literary texts, the TLG search yielded many false positives, and, as discussed later in this chapter, I focused primarily on the question whether specific usages from the papyri also occurred in the literary texts or not.

The chapter is structured as follows: [Section 9.2](#) describes the persistence of the potential optative in papyri and literary texts and the factors motivating its persistence; [Section 9.3](#) outlines the different morphosyntactic and distributional changes which have reorganised the wish system in postclassical Greek; [Section 9.4](#) subsequently traces

the functional specialisation of the wish optative across different document types in the papyri as well as in literary texts; and [Section 9.5](#) presents some concluding remarks.

9.2 The persistence of the potential optative in postclassical Greek papyri and literary texts

As in classical Greek (la Roi 2019), the potential optative was used in postclassical Greek to express that something may be the case without the speaker taking subjective epistemic responsibility for it (contrast e.g. *Ah that must be John*). It was used in main clauses, prototypically with the modal particle ἄν (see la Roi 2022b for an overview of obligatory and optional uses of the modal particle), and in subordinate clauses (generally with the modal particle in non-conditional subordinate clauses and without it in conditional subordinate clauses). For examples from middle postclassical Greek, see (1) and (2), from Epictetus.

(1) Epict. 1.17.10

εἰ δ' οὖν καὶ τοῦτο **δοίη** τις, ἐκεῖνο ἀπαρκεῖ ὅτι τῶν ἄλλων ἐστὶ διακριτικά καὶ ἐπισκεπτικά καὶ ὥς **ἄν** τις **εἴποι** μετρητικά καὶ στατικά.

'but if one **would grant** even this, it is enough to say in defence of Logic that it has the power to discriminate and examine everything else, and as one **might say**, to measure and weigh them.'⁶

(2) Epict. 4.11.5

ψυχῆς δ' ὥς σώματος μὲν ἀκαθαρσίαν οὐκ **ἄν εὔροις**, ὥς ψυχῆς δὲ τί **ἄν ἄλλο εὔροις** ἢ τὸ παρέχον αὐτὴν ῥυπαρὰν πρὸς τὰ ἔργα τὰ αὐτῆς;

'But you **would not find** the same impurity in a soul as you would in a body, and as being soul, what else **would you find** impure about it than that which makes it dirty for the performance of its own functions?'

Besides the fact that such and other examples from Epictetus (e.g. Epict. 1.8, 1.11, 1.13 or 2.14) or contemporaries are difficult to explain away as preserved 'relics'⁷ or as a form of 'Atticism' (e.g. Horrocks 2010, 146 hails Epictetus as one of the authors who comes closest to displaying 'colloquial speech'), we lose out on noticing important *continuities* when we take only the 'loss'-perspective.⁸ Synchronically, the use of

the optative for a wider variety of functions, for example wishes as well as potential statements, is a form of so-called *layering*, referring to the coexistence and interaction of two or more functions of a structure (Narrog and Heine 2021, 46). From a diachronic perspective, the continued use of the optative mood into postclassical Greek can be viewed as a form of *persistence*, which refers to the fact that polyfunctional forms carry their history with them when their form and meaning change over time (Hopper 1991, 28; Narrog and Heine 2021, 46). The optative had already developed a potential use in Archaic Greek (see la Roi 2022a for the historical background), and its use with a large range of verbs spread widely to different clause types in classical Greek (see la Roi 2022b, 130 with further references). This use persists in papyri as well as literary texts, although its use undergoes some specific changes especially in the papyri (which are discussed in [Subsection 9.2.2](#)). Yet, when we assess the brief histories of the optative that are given in the secondary literature, we find not only internal inconsistencies between them but also a reliance on normative statements rather than corpus evidence. To illustrate these problems and review the functional persistence of the potential optative, I first contrast several secondary literature sources, subsequently present the evidence collected for the potential optative in the papyri, and finally integrate the evidence from literary texts.

9.2.1 *The metahistory of the postclassical Greek optative*

Below I assess the metahistory of the optative, that is, the scientific discourse on the history of the optative itself. To do so, I contrast the following statements on the history of the optative from secondary sources on the papyri (respectively Mayser, Gignac, and Mandilaras) to those with a wider scope (namely Turner and Evans). I have emphasised significant phrases which appear to be particularly problematic in describing the history of the optative in postclassical Greek.

- ‘Der Gebrauch des Optativs **ist stark im Rückgang begriffen; auch bieten Inhalt und Stil der Urkunden weniger Gelegenheit zur Anwendung dieses Modus.**’ (Mayser 1970, 87)
- ‘The optative, despite its gradual loss in postclassical Greek, **is by no means rare in the papyri of the Roman period, and becomes quite common** in the Byzantine period.’ (Gignac 1976, 359)

- ‘In general we see that **the optative does not hold a real position in the language of the papyri**. The use of it in classical Greek is sometimes reflected in compositions showing influence of Atticism. **Its disappearance must be seen in light of the general trend of Hellenistic Greek to get rid of the optative because this mood, with its distinct vowel system, could not accommodate itself to the morphology of the other moods.** Since the notion of the optative could be perfectly expressed by other verbal forms, such as the future indicative, the subjunctive, and the imperative, it was a matter of course that these verbal forms undertook all the functions of the optative, which thus was left to fall into disuse.’ (Mandilaras 1973, 287)
- ‘The mood was **declining during the last three centuries BCE**. It is still used **fairly widely** to indicate a wish in the papyri, LXX and NT, in spite of the popularity of the imperative, in curses as well as requests. **It was probably never used much in conversation, even in Athens; Xenophon was addicted to it** but it is scarce in Attic inscriptions. **The figures per 100 pp. are approximately** Alciphron (Letters) 109, Xenophon (Mem.) 350, Plato (Phaedo) 250, Strabo 76, Polybius 37, Diodorus Siculus 13, Callimachus 49 (in 49 pp.), Aratus 94 (in 46pp.). Even Dionysius of Halicarnassus (30 BCE) and Diodorus Siculus (I BCE) who maintain the Attic tradition tend to dispense with it. In fact, the fut. optative, never more than a substitute in indirect speech for the future indic., is quite extinct in Hellenistic Greek. The aor. opt. proved toughest, lasting until VIII CE. **The optative to express a wish (volitive) was the most persistent, surviving particularly in set phrases like μή γένοιτο; whereas the potential optative, in main and conditional clauses, was rare in the Ptolemaic, and almost extinct and awkwardly used, in the Imperial papyri.** The reason for the decline probably lies in the “syntactical weakness” (Schwyzer II 337) of the optative. No one can or could quite define its essential function. The two chief functions, volitive and potential, were too dissimilar to give a unity to the mood, and the subjunctive was always at hand for a substitute for either. Moreover, the refinements inherent in the use of the optative were beyond the powers of uneducated Greeks and most barbarians. Those later writers who sought to revive the mood found it difficult to recapture the ancient subtleties. Horn has demonstrated that the optative did gain a new lease of life in

the Byzantine period, usually in set phrases or interchangeably with the subjunctive, and its revival in II CE in the vulgar texts merely followed the earlier learned reaction against its disappearance. **Literary writers, especially the Atticists, affected it.** Even the II–III CE papyri follow suit and the scribes of some NT MSS favoured it.’ (Turner 1963, 118–19)

- ‘The postclassical **desystematization of the optative is well documented. As a category of the verbal system it becomes steadily rarer and disappears by the early medieval period.** The optative’s various functions decline at different rates, **being replaced by the subjunctive and by periphrastic constructions.** Of its two basic types, **the potential optative appears to be lost relatively early in the Koine period, while the volitive optative, expressing wishes for the future, persists longest of all.** It is eventually restricted to fossilized expressions of an increasingly lexical, rather than grammatical, character.’ (Evans 2003, 71)

There are at least five issues in the representation of the history of the optative by these (and other) authors, which I summarise briefly below. Generally, however, we can already observe that the same evaluations from earlier literature are often repeated, as is also reflected by the references to other authors who make the same or similar problematic points.

- *Conflicting trends for the papyrological evidence.* Comparing the first four statements, we see a clear opposition between those who suggest functional limitation and see no ‘real position’ for the optative in the papyri (Mandilaras) or only in ‘awkward’ use (Turner) and those, like Gignac, who emphasise that the optative is actually by no means rare. In the discussion in this section and in [Section 9.3](#), I reassess the continued role of the optative in the language of the papyri.
- *Normative ideas about the reasons for using the optative.* While Mayer tentatively suggested that the use of the optative is not at home in papyri (but see [Subsection 9.2.2](#) for many counterexamples), Turner takes this line of thought to another extreme by making mutually contradictory and normative statements on the use of the optative in both classical and postclassical Greek: on the one hand, he says that only the ancients could grasp the subtlety of the use of the optative,

which is why later Greeks could not use it; yet, on the other hand, he states that the optative was probably not used much at all in classical Greek and had a weak place in the verbal system. The counts taken over from Meillet (without reference) and slightly modified do not suffice to show what he claims and also contradict the counts provided in recent studies on the potential and wish optative in Aristophanes and Euripides (la Roi 2019, 2020a). Moreover, the counts do not seem very reliable; Reik (1907, 88–89, 190–91) had observed that there are 212 occurrences of the potential optative in Polybius, with 70 occurring in the main clause, and 401 potential optatives in Philo, with 194 occurring in the main clause.

- *Ad hoc suggestions about diachronic replacements.* Evans (like others, e.g. Horrocks 2010, 130) follows a long tradition from grammars (Blass and Debrunner 1990, 311; Radermacher 1925, 160; Schwyzler and Debrunner 1950, 338; Turner 1963, 119–20) to point to alternative strategies as a reason for the ‘loss’ of the optative (e.g. subjunctives, periphrastic constructions, or imperatives), but nobody has actually demonstrated that these constructions are *equivalents*, or at least equivalent enough in specific morphosyntactic contexts to replace each other. As discussed in [Section 9.3](#), though there are cases where, theoretically, a replacement could replace the optative in certain morphosyntactic contexts, viz. performative wish clauses in the first person with εὔχομαι ‘I wish’ in the papyri, those types of instances are rare in the corpus evidence.
- *Allusions to systemic changes in verbal system.* We also find the idea of a systemic change to the verbal system in postclassical Greek as an ‘explanation’ for the alleged loss of the optative. Apart from phonological effects on (mis)writing optatives in the papyri, no other supporting evidence is adduced for this, but reference to a vague general process of change is used.
- *Unquantified relative statements of diachrony.* On the one hand, it has long been common practice to use implicit quantitative terms, such as ‘rare’ and ‘relatively early’, to characterise changes in post-classical Greek,⁹ but as shown in [Table 9.1](#) it is safer to quantify such statements, since the numbers themselves do not have this subjective slant (cf. Jensen and McGillivray 2017, 50).¹⁰ On the other hand, even ideas of a relative diachrony by which the potential optative is actually lost do not agree with the corpus evidence, as I show in [Subsection 9.2.2](#).

9.2.2 Tracing potential optatives in the postclassical Greek papyri

As shown by [Table 9.1](#), the potential optative is present in all periods under investigation, disproving any removal of the category from the verbal system. NRO stands for normed rate of occurrence, that is, the occurrence of the construction every 1,000 words.¹¹

Table 9.1: The potential optative in the postclassical Greek papyri (III BCE–VI CE)

Period	Potential optative		Total
	Main clause	Subordinate clause	
Early postclassical Greek	417 (0.471 NRO)	57 (0.064 NRO)	474 (0.535 NRO)
Middle postclassical Greek	71 (0.030 NRO)	128 (0.053 NRO)	199 (0.083 NRO)
Late postclassical Greek	20 (0.020 NRO)	494 (0.491 NRO)	514 (0.511 NRO)

Yet, many more observations can and should be made, not only about these numbers (also in comparison to wish optatives; see [Section 9.4](#)) but also especially about the data behind the numbers.

First of all, there is a substantial decrease only in the main-clause usage of the potential optative from early to middle postclassical Greek, but much less so for subordinate clause usage of the potential optative. These numbers and examples such as (3) and (4) thus contradict an early demise of the potential optative in early postclassical Greek, whether in the matrix or first in the subordinate clause:

(3) P.Cair.Zen.3.59308. 4–5, 250 BCE (private letter)

σὺ δέ μοι ἀντέγραψας ὅτι γένοιτο αὐτῷ εἰς τὸν ἐνιαυτὸν (δραχμαὶ) ἑβ. οὐδεὶς οὖν ἀποδίδω[σι]ν οὐδέν.

‘You, in turn, wrote me back that **it would be paid** to him in the amount of 12 drachmas. Well, nobody has paid anything.’¹²

- (4) PTebt.3.1.703, 49–51, 210 BCE (official letter on inspection of crops)

ὅταν δὲ διεξακθῇ(ι. διεξαχθῇ) ὁ σπόρος, οὐ χεῖρον ἂν γίνοιτο εἰ ἐπι-
μελῶς ἐφοδεύουσιν

‘When the sowing has been completed **it would be no bad thing**
if **you were to make a careful round of inspection**’ (Bagnall and
Derow 2004, 166)

Similarly, examples in subordinate clauses from middle postclas-
sical Greek such as (5) and (6) show that the potential optative was
still used as it could be before, that is, in potential purpose or relative
clauses.

- (5) P.Berl.Moeller.10, 32–34, III CE (private letter)

πλὴν ἵνα μὴ δοκοῖν ἀμελεῖν, γράφω σοι, ὅ[τ]ι

‘Besides **so that I would not appear** to be negligent, I write to you
because ...’

- (6) Sb.22.15708, 46–47, 75–125 CE (private letter)

λαλῶν τὰ ψεύδη ἃ οὐδ’ ἂν κατηγορος εἴποι

‘Speaking lies which not even an accuser **would say**’

Secondly, we should consider the role of *formulaicity* in the tex-
tual data. Formulaic expressions or formulae can be defined according
to at least two dimensions (Corrigan et al. 2009, xiii–xiv): restricted
form and restricted distribution. Restricted forms are formulae that
‘are not amenable to lexical and structural re-formulations’ (Corrigan
et al. 2009, xiv); restricted distribution refers to the fact that ‘formulae
tend to occur in particular styles of language tied to particular com-
municative situations’ (Corrigan et al. 2009, xiv). In the case of the
potential optative, we can immediately observe that there are restric-
tions in form in the different periods under investigation here for the
papyri. In the data for main-clause usages of the potential optative, an
incredibly high number of potential optatives concern the use of the
politeness formula καλῶς ἂν ποιήσας ‘you would do well’ with the
requested action formulated after (e.g. in a conditional clause or a par-
ticipial clause), as in example (7). (For further literature on the use of
this formula, see Dickey 2016 and Leiwo 2010.) However, this formula

is restricted to early postclassical Greek, occurring 204 times there (43 per cent of main-clause optatives in early postclassical Greek), and a surprising 203 out of 204 occurrences belong to the third century BCE, thus showing that this formula also had a very restricted distribution diachronically.¹³

(7) P.Gur.5, 17–18, 215 BCE (petition)

καλῶς ἂν ποιήσ[η]αις ἀναγκάσας αὐτὸν

‘You **would do well** if you forced him’

Another formula limited to early postclassical Greek is εἴη ἂν ὥς ‘it would be as’ + [I/we want], to indicate that a certain situation (e.g. the health of the addressee) is in accordance with the wishes of the writer(s), as in example (8). It occurs 43 times in early postclassical Greek, making up 10 per cent of the cases of potential optatives in the main clause in early postclassical Greek.

(8) BGU.6.1301, 1–3, II–I BCE (private letter)

χα[ι]ρίει[ν. εἰ μὲν περὶ τῆς ἡμετέρας] μητρὸς καὶ τῶν ἐν οἴκῳ τᾶλ-
λα(1. τὰ ἄλλα) κατὰ γνώμην ἐ[σ]τίν, εἴ[η] ἂν ὥς εὖχομαι

‘Greetings. If concerning our mother and the rest of the household everything also is as thought, **it would be as I wish**’

Furthermore, there are 86 occurrences of the potential optative in the main clause in early postclassical Greek of the formula ‘it would be good’, which may be expressed as εὖ ἂν ἔχοι (e.g. P.Mich.1.58.3–4) or καλῶς ἂν ἔχοι (e.g. Chr.Wilck.223.2). Functionally, it is similar to the previous formula, since it is often used to say ‘if the addressee’s health is good, it would be good’. This formula makes up about 21 per cent of the main-clause potential optatives in early postclassical Greek. In other words, these formulae make up almost 75 per cent of the usages of the potential optative in the main clause in early postclassical Greek. This serves as a reminder of the complexity in describing the history of the optative mood: though the potential optative is persistent in this period, it still undergoes distributional changes with respect to earlier periods. In fact, one could argue that the numbers should be reinterpreted in the light of formulaic uses; if one takes out the formulaic uses of the potential optative in the main clause mentioned above in early and middle postclassical Greek, the distance between the two groups

becomes much slighter: 41 occurrences in early postclassical Greek and 39 in middle postclassical Greek, with a respective NRO of 0.046 and 0.016. Thus, the relative stability of the potential optative, though affected by formulaicity in form and distribution, may explain why even in late postclassical Greek we find—with apologies for the normative term—‘normal’ uses of the potential optative in main clauses, such as example (9).¹⁴

(9) P.Oxy.17.2133, 308 CE (petition)

ὁ δὲ τούτου οὐκ ἂν εἴποιμι ἀδελφὸς ἐμοῦ δὲ κατὰ πατέρα θεῖος Ἀοῖ-
σεις τουνομα (l. τὸ ὄνομα)

‘I would not call him my brother but uncle through my father, with
the name Aeoiseis’

By contrast, the impact of formulaicity is, contrary to what has been stated in previous studies, much less direct on subordinate clause usage of the potential optative. A way to measure the impact of *formal* formulaicity is to establish the proportion of unique lemmas per period for subordinate clause occurrences of the potential optative (i.e. an approximation of *type* frequency, instead of just token frequency). For this, see [Table 9.2](#).

Table 9.2: Formal formulaicity in subordinate clause potential optatives in papyri

Period	Total number of lemmas	Unique lemmas	Proportion
Early postclassical Greek	63	36	57%
Middle postclassical Greek	142	62	44%
Late postclassical Greek	495	110	22%

In the table, a substantial decrease can really only be observed for the late postclassical Greek period. At the same time, the table shows that unique lemmas hold an important position in the usage of the potential optative in subordinate clauses across periods. To illustrate, contrast examples (10) to (12) of conditional clauses with the potential optative which have different lemmas and can host a variety of lemmas across the different periods.¹⁵

- (10) UPZ.1.146, 37–38, II BCE (private letter)

σὺ δὲ \εἰ/(corr. ex η) **μεταλάβοις** ὥς τόπον αὐτοῖς μερίζων, ἴδιος
ὄν οὐκ ἂν λυπηθείης.

‘But you, **if you would take part**, as if dividing the place for them,
you, being the boss, would not be hurt.’

- (11) P.Hamb.1.29, 13–15, 94CE (reminder)

[ᾗ]λλως οὐ δύνανται λέγειν τὴν δίκην, εἰ μὴ **λάβοιεν** τὰ βιβλία
παρὰ τῶ[ν] ἐπιτρόπων

‘Otherwise they cannot plead cause, if **they would take** the books
from the guardians’

- (12) P.Muench.1.4_5v, 33–34, 581 CE (contract of sale)

εἰ δὲ **ἄσθενήσαιμι** περὶ τὴν τοῦτου καθαροποίησιν

‘If **I would get** weak with regard to the cleaning of that’

Nevertheless, there are some minor groups of lemmas which have formulaic *distribution*, thus combining both dimensions of formulaicity. For example, we find the lemma βούλομαι, which, in addition to being used in conditionals specifying the addressee’s wishes (cf. εἰ δὲ βουληθείης in P.michael.26, 7, 300 CE, private letter), almost exclusively occurs in contracts from the late postclassical Greek period to specify certain conditions of the contract, as in the temporal clause in example (13).

- (13) Stud.Pal.20.114, 21, 421CE (contract)

καὶ ἀποδώσω **ὅποτε δ’ ἂν βουληθείη**

‘And I will give **whenever he would want**’

Other lemmas have a similarly formulaic distribution, as they often occur in the same morphosyntactic context, for example εἰ δὲ ἀπολειφθείη ‘if it were left’, εἰ δὲ εὑρεθείη ‘if it were found’, εἰ συμβαίη ‘if it would happen’, or εἰς ὃ τύχοι ‘to which it would happen’.

By contrast, some formulaic uses may actually be formulaic *innovations* that function as novel paraphrases of earlier formulae (cf. the discussion of middle postclassical Greek χαίροις in [Section 9.4](#)), such

as the ‘so you could know’ formula in example (14). This is an illocutionary use of this ἵνα subordinate clause, meaning that it specifies the appropriateness under which the speech act in the matrix clause may be uttered (cf. la Roi 2024).

(14) P. Oxy. 6.891, 294 CE (business letter)

ἵνα τοῦτο εἰδέναι ἔχοις ἐπιστέλλεται σοι, φίλτατε.

‘So that you may know it is sent to you, my dear.’

This formula is based on the ‘(just) so you know’ formula in the subjunctive that we know from earlier periods of postclassical Greek. Yet, example (14) is the earliest use of the optative form of this formula,¹⁶ suggesting that this innovation stems from the third century CE.

To sum up, the potential optative is, contrary to what is stated in earlier studies, remarkably persistent in the papyri, in its main clause as well as its subordinate clause usage. Even when we account for the influence of formulaic usage patterns of the potential optative, which leads to formulaicity of forms and distributions as well as innovations, the potential optative, to rephrase Mandilaras’ words, had a real position in the language of the papyri.

9.2.3 *Tracing potential optatives in postclassical Greek literary texts*

Next let us integrate the persistence of the potential optative in literary texts. To do so, I will answer three questions before integrating the evidence from secondary literature which is often overlooked or misinterpreted:

- In which syntactic contexts is the potential optative persistent?
- Do the uses of the potential optative reveal formulaicity in form or distribution?
- Are the persistent patterns limited to higher-register text types?

As for the first question, the potential optative continues to be used in both subordinate and main clauses, as exemplified in (15) to (17) in their respective order from early, middle, and late postclassical Greek.

(15) Pol. 1.31.7

οἱ δὲ Καρχηδόνιοι θεωροῦντες ὅτι καὶ γενομένοις αὐτοῖς ὑποχει-
ρίοις οὐδὲν ἂν συνεξακολουθήσαι βαρύτερον τῶν τότε προσταγ-
μάτων

‘As it was evident to the Carthaginians that even if they became
subject to the Romans, they **would be in no worse case** than if
they yielded to the present demands’

(16) J. AJ. 12.401

πλείω δὲ γένοιτ’ ἂν, εἰ μὴ προκαταληφθεῖ καὶ δοίη δίκην δυνά-
μεως ἐπ’ αὐτὸν ἰσχυρᾶς ἀποσταλείσης.

‘And the injuries (sc. κακά) **would become** still greater unless
Judas **were** first **caught** and brought to punishment by having a
strong force sent against him.’

(17) Bas. Ep. 25.2.24

Λύσαις δ’ ἂν ἡμῖν τὴν ἀμηχανίαν αὐτός, εἰ ἐθέλησας τὰ κινήσα-
ντά σε πρὸς τὴν καθ’ ἡμῶν λύπην φανερώς ἐξαγγεῖλαι.

‘**You would** yourself **relieve** us of this perplexity, **if you should be**
willing to proclaim openly what things have stirred you to be so
offended with us.’

Furthermore, I was not able to find the same degree of formulaic usages of the potential optative in the literary texts,¹⁷ which demonstrates that the impact of formulaicity on the potential optative is predominantly a phenomenon from the papyri from Egypt.¹⁸ As such, this finding serves as an important methodological caveat that the language as found in the papyri cannot always be put on the same footing as the corpus evidence from the literary texts.

As for the third question, we can find minimal pairs from texts which contrast in style or register but use the same potential optative, as shown by the minimal pair from Epictetus and Lucian in examples (18) and (19),¹⁹ or in examples (20) and (21) from the late postclassical Greek historians Zosimus, who adopts a lower style, and Eusebius, who does not.

- (18) Epict. 1.11.26

Ἐὔξαιο δ' ἄν οὕτως στερχθῆναι ὑπὸ τῶν σαυτοῦ ...;

'And would you pray to be so loved by your own that ...?'

- (19) Luc.
- An.*
- 29.16–17

ἐροίμην ἄν σε ποτέρῳ ἄν ὅμοιος εὔξαιο γενέσθαι

'I would ask you which of the two you would pray to be like'

- (20) Zos. 4.42.1

διανοεῖτο παραλῦσαι τὸν νέον Οὐαλεντινιανὸν τῆς βασιλείας, εἰ μὲν δύναιτο, πάσης, εἰ δὲ τούτου διαμάρτοι, μέρος γοῦν αὐτῆς, ὅσον ἄν οἷός τε **γένοιτο**, οἰκειώσασθαι.'

'He planned to rid the young Valentinian from his kingdom, if he would be able to, in its entirety, but if he would fail to do this, at least a part of it, **as far as he would be able to** make his own.'

- (21) Eus.
- Ecc.*
- 5.3.1

Ἡ δ' αὐτὴ τῶν προειρημένων μαρτύρων γραφὴ καὶ ἄλλην τινὰ μνήμης ἀξίαν ἱστορίαν περιέχει, ἣν καὶ οὐδεὶς ἄν **γένοιτο** φθόνος μηδὲ οὐχὶ τῶν ἐντευζομένων εἰς γνῶσιν προθεῖναι.'

'The same document of the aforementioned martyrs contains also another story worthy of memory, and none **could grudge** our bringing it to the knowledge of those who are about to study.'

Finally, I would like to point out that the picture of a persistent potential optative that I presented here has actually been anticipated in the literature, but this information has not managed to make its way into the received history of the optative. As mentioned before, Reik (1907, 88–89, 190–91) had observed that there are 212 occurrences of the potential optative in Polybius, with 70 occurring in the main clause, and 401 potential optatives in Philo, with 194 occurring in the main clause. For late postclassical Greek, we possess detailed statistics (from Dickinson 1926; Fives 1937) of the productivity of the potential optative in the authors John Chrysostom and Theodoret; they record respectively 2,703 uses of the potential optative in the main clause and

1,808 in conditions for John Chrysostom, and 380 uses of the potential optative in the main clause and 356 in conditions for Theodoret. Once one combines these numbers with the data from the papyri and from the contrastive analysis of literary texts, we have to conclude that the potential optative is persistent across postclassical Greek periods and cannot be explained away, as it were, as a mere ('revived') Atticism or feature of literary style.

9.3 The reorganisation of the wish system in postclassical Greek papyri and literary texts

In order to determine the role of the wish optative in the wish system of postclassical Greek, we need to be aware that the wish system is undergoing several changes that reorganise the roles played by different wish strategies in postclassical Greek. Here I briefly outline the major changes with respect to earlier periods, provide further references, and discuss how they impact the role played by the wish optative.

First of all, as discussed by la Roi (2021), Ancient Greek had developed a rich set of so-called insubordinate wish strategies out of previously conditional subordinate clauses, and in postclassical Greek we find that these wish strategies are innovated in various respects. For example, we find innovative insubordinate structures such as εἴθε γάρ in example (22) or infinitives which are used to perform wishes as greetings, as in example (23) (cf. la Roi 2025c).²⁰

(22) Diod. Sic. 9.25.1

Εἴθε γάρ τις πείσειε νησιώτας σὺν ἵπποις παρατάξασθαι Λυδοῖς.

[Croesus:] '**Would that someone could persuade** the islanders to fight against the Lydians on horseback!'

(23) BGU.14.2419, 1–2, 1 BCE (business letter)

Ἀρτεμίδωρος Ἀλεξάνδρῳ τῷ ἀδελφῷ χαίρειν καὶ ὑγιαίνειν

'Artemidoros **greet**s his brother Alexander and **wishes** that **he** is well'

Secondly, there are modal verbs whose use in counterfactual wishes, though minor before, increases in postclassical Greek, as shown in example (24) (la Roi and Tsolakidis 2024).

- (24) BGU 2 384, 6–9, II–III CE (private letter)

ἤθελον καὶ πέμψαι(1. πέμψαι) σοί τι ἄλλο, καὶ οὐδεὶς λαμβάνει[ι]
ὅ[πω]ς σοι κομισθῇ.

‘**I would have wanted** to send you something, but nobody is taking it so as to bring it to you.’

Third and finally, there are performative wish clauses with εὔχομαι or βούλομαι which become especially frequent in middle postclassical Greek. Occurrences such as example (25) are in the pragmatic literature normally considered an *explicit performative* version of the illocutionary force that the wish optative expresses in example (26). Yet, the occurrence in example (26) is actually very rare and is found only once in my data.²¹

- (25) SB.10.10278, 2, 114–119 CE (contract)

χαίρειν. πρὸ πάντων σε εὔχομαι ἡ̅σε̅ ὕγιαίνειν

‘Greetings! Above all **I wish that you are well**’

- (26) P.oxy.17.2107, 9, 262 CE (receipt)

ἐρρῶσθαι ὑμᾶς εἴη

‘**May it be that you are well**’

Thus, apart from the wish optative featuring new insubordinate constructions, the true impact of these alternative wish strategies on the use of the wish optative seems to have been rather limited. This may explain why the wish optative has its own specialised functions in the papyri but seems mostly unaffected in the literary texts (apart from μὴ γένοιτο).

9.4 The persistence and specialisation of wish optatives in postclassical Greek papyri and literary texts

As mentioned in [Subsection 9.2.1](#), there are conflicting ideas about the wish optative in postclassical Greek. Though some have suggested that the wish optative occurs ‘usually in set phrases (where the mood survived longest)’ (Turner 1963, 120) or is effectively replaced

by imperatives and modal verbs which also introduce counterfactual wishes (for this view, see for example Radermacher 1925, 160), I argue here that the wish optative is persistent in the different postclassical Greek periods, yet shows some effects of formal and functional specialisation (cf. Evans 2003 on the development of *μὴ γένοιτο*). With specialisation, I refer to Hopper’s notion:

(w)ithin a functional domain, at one stage a variety of forms with different semantic nuances may be possible; as grammaticization takes place, this variety of formal choices narrows and the smaller number of forms selected assume more general grammatical meanings. (Hopper 1991, 22).

As in [Section 9.2](#), I first discuss the evidence from the papyri ([Subsection 9.4.1](#)), after which I integrate the evidence from literary texts ([Subsection 9.4.2](#)).

9.4.1 Tracing wish optatives in the postclassical Greek papyri

As shown in [Table 9.3](#), the wish optative is persistent across the different periods. It even displays an increase in usage in late postclassical Greek.

Table 9.3: The wish optative in the postclassical Greek papyri

Period	Frequency of the wish optative
Early postclassical Greek	102 (NRO 0.115)
Middle postclassical Greek	336 (NRO 0.139)
Late postclassical Greek	276 (NRO 0.275)

As with the potential optative, there is more to say than simply these numbers. There is a demonstrable impact of formal formulaicity on the wish optatives: of the total number of 716 recorded lemmas only a surprising 90 are unique, which covers only about 13 per cent of the total occurrences. The major reason for this is that the verb *εἶμι* ‘to be’ is responsible for 508 of the 716 occurrences of the wish optative, comprising 71 per cent of the occurrences. In fact, nearly all of these occurrences also belong to a restricted set of formulae, and these already

play a dominant role in early postclassical Greek. Already from early postclassical Greek onwards we find the following formulae being used for a specific set of functions, as illustrated by the following examples. Note that I added extra context in translation in example (28) within square brackets.

- (25) UPZ.1.36, 21–22, 161 BCE (petition)

σοὶ δὲ **γίνωιτο** ἀνθ' ὧν πρὸς τὸ θεῖον ὁσίως διακ[ε]σαι

‘**May it happen** to you according to what is divine to perform piously’

- (26) P.Fouad.18, 54 CE (contract)

εὐορκοῦσι μὲν ἡμῖν εὖ **εῖη**, ἐφιορκοῦσι δὲ τὰ ἐναντία

‘They who swear honestly towards us, **let it be** well for us; but they who swear falsely, let the opposite befall them’

- (27) P.Wisc.2.80, 114 CE (account)

μηδὲν διεψεύσθαι ἢ **ἔνοχος εἶην τῷ ὅρκῳ**

‘to deceive in no way or **may I be found guilty of breaking the oath**’

- (28) P.Wisc. 1 7, III CE (lease)

ἐὰν δέ τις, **ὃ μὴ εἶη**, τῷ ἐξῆς ἔτ[ε]ι ἄβροχος γένηται ...

‘If, **which I wish not to be the case**, in the following period of time the land is not reached by the flooding of the Nile [the leaseholder must needs irrigate at his own cost and expense two thirds of the land which he would have had to cultivate in case of inundation by the flooding of the Nile]’

Whereas example (25) is a formulaic way to wish someone well, the wishes in examples (26), (27), and (28) use a wish to align commitments with contracted parties; this happens with reference to oaths in examples (26) and (27), whereas in example (29) the speaker uses the wish to show sincerity in committing to the contract by explicitly evaluating a negative outcome as a negative one.

The distributional formulaicity becomes even more apparent in later periods of postclassical Greek.²² In middle postclassical Greek, 300 of the 336 instances fall into three distinct formulaic groups: contractual formulae such as examples (26) to (28), wish greetings with *χαίροις* (discussed later in this subsection), and formulae of health (of the speaker or hearer). Moreover, a large majority of these, viz. 244 of 336 (73 per cent), are contractual formulae. These have a clear specialised function, as they appear only in document types in which certain contractual agreements are made such as contracts (sale/lease), declarations, accounts, and administrative registers/reports. In diachronic terms of specialisation, the number of choices in the use of the wish optative decreases in middle postclassical Greek.

However, we should not take these observations to mean that the wish optative has become completely formulaic from that point onwards or already was before, especially considering the data from late postclassical Greek. In this period, 141 of the 276 wish optatives (51 per cent) belong to this contractual group, but we continue to find ‘free’ uses of the wish optative for other communicative goals, as shown in examples (29) and (30).

- (29) SB.14.11666, 16, 300–325 CE (letter)

εὐδαιμονοῖς.

‘May you be prosperous.’

- (30) PSI.1.49, 2, VI CE (private letter)

ὁπίου, θεὸς μοι μαρτυροῖ, πάνυ ἐζητησεν (l. ἐζήτησα)

‘Which, may god be my witness, I inquired about a lot’

We similarly find such free uses of the wish optative in earlier periods, as illustrated by examples (31) and (32):

- (31) P.Zen.Pestm.50, 6, 257 BCE (business letter)

αὐτὴ δέ σοι δοίη ἐπαφροδισίαν πρ[ὸς τὸν βασι]λέα

‘May she give elegance towards the king’

- (32) SB.14.11694, II–VI CE (mummy label)

ἀείμνηστος εἴης Τανγοραυς Ἀπολλωνίου

‘May you be always remembered Tangoraus of Apollonius’

In fact, the wish optative is also used in innovative patterns with respect to earlier periods, in particular the use of the wish optative to make greetings, *χαίροις*. This novel pattern in the papyri (but not in literary texts; see [Subsection 9.4.2](#)) first occurs in papyri from middle postclassical Greek. Since this use appears in a greeting structure, which is part of the social conduct that people are expected to display, I would like to suggest that the origin of this structure lies in the need to find a polite form for what is essentially politic behaviour. This interpretation can be supported in two ways. On the one hand, we find many examples in the papyri where the greeting is used in an exchange with some kind of social superior. Compare example (33), where an unknown writer uses it to greet the strategos Apollonius and combines it with several other politeness strategies (which I have put in bold in the example).

(33) P.Brem.19, 1–12, 113–120 CE (private letter)

χαίροις, κύριέ μου Ἀπολλώνιε. περὶ οὗ σε παρεκάλεσα κατ' ὄψιν, τιμιώτατε (l. *τιμιώτατε*), καὶ ἐκ τύχης Ἀρπ[ο-]κρατίωνος ἐλθόντος πρὸς Δεῖον, συνέβαλλον/(<corr. ex) \αὐ/[τῷ] καὶ ὑπερεθέμεθα εἰς τ[ὴν] σὴν διάγνωσιν, ἵνα (=ἵνα papyrus), ὃ ἐπιδικαιώσης, τοῦτο γένηται. τὸ μὲν φανέν σοι, κύριε, δηλώσεις [μο]ι. (hand 2) **ἐρρῶσθαί σε εὖχομαι, Ἀπολλώνιε τιμιώτατε.**

‘Rejoice, my lord Apollonius. Regarding what I requested of you in person, **most honoured one**, and with the arrival of Harpokration by chance before Deion, I have discussed with him and we have agreed to present it to your judgement, so that, if you deem it worthy, it may come to pass. The visible matter, **my lord**, you will reveal to me. (hand 2) **I pray for your good health, Apollonius, most honoured one.**’

On the other hand, there seems to be some quantitative support for the politeness interpretation of this politic structure, as most occur in connections with address forms that signal a superior, for instance *κύριέ μου* as in example (33) (cf. P.oxy.6.933) or superlatives such as *τιμιώτατε* (cf. P.Princ.2.71). In sum, the wish optative, though used in formulaic patterns, is also used in free composition as well as to create innovative patterns in the different periods of postclassical Greek (cf. la Roi 2025b).

9.4.2 Tracing wish optatives in postclassical Greek literary texts

As with the potential optative in the evidence from postclassical Greek literary texts, the types of formulaic usages that we find in the papyri generally cannot be found in the evidence from literary texts. Instead, three main observations can be made: the wish optative enjoys formal and functional freedom across the different periods; the wish optative is used in innovative patterns which develop on their own (e.g. in subordinate wishes or the shorthand *μὴ γένοιτο*); and the creation of the polite politic greeting *χαίροις* was already anticipated in early postclassical Greek literary texts.

To illustrate the formal and distributional freedom of wish optatives from the different periods, I cite a variety of examples here. In example (34) we have a curse, whereas in example (35) we find one of the few uses of a wish to perform an oath in this period, which is recorded by Polybius.

(34) Men. *Dysc.* 220–21

ἀλλά σ', ὦ Κνήμων, κακὸν
κακῶς ἅπαντες ἀπολέσειαν οἱ θεοί.

‘Knemon, **I hope** that all **the gods will damn** and blast you for your sins!’

(35) Pol. 3.25.9

εὐορκούντι μὲν μοι εἴη τὰγαθὰ· εἰ δ' ἄλλως διανοηθεῖν τι ἢ πρά-
ξαιμι, πάντων τῶν ἄλλων σφζομένων ἐν ταῖς ἰδίαις πατρίσιν, ἐν
τοῖς ἰδίοις νόμοις, ἐπὶ τῶν ἰδίων βίων, ἱερῶν, τάφων, ἐγὼ μόνος
ἐκπέσοιμι οὕτως ὥς ὅδε λίθος νῦν.

“‘If I abide by this my oath may all good be mine, **but if I do otherwise in thought or act**, let all other men dwell safe in their own countries under their own laws and in possession of their own substance, temples, and tombs, and **may I alone be cast forth**, even as this stone”, and so saying he throws the stone from his hand.’

In examples (36) and (37), from Epictetus, one can notice that *γένοιτο*, though it develops its own use as a communicative shorthand for ‘of course not’ in the form of *μὴ γένοιτο*, the form itself can be

used freely to form other wishes in different contexts.²³ As illustrated by example (38), the same applies for late postclassical Greek.

(36) Epict. 2.2.14

μή σοι **γένοιτο** πληγὰς πολλὰς λαβεῖν καὶ ὕστερον ἀπαγορευθῆναι

‘**May it be far** from you to receive many blows and yet at the last give in’

(37) Epict. 1.25.31

‘ὕβριν σοι πεποίηκα.’ **καλῶς σοι γένοιτο.**

“‘I have outraged you.” **Much good may it do you.**’

(38) Bas. *Ep.* 17.1.10–12

Ἄνθ’ ὧν καὶ **παράσχοι** ὑμῖν ὁ Κύριος πᾶσαν εὐθηνίαν οἴκου καὶ εἰς παῖδας παίδων τὴν εὐλογίαν διαβιβᾶσαι.

‘Wherefore **may** the Lord also **grant** you all well-being at home, and may His blessings pass on to your children’s children.’

In addition, though space prevents me from discussing these here (see la Roi 2025c), the wish optative comes to be used in various inordinate wish patterns, innovative ones (cf. example 20) and ones that persist into postclassical Greek (e.g. Men. *Dysc.* εἴθε μοι γένοιτο ‘May this happen for me’ or Luc. *Prom.* 20.13 Εἰ γὰρ γένοιτο ὧ Προμηθεῦ, ταῦτα ‘May these things happen, Prometheus’).

Furthermore, as very briefly described by Evans (2003, 74–78), the use of *μή γένοιτο* is common in middle and late postclassical Greek. What Evans gives less attention, though, is the fact that *μή γένοιτο* starts to occur in specific linguistic contexts, in my view to discard a proposition from the immediate linguistic common ground. In classical Greek examples such as (39), we find *μή γένοιτο* to discount a part of the clause (i.e. having partial clausal scope). As such, it resembles the contractual uses of *μή γένοιτο* (e.g. BGU.7.1651, 5, II CE, contract) or *ὃ μή εἴη* (cf. example 28) that we find in the papyri.

(39) Ar. *Lys.* 146–48

εἰ δ' ὥς μάλιστ' ἀπεχοίμεθ' οὐδ' σὺ δὴ λέγεις,—**δ**
μὴ γένοιτο,—μᾶλλον ἂν διὰ τουτογὶ
 γένοιτ' ἂν εἰρήνη;

‘Well, if we did abstain from, uh, what you say—**which heaven forbid**—would peace be likelier to come on that account?’

In postclassical Greek, however, it comes to be used by speakers as a signal to discard a full proposition from the immediate linguistic common ground, as shown by Epictetus’ use after a rhetorical question to mean ‘of course not’.

(40) Epict. *Diss.* 1.36

τί οὖν; ἐπειδὴ ἀφύης εἰμι, ἀποστῶ τῆς ἐπιμελείας τούτου ἔνεκα;
μὴ γένοιτο.

‘What then? Because I have no natural gifts, shall I on that account give up my discipline? **Of course not!**’

Those same uses are also found in later authors, beside the compositional uses of γένοιτο mentioned above, as in example (41).

(41) Greg. Naz. *Ep. Theol.* 101.20.4

Καὶ εἰ δεῖ συντόμως εἰπεῖν, ἄλλο μὲν καὶ ἄλλο τὰ ἐξ ὧν ὁ Σωτὴρ
 (εἴπερ μὴ ταῦτόν τὸ ἀόρατον τῷ ὁρατῷ καὶ τὸ ἄχρονον τῷ ὑπὸ
 χρόνον), οὐκ ἄλλος δὲ καὶ ἄλλος· **μὴ γένοιτο**.

‘And if it needs to be said briefly, one thing is different and another is the invisible from the visible (if the invisible is not the same as the visible and the timeless is not the same as that subject to time), but one is not different from another. **Of course not.**’

Finally, the evidence for the wish optatives in literary texts confirms that there was already a connection of the politic greeting χαίροις with politeness. Already in early postclassical Greek, we find polite uses of the greeting in Herodas and Theocritus, for example to greet a host of gods in example (42) or to greet the lucky bride and groom in (43). Note in particular the sequence of wish greetings in (42) used to address different gods.

(42) Her. 4.1–11

χαίροις, ἄναξ Παίηον, ὃς μέδεις Τρίκκης
καὶ Κῶν γλυκεῖαν κηπίδαυρον ὠικηκας,
σὺν καὶ Κορωνίς ἥ σ' ἔτικτε κῶπόλλων
χαίρουν, ἥς τε χειρὶ δεξιῇ ψαύεις
Ὑγία, κῶνπερ οἶδε τίμιοι βωμοί
Πανάκη τε κῆπιώ τε κῆσῶ **χαίροι**,
κοὶ Λεωμέδοντος οἰκίην τε καὶ τείχεα
πέρσαντες, ἱητῆρες ἀγρίων νούσων,
Ποδαλείριός τε καὶ Μαχάων χαιρόντων,
κῶσοι θεοὶ σὴν ἐστίην κατοικεῦσιν
καὶ θεαί, πάτερ Παίηον·

‘**Greetings**, Lord Paeon, who rulest Tricca and hast settled sweet Cos and Epidaurus, and also **may** Coronis who gave thee birth and Apollo **be greeted**, and she whom thou touchest with thy right hand Hygieia, and those to whom belong these honoured altars, Panace and Epio and Ieso **be greeted**, and the sackers of Laomedon’s house and walls, curers of cruel diseases, Podalirios and Machaon **be greeted**, and whatsoever gods and goddesses live at thy hearth, father Paeon.’

(43) Theoc. 18.49–53

Χαίροις, ὦ νόμφα· χαίροις, εὐπένθερε γαμβρέ.
Λατὼ μὲν δοίη, Λατὼ κουροτρόφος, ὕμιν
εὐτεκνίαν, Κύπρις δέ, θεὰ Κύπρις, ἴσον ἔρασθαι
ἀλλάλων, Ζεὺς δέ, Κρονίδας Ζεὺς, ἄφθιτον ὄλβον,
ὥς ἐξ εὐπατριδᾶν εἰς εὐπατρίδας πάλιν ἔνθη.

‘**Greetings, bride; Greetings, groom, fortunate in your wife’s father.** May Leto—that good mother Leto—grant to you both fine children, Cypris—the goddess Cypris—mutual love, and Zeus—Zeus the son of Cronus—endless prosperity, and that it may pass again from noble fathers to noble sons.’

9.5 Concluding remarks on the history of the optative and postclassical Greek

In this chapter, I have proposed an alternative history of the optative in postclassical Greek (III BCE–VI CE), from a story of teleological loss, decline, and Atticism to one of persistence, formulae, and innovation. A key instrument in rewriting the received history was the contrastive evidence from the papyri and the literary texts from postclassical Greek, evidence that could now be compared with the relatively new digital tools of Trismegistos Words and the Thesaurus Linguae Graecae. First, I offered a critical examination of the discourse on the history of the optative, a *metahistory*, to highlight five different problems in the description of the history of the optative which attest to wider issues in the description of the history of postclassical Greek: (i) conflicting trends for the papyrological evidence, (ii) normative ideas about the use of the optative, (iii) ad hoc suggestions about diachronic replacements, (iv) allusions to systemic changes, and (v) unquantified relative statements of diachrony. Second, I showed that the potential optative is persistent in its main and subordinate clause usages across the periods in the papyri as well as literary texts, pointing out that specific formulaic usages only play roles in certain periods (e.g. *καλῶς ἂν ποιήσῃς* in the third century BCE) and are in fact limited to the papyri. Third, I showed that formulaic usages actually made up a larger part of the wish optatives in the papyri, where we found specialised usages in a formal sense (e.g. *εἴη*) as well as a functional sense (e.g. in contractual formulae). Yet, these changes did not stop the wish optative being used in free composition or, in fact, innovate in the papyri. Moreover, the freedom, as it were, of the wish optative to be used in wishes across the postclassical Greek periods was substantiated by the evidence from literary texts. To conclude, I would like to cite the words by Evans (2003, 70) which reinforce the suggestions that I made in this article to rewrite received histories: ‘Greek grammatical scholarship abounds in orthodox observations that reflect received wisdom and are increasingly overdue for reassessment. The sphere of verbal usage is rich in examples.’

Notes

- 1 I use the periodisation into early (III–I BCE), middle (I–III CE), and late (IV–VI CE) postclassical Greek, as proposed by Lee (2007, 113) and applied in different later works (e.g. Bentein 2016; Evans and Obbink 2010, 10–12; la Roi 2022c).
- 2 The still common idea that the use of the optative is a trait of Atticistic authors is also already alluded to by Meillet, who explains higher and lower frequencies of the optative in Atticising ('atticisant') versus non- or less Atticising authors (Meillet 2009, 276). As shown by the discussion of the corpus evidence in Sections 9.2 and 9.3, the actual evidence for the Atticism of the optative is very limited.
- 3 A similar problem occurs when one uses the presence or absence of the optative to characterise different genres over a longer period, as for example done by Bentein (2016, 25–27).
- 4 Note that for this idea, most authors rely on the observations and counts given by Meillet (compare Meillet 2009, 278 with Bianconi and Magni 2022, 25; Horrocks 2010, 138; Mandilaras 1973, 287; Turner 1963, 118–19).
- 5 See la Roi (2020b, 229–33) for a discussion of wider issues of representativity in describing postclassical Greek.
- 6 The translations of literary texts are based on the most recent translations found in Loeb Classics online.
- 7 Cf. the same uses in classical Greek such as E. *Andr.* 85 πολλὰς ἂν εὔροις μηχανάς: γυνὴ γὰρ εἶ or D. 101.58 εἰ τοίνυν ὥς οἶόν τε μέγιστ' ἡδικῆσθαι δοίη τις αὐτῷ καὶ ἐρεῖν ἅπαντ' ἀληθῆ περὶ τούτων νυνί, ἐκεῖνό γ' οἶμαι πάντας ἂν ὑμᾶς ὁμολογήσαι.
- 8 A good illustration of the downsides of this approach is McKay (1993). In his very brief paper, he makes some relevant observations on the continuity of the optative from classical Greek into the papyri, but also repeats the traditional discourse that the optative was used for Atticistic effect and could be effectively replaced by other modal forms.
- 9 Cf. Horrocks (2010, 102 my emphasis): 'The optative **disappeared quite quickly** in non-literary registers of the Koine, **except in its "core" meaning of expressing a wish**, because its classical use in various kinds of subordinate clause in past time contexts was often semantically opaque, as in reported speech, or already subject to replacement by subjunctives, as in final clauses; various modal auxiliaries were also available to take on the sense of possibility which, in conjunction with the particle ἄν [an], it conveyed in main clauses.'
- 10 Of course, we should not forget that it was not very easy to quantify such patterns in the past.
- 11 The total numbers of words for the different periods used are, respectively: 886,198; 2,396,693; and 1,005,421 words.
- 12 The translations are based on those available at <https://papyri.info/>, last accessed 4 July 2023. If not, they are my own, except for example (4).
- 13 This formula is discussed at length in la Roi (2025b), who shows that 88 per cent of its use can be linked to Zenon, suggesting that this might have been a stylistic feature that spread from there. Another formula of this kind which space prevents me from discussing here is the following type: χαρίζοιο δ' ἄν]

- μοι στρῶμα ἀποστείλας ‘you would please me if you send me straw’ (P.Cair. Zen.3.59305, 250 BCE, private letter). This formula occurs 23 times in early postclassical Greek.
- 14 Another good example is P.Lond.5.1658, 6–7, IV CE, private letter: γὰρ τίς τῶν ἀνθρώπων οὐκ ἂν θελήσειεν (l. θελήσειεν) προσομιλεῖν [σ]οι ‘for who from the people would not want to talk with you?’.
 - 15 The suggestions by Mandilaras (1973, 283) that such conditionals are stereotyped expressions or replacements of a subjunctive can thereby be directly refuted.
 - 16 Though we do find slightly earlier uses with the verb in the third person, for example, Stud.Pal.5.97, 9a, 266–68 CE, official letter.
 - 17 The only common pattern that also exists in the literary texts is καλῶς ἂν ἔχοι ‘it would be good’, but this example does not have the same frequency as in the papyri (with around 90 occurrences in the whole postclassical Greek period), nor does it have the same degree of morphosyntactic formulaicity, because it is not restricted to the same sentence type of ‘it would be good’ with a condition. Even a usage which occurs more often, such as the ‘one may say’ formula εἴποι τις ἄν, occurs across periods without indications of further fossilisation (cf. Pol. 39.3.2, D. Chr. 31.20.9, Lib. Or. 58.39.1).
 - 18 I leave it for further research to determine whether these formulaic uses occur in inscriptions or not.
 - 19 Another parallel, in the use δοίη ‘may he grant’ in a conditional clause, is Epict. 1.17.10 and Luc. Rev. 12.17. or Tox. 42.2.
 - 20 Cf. the origins of English ‘Goodbye’ as ‘God be with you’.
 - 21 Instead, the use of this wish optative in a health wish occurs predominantly in testaments to stipulate a part of the procedure, of the type ‘May it be that I in good health X’ (e.g. εἴη μὲν μοι ὑγιαίνοντι SB.14.11642, 8, 176 CE, testament). See la Roi (2025a) for a detailed history of the forms and functions of this performative wish verb in the postclassical Greek papyri.
 - 22 A more detailed analysis of the different intersubjective functions of these optative wishes in postclassical Greek is offered in la Roi (2025a).
 - 23 Another contemporary example is Luc. Gall. 15.11 οὕτω σοὶ γένοιτο ‘may it be so’.

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CHAPTER 10

Routes to insubordination in classical and postclassical Greek

ὅτι (and ἵνα) in the sentence and discourse grammar

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Abstract

The chapter examines complement insubordination with ὅτι in the postclassical papyri, with a focus on two patterns: assertives with a left periphery for topical information ('as for the snow, I am not a fan'), attested throughout the period of time covered by the documentary papyri, along with future-open conditional sequences ('if the weather is good, I will go for a walk'), attested more scarcely. The assertives undergo a functional change in the Roman period and apparently succumbed to competition soon after. ὅτι 'that' in these appears contiguously with the finite verb after the topical material in the left periphery of the sentence and thus seems to be a particle in the sentential core. There seems to be a correlation between discursively subordinating and the elaborative function of factive insubordinates, and discursively

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coordinating and the evaluative function of factive insubordinates (e.g. the assertives). In future-open conditional sequences, ὅτι ‘that’ appears separated from its finite verb in the early Byzantine passages, mirroring the pattern that adverbial insubordinates show in modern languages. Complement insubordination appears to differ from adverbial insubordination formally and functionally (cf. sentence adverb vs sentential particle), and usage-based patterns override etymologically explicable ones.

10.1 Insubordination

Insubordination is the term applied to structures, such as in examples (1) and (2),¹ in which what is traditionally called a subordinate clause headed by a subordinating conjunction has its own illocutionary force and intonation contour:²

- (1) *Pierre est parti **parce que** je ne vois plus sa voiture dans le parking.*
(Debaisieux 2004, 51 n. 2)

‘Pierre left; (sc. I think so) because I cannot see his car in the parking lot anymore.’

- (2) ***Qu’il en soit ainsi!***

‘So be it!’

The *parce que* clause in (1) does not provide a reason for why Pierre has left but for why the interlocutor asserts that Pierre has left. The *parce que* clause provides a reason for the speech act rather than the propositional content expressed by the speech act. Unlike the *parce que* clause in (1), the *que* clause in (2) is not only functionally independent but also formally. The subjunctive (*soit*) is limited to dependent clauses in French, such that standard grammar has to reinterpret *que* in structures like (2) as a particle (Grevisse 2011, §§ 407b and 1098.b.1 on *que* + subjunctive).³ Kaltenböck (2019, 174–75) makes a distinction between stand-alone insubordination, such as (2), and elaborative insubordination, such as (1). In the remainder of this chapter, we focus on stand-alone insubordination.

Subordinate clauses can be divided into adverbial, attributive, and predicative/completive types (Thompson, Longacre, and Hwang 2007, 172). This division also applies to insubordinate structures.

(1) is adverbial; continuing relatives (e.g. Xenophon, *Anabasis* 2.3.6) would be attributive; (2) is predicative/completive. Adverbial insubordination has been widely researched, for example ὥστε ‘therefore’ (Ruiz Yamuza 2020), εἰ(θε)/εἰ γάρ ‘if only’ (la Roi 2021), ἐπεὶ ‘in fact’, and ὡς ‘in fact’ in sentences providing ‘a motivation for the preceding utterance’ (van Emde Boas et al. 2019, para. 48.5). Attributive insubordinates are listed even in classical grammar books (van Emde Boas et al. 2019, para. 50.16). Conversely, complement insubordination is relegated to sidenotes, for instance ὅπως ‘that’ + future indicative or subjunctive in emphatic exhortations (van Emde Boas et al. 2019, para. 38.34). ὅπως is then often prefixed with the interjection-like particles ἄγε or εἶα ‘let’s’ (e.g. Xenophon, *Symposion* 4.20 ἄγε νῦν ὅπως μεμνήσῃ ‘do remember now!’) or in Attic with the ‘formula’ δεῖ σε (e.g. Sophocles, *Ajax* 557–58 δεῖ σ’ ὅπως πατρὸς δείξεις ἐν ἐχθροῖς, οἷος ἐξ οἴου ἑράφης ‘amongst your father’s enemies, you must show what lineage you are of’)⁴ (Kühner and Gerth 1894, 376 n. 6).⁵ Rarely, ἵνα + subjunctive appears instead, as in Sophocles, *Oedipus Colonus*, 155–57 περῶς γάρ, περῶς· ἀλλ’ ἵνα τῷδ’ ἐν ἀφθέγκτῳ μὴ προπέσης νάπει ποιδέντι ‘you went too far, too far; however, do not step on this voiceless grassy glade’ (Kalén 1941). The present chapter focuses on complement insubordination in the postclassical documentary papyri.

Dependent complement clauses fall into factive (anaphoric) and prospective (kataphoric) types (Fendel 2022b with further references). This distinction applies to completive insubordinate structures too.

- (3) *Dass ich den Abriss der Berliner Mauer noch erleben durfte!* (Panther and Thornburg 2011, 95)

‘That I could see the Berlin wall fall!’

- (4) *Dass Sie bitte ja das Fenster schließen, bevor Sie gehen!* (Panther and Thornburg 2011, 99)

‘Make sure to close the window before you leave!’

Example (4) is directive (prospective), whereas (3) is expressive (factive) (Verstraete, D’Hertefelt, and Van linden 2012).⁶ Example (3) evaluates the event referred to as positive with the modal verb *durfte* ‘could’; substituting *musste* ‘must’ would evaluate the event as negative (Panther and Thornburg 2011, 98). Conversely, modal verbs are not permissible in (4) (Panther and Thornburg 2011, 99–100). The present

chapter focuses on the expressive type, which seems to be connected to factive subordinate clauses. In the postclassical documentary papyri, the latter are primarily built with the subordinating conjunction ὅτι ‘that’.

Insubordinate structures, such as in examples (1) and (2), can appear in a fixed form in formulaic contexts including higher registers, as in (2), or in a non-fixed form across registers, as in (1), possibly with a slight preponderance in the lower registers.⁷ ὅτι appears in structures that somewhat fall between a dependent-clause and an independent-clause usage already in classical literature, so-called ὅτι *recitativum* (see [Section 10.2](#)). However, while ὅτι *recitativum* would qualify as an elaborative insubordination in Kaltenböck’s terms, the documentary papyri show ὅτι in several contexts in instances of Kaltenböck’s stand-alone insubordination. These instances are not limited to the lower registers, but the usage extends even into a royal letter dating from the early Byzantine period (SB 14 11957, Primis (modern Qasr Ibrim), 451–500 CE).

This chapter examines two patterns, assertives with a left periphery for topical information (‘as for the snow, I am not a fan’), attested throughout the period of time covered by the documentary papyri, along with future-open conditional sequences (‘if the weather is nice, I will go for a walk’), attested more scarcely. The assertives undergo a functional change in the Roman period and apparently succumbed to competition soon after. ὅτι in these appears contiguously with the finite verb after the topical material in the left periphery of the sentence and thus seems to be a particle in the sentential core. By contrast, in future-open conditional sequences, ὅτι appears separated from its finite verb in the early Byzantine passages, mirroring the pattern that adverbial insubordinates show in modern languages when applying the principle of iconicity.⁸ Parallel ὥστε makes analogy likely. In the two Ptolemaic passages, ὅτι seems to be chosen as an apodotic element over etymologically preferable ἐπεὶ.

The chapter proposes to view insubordination of complementary ὅτι in the framework of the *approche pronominale*, dividing grammar into the sentence and discourse tiers. Elaborative and stand-alone insubordinate patterns with ὅτι have developed through the usage-driven pattern of pragmatization. Pragmatization refers to the process by which an item/phrase moves ‘from a fully propositional (or referential) meaning to meanings that are more textual/discourse-oriented

... and/or interpersonal' (Claridge and Arnovick 2010, 179; Heine and Kaltenböck 2021 on co-optation as a 'quantum leap'). This divorces the item/phrase from the sentence grammar, which is visible in the extension of scope (Claridge and Arnovick 2010, 180), the decategorialisation, 'in the sense that the item loses morphological and syntactic properties that previously identified it as a member of a (more) major grammatical category' (Claridge and Arnovick 2010, 181), and the appearance in extra-sentential positions (Claridge and Arnovick 2010, 182; Koev 2022, 14:18). However, the pragmaticalised and the non-pragmaticalised patterns of an item/phrase often coexist. Debaisieux (2016) observes this for French *parce que* and labels the syntactic pattern 'construction' and the discursive usage 'configuration'.⁹ The same is true of Greek ὅτι.

The chapter falls into eight sections. [Section 10.2](#) reviews the functional profile of ὅτι as a complementiser and [Section 10.3](#) the phenomenon of complement insubordination. [Section 10.4](#) discusses the impersonal structure turned discourse marker δῆλον ὅτι/δηλονότι 'clearly'. [Section 10.5](#) describes the data sample¹⁰, [Section 10.6](#) focuses on assertives with a left periphery for topical material, and [Section 10.7](#) on the future-open conditional sequence. [Section 10.8](#) summarises the results and offers conclusions.

10.2 The conjunction ὅτι

ὅτι can be an adverbial conjunction, contrasting with ἐπεὶ 'since, as'; a generalising relative pronoun, contrasting with ὅς 'who' (neuter ὃ 'which'); or a complementiser, contrasting with ὥς 'that'. All three cases allow for the ὅτι-clause to be dependent or independent, although the independent usages in the adverbial and complementiser domains are a postclassical development. By contrast, ὅτι's counterparts ἐπεὶ and ὥς appear in independent clauses already in classical times (Hackstein 2017; van Emde Boas et al. 2019, para. 57.2). This section introduces the factive complementation system and ὅτι's place in it in the classical as opposed to the postclassical periods before turning to three specific issues that clarify the functional properties of ὅτι.

Classical Greek encodes factive objects depending on the governing verb. Prototypically, verbs of thinking are complemented by an accusative and infinitive (e.g. νομίζω αὐτὸν ἔρχεσθαι 'I believe that he is coming'), verbs of cognition by an accusative and a participle (e.g.

ὁρῶ αὐτὸν ἐρχόμενον ‘I see him coming’), and verbs of speaking by a subordinate clause (e.g. λέγει ὅτι (αὐτὸς) ἔρχεται ‘he says that he is coming’). In the subordinate clause, pronouns, adverbs, and verb endings must be adjusted according to the rules of indirect discourse. An oblique optative could appear after a governing verb in a past tense, as in example (5).

(5) Lysias 1.19

ἐπειδὴ δὲ ἐγὼ ἐμνήσθην Ἐρατοσθένους πρὸς αὐτήν, καὶ εἶπον ὅτι οὗτος ὁ φοιτῶν εἴη πρὸς τὴν γυναῖκα, ἐξεπλάγη ...

‘When I mentioned Eratosthenes to her and said that he was going back and forth to my wife, she was startled ...’

However, the tense of the original message could be retained to increase immediacy/vividness. Furthermore, ὅτι-clauses could be used, for instance, with verbs of perception when the factivity of the statement following ὅτι was to be emphasised, as in example (6).

(6) Lysias 1.22

εἰδὼς δ’ ἐγὼ ὅτι τηνικαῦτα ἀφιγμένος οὐδὲν {ἄν} καταλήψοιτο οἴκοι τῶν ἐπιτηδείων, ἐκέλευον συνδειπνεῖν·

‘Knowing that coming home at this time he would find none of his relatives at home, I asked him to dine with me.’

By contrast, if ‘the truth of the reported statement is open to doubt’ (van Emde Boas et al. 2019, para. 41.6), ὥς appeared, as in (7).

(7) Lysias 1.37

κατηγοροῦσι γάρ μου ὥς ἐγὼ τὴν θεράπαιναν ἐν ἐκείνῃ τῇ ἡμέρᾳ μετελθεῖν ἐκέλευσα τὸν νεανίσκον.

‘For they accuse me of telling the maidservant on that day to go after the young man.’

As with ὅτι, an oblique optative could appear (as in Lysias 1.20 with κατηγορέω ‘to accuse’) with ὥς.

In the postclassical period, the infinitival and participial patterns increasingly yielded to ὅτι-clauses, independently of the governing verb (Bentein 2015; James 2008). Oblique optatives, as in example

(8), became increasingly rare (on the optative, see Fendel 2022a, chap. 4 §26 with further references, Lillo 2021).

(8) P.Cair.Zen.5.59823 ll. 1–3 (letter, Philadelphia, 253 BCE)

ἔγραψάς μοι περὶ τοῦ κηροῦ ὅτι καθίσταται τὸ τά(λαντον) α σὺν τῷ
τέλει τῷ κατὰ Μέμφιν (δραχμάς) μδ, σὺ δὲ ὅτι πυνθάνοιο¹¹ εἶναι
παρ' ἡμῖν (δραχμάς) μ.

‘You wrote to me about the bees-wax that it costs one talent with
dues/taxes of Memphis (of) 44 *drachmae*, but you (wrote) that you
learned that we have 40 *drachmae*.’

The distinction between ὅτι and ὥς was redefined by means of register (Clarysse 2010), with ὥς becoming the higher-register option. However, remnants of the older distinction seem to have survived, for instance in the preference for ὅτι over ὥς with μαρτυρέω ‘to witness’ and ἐγγυάω ‘to pledge’ even in contracts (i.e. a higher-register text type), such as in example (9).

(9) P.Mich.13.667, ll. 43–45 (contract, Aphroditēs Kome, 526–575 CE)

μαρτυρῶ τὲ ὅτι ἄκουσα¹² παρὰ τοῦ προγεγραμμέν(ου) προεστων¹³
ἐπιτρεποντα¹⁴ {Ἰωάννης} τὸν εὐλαβ(έστατον) Ἰωάννην πρεσβ(ύτε-
ρον) ποιησαιο ταύτην τὴν ὁμολογίαν.

‘I assert as a witness that after hearing from the aforementioned
superior Ioannes he ordered the most prudent Ioannes the priest to
make this agreement.’

By and large, clausal objects had become the default and ὅτι was outperforming ὥς. The older immediate/vivid options were disappearing.

Huitink (2010) compares ὅτι and ὥς clauses with completive participles in classical Attic and Ionic prose. Given the ‘greater syntactic independency of finite complements’, the complement rather than the matrix verb can be stressed (cf. Givón 1980, 371), such that finite clauses ‘are more likely to express asserted information than complementary participles’ are (Huitink 2010, 29). ὅτι and ὥς differ, in that ‘ὅτι introduces foreground information with high communicative value, ὥς background information with low communicative value’ (Cristofaro 1998, 74). Furthermore, prolepsis of a topic constituent

can happen, such that ὅτι and its governing verb fit into the sentence almost parenthetically (Huitink 2010, 30), as in example (10).

(10) Xenophon, *Anabasis* 5.7.33

τίς ἂν ἡμᾶς τοιούτους ὄντας ἐπαινέσειεν; ἡμεῖς μὲν γὰρ οἶδ' ὅτι
πονηροὺς ἂν φαίμεν εἶναι τοὺς τὰ τοιαῦτα ποιοῦντας.

‘Who would praise us if we were like that? For we ourselves, I’m sure, would say that people who perform such deeds are scoundrels.’

A proleptic constituent ‘usually functions as the object of the main verb, while it is also the subject of the finite complement clause’ and ‘has the pragmatic status of a theme (or topic), while the complement clause acts as the rheme (or focus) of the sentence’ (Huitink 2010, 30 with further references). This is the case in example (10), where ἡμεῖς ‘we’ acts as the subject of φαίμεν ‘would say’ and οἶδ’ ὅτι ‘I know that’ seems to be parenthetical conveying the narrator’s point of view, ‘a parenthetical ‘tag’ which almost fulfils the role of a modal particle and can hardly carry focus’ (Huitink 2010, 30).¹⁵ Thus, ὅτι clauses assert foregrounded pieces of information while possibly moving the governing verb out of the sentence grammar and into the discourse grammar (D’Hertefelt 2018, 318:43).¹⁶

Factive completive ὅτι appears in three main patterns, (i) the subordinate one (e.g. ὁ στρατιώτης εἶπε ὅτι ἔλθοι/ἦλθεν εἰς Ἀθήνας ‘the soldier said that he came to Athens’), (ii) the explicative one (e.g. ὁ στρατιώτης εἶπε τοῦτο ὅτι ἦλθεν εἰς Ἀθήνας ‘the soldier that this, i.e. that he came to Athens’), and (iii) the so-called recitative one (e.g. ὁ στρατιώτης εἶπε ὅτι ἦλθον εἰς Ἀθήνας ‘the soldier said: I came to Athens’). These align with Verstraete’s model of clause linkage shown in [Table 10.1](#).

The pattern that seems to combine a subordinating conjunction with a clause containing main-clause features is the recitative pattern, which we may label insubordinate. Recitative ὅτι appears from Herodotus (*Histories* 2.115.4) onwards in classical literature (Maier 2012, 127).

Maier (2012, 129–33) suggests unifying the subordinate and recitative patterns rather than considering ὅτι polyfunctional because (a) insubordination ‘extends to other complementizers commonly taken to be indirectness markers’ (e.g. ὥς, Spieker 1884, on Demosthenes, Plutarch, Dinarchus); (b) ‘reports with recitative complementisers are

Table 10.1: Verstraete's model of clause linkage (2007, 283)

Speech function ^a	Modality ^b	Scope ^c	Type	Pattern with ὅτι
+	+	–	Coordination	Independent
–	+	–	Modal subordination	Recitative
–	–	–	Free subordination	Explicative
–	–	+	Bound subordination	Subordinate

Notes:

^a Speech function refers to the assigning of responsibility to the speaker or interlocutor (Verstraete 2007, 106).

^b Modality refers to the assigning of a probability or desirability value to a proposition (Verstraete 2007, 112).

^c Scope refers to the integration of the secondary clause under the modal and speech function profile of the main clause (Verstraete 2007, 119–20).

neither fully direct nor fully indirect but combine syntactic and semantic/pragmatic aspects of both'; and (c) 'ὅτι as direct quotation marking seems highly inefficient', given that it is used for indirect quotation marking too. Rather, he argues for mixed quotations (Maier 2012, 139). This aligns with the fact that seamless switches between indirect and direct discourse and more rarely vice versa (Maier 2015, 160–61), such as New Testament, *Acts* 23.23–24, appear from classical literature onwards.¹⁷ In sum, while the development of stand-alone insubordination with ὅτι seems to be a development of the postclassical papyri, elaborative insubordination with completive ὅτι is firmly entrenched in classical grammar, into the highest registers.¹⁸

ὅτι's counterparts, causal ἐπεὶ and completive ὥς, appear in independent clauses already in classical times, for example Plato, *Gorgias* 473e ἐπεὶ ἐποῦ τινα τούτωνί 'For, ask any of them!'. Hackstein (2017, 258) explains this situation as follows: 'If there are from the vantage point of language history two categories of causal subordinate clauses, ... it is the latter type, the causal clauses derived from non-subordinate clause structures, that will host paratactic speech-act constructions (main-clause phenomena).'¹⁹ However, he notes further down that the language 'will select the subordinate-clause derived marker

for focused contexts' (Hackstein 2017, 260). While Hackstein's constructional inheritance hypothesis holds up to the classical period, the postclassical papyri show the development of causal ὅτι in combination with an independent clause.²⁰ While causal insubordinates with ὅτι are not the main focus of the present chapter, it is of interest that ὅτι outperforms its counterpart in the adverbial sphere too in stand-alone insubordinates. [Section 10.7](#) will return to this aspect.

10.3 Complement insubordination

While adverbial elaborative and stand-alone insubordinates comment on the speech act (e.g. *parce que* in example (1) provides a reason why the speaker is asserting that Pierre has left), complement insubordinates predicate a speech act (Truckenbrodt 2006). In the case of prospective complement insubordinates, what is predicated are commands, requests, promises, and the like; in factive complement insubordinates, what is predicated are declaratives and assertions (Trotzke and Villalba 2021). Adverbial insubordinates can become discourse markers in the left periphery as indicated by prosody, that is, a pause setting apart the former conjunction from the subsequent clause (e.g. Günther 1993, 1999; Pusch 2017). In complement insubordinates, this does not seem to be the case, as illustrated by examples (3) and (4) from German which preserve the subordinate verb-final word-order pattern.²¹ In complement insubordinates, the former conjunction seems to assign illocutionary force and modality (epistemic vs deontic) (Truckenbrodt 2006), which in subordinate contexts would be assigned by the combination of the superordinate verb and the conjunction (Heine and Kaltenböck 2021; Van linden and Van de Velde 2014).²²

Factive insubordinates fall into two categories: expressive/exclamative and elaborative (D'Hertefelt and Verstraete 2014, 90).²³

- (11) Evaluation/expressive (Danish)

At noget så katastrofalt kan ende så godt.

['I can't believe] that something so catastrophic can end so well.'

- (12) Elaboration/elaborative (Swedish)

A: om vi skulle fråga våra eh förstaklassare här om dom vill ha betyg eller inte skulle dom inte fatta vad det handlade om vet inte

hur vad betyg eller vad det e ... så det ju nånting som/andra lägger på

‘if we were to ask our first-graders here if they want to have a diploma or not they wouldn’t understand what it was about, don’t know how what grades or what it is ... so it’s something that/others impose’

B: ja

‘yes’

A: **att** det det kommer ju sen automatiskt i skolan att man får betyg å då kommer den här/konkurrensen ännu mera in tror jag va

‘that it it then comes automatically in school that one gets grades and then this competition starts even more I think right’

Example (11) resembles examples (3) and (4) from German. We observed in [Section 10.1](#) that in factive exclamatives in German, the positive or negative evaluation of the event referred to is modulated by the modal verb (*durfte* ‘could’ vs *musste* ‘must’). Example (12) resembles Deulofeu’s (2008) independent usage, as in (13).

- (13) maintenant avec tout ce qu’il y a en ce moment là par rapport à la crise par rapport à tout ce que la télé ils nous font croire **et que** il y en a beaucoup qui voient la télé qui lisent pas beaucoup on a beaucoup plus de travail à faire

‘now with everything that there is at the moment with regard to the crisis, with regard to everything which the TV, they make us believe—and in fact there are so many who watch TV, who do not read a lot—we have a lot more work to do’

Trotzke and Villalba (2021, 113 and 120) find that *that*-exclamatives in Germanic evaluate both with regard to the truth value of the proposition and with regard to degree, whereas *that*-exclamatives in Romance necessarily evaluate a degree and thus constitute ‘a parallel structure to *wh*-exclamatives’ rather than insubordinates. The differing function is related to their differing etymology (Trotzke and Villalba 2021, 115–17). This aligns with Deulofeu’s (2008) findings for modern French insubordinate *que*, which can appear in a range of elaborative contexts, namely temporal circumstantial, indicating opposition,

inverse subordination, and a so-called independent usage.²⁴ Etymologically, we would expect Greek to align with the Romance languages, that is, an exclamative type with ὅτι is not expected (yet see [Section 10.6](#)).

Insubordination is both a state and a process (cf. N. Evans 2007). In the former case, the focus is on multiple coexisting patterns (e.g. subordinate vs insubordinate *dass*); in the latter case, the focus is on bridging contexts indicating increasing divorce from the sentence grammar and integration into the discourse grammar. Van linden and Van de Velde's (2014, 226–28) patterns for Dutch *dat*, shown in examples (14) to (16), exemplify this.²⁵

- (14) Fully autonomous subordinate clause

Dat hij dat nog **mocht** meemaken!

‘I never thought he could experience this!’

- (15) Semi-subordination

Misschien/Goed da Kris komt!

‘Good/maybe Kris is coming!’

- (16) (Semi-)autonomous subordination

Vuil dat het er was!

‘Dirty, that place was!’

Example (14) resembles the instances of stand-alone insubordination having exclamative force. Example (15) resembles structures such as δηλον ὅτι/δηλονότι, discussed in [Section 10.4](#), in which what is an impersonal structure in Greek determines modality and illocutionary force. Example (16) resembles Xenophon, *Anabasis* 5.7.33 ἡμεῖς μὲν γὰρ οἶδ’ ὅτι ... φαίμεν with prolepsis of an element into the slot preceding the conjunction and the superordinate verb.

10.4 δηλον ὅτι and δηλονότι (11 instances)

Three factors seem to be characteristic of factive stand-alone complement insubordination with ὅτι. Firstly, the propositional content of interest is expressed in the clause following ὅτι. When the pattern is

subordinate, this is the subordinate clause rather than the main clause, with the superordinate verb contributing modality and illocutionary force (cf. [Section 10.2](#)). Secondly, the insubordinate conjunction predicates illocutionary force onto the clause when the structure is insubordinate rather than subordinate (cf. [Section 10.3](#)). Thirdly, factive stand-alone insubordinates function not at the sentence but at the discourse level. They can be evaluative/exclamative or elaborative (cf. [Section 10.3](#)).

A pattern for which all three statements are true except that it involves more than just a conjunction turned insubordinate is the impersonal $\delta\eta\lambda\omicron\nu\sigma\tau\iota$ ‘it is clear that’ becoming the sentence adverb $\delta\eta\lambda\omicron\nu\sigma\tau\iota$ ‘clearly’. The formerly superordinate impersonally used adjective and the conjunction have unverbated, thus erasing the internal morphosyntactic structure (Lehmann 2020).²⁶ The new unverbate is recategorised as a sentence adverb. The resulting adverb $\delta\eta\lambda\omicron\nu\sigma\tau\iota$ is neither analysable nor semantically compositional anymore (Loporcaro 2022, 51). Sentence adverbs develop a ‘discourse-level meaning from propositional meaning’ (Jiménez Delgado 2018, 212 n. 2). $\delta\eta\lambda\omicron\nu\sigma\tau\iota$ marks epistemic modality. It structurally resembles Van linden and Van de Velde’s semi-subordination, for example *Misschien/Goed da Kris komt!* ‘Good/maybe Kris is coming!’ ([Section 10.3](#)), in which a sentence fragment indicating the modality of the *dat* clause precedes *dat*. It differs from the former in that it is not clearly evaluative but rather seems to have a highlighting and/or summarising (elaborative) function.²⁷

$\delta\eta\lambda\omicron\nu\sigma\tau\iota$ is not a creation of the postclassical period. Searches in the *Thesaurus Linguae Graecae* reveal that it appears in the Aristotelian corpus (17 instances) and in the writings of Alcidamas, Theophrastus, and Epicurus (all fourth to third century BCE, 27 instances) already. Searches of the Duke Databank of Documentary Papyri return the counts shown in [Table 10.2](#).

$\delta\eta\lambda\omicron\nu\sigma\tau\iota$ appears in literary papyri throughout and seems to appear more frequently in official registers than in personal/private ones. This, in combination with the classical literary evidence, may suggest a top-down change sociolinguistically speaking, that is, an item that arose in the literary registers and trickled downwards through the registers (cf. Hall and Hornsby 2015).

However, the sentence adverb did not replace the analytic structure. $\delta\eta\lambda\omicron\nu\sigma\tau\iota$ appears in the papyri as shown in [Table 10.3](#).²⁸

Table 10.2: String search for δηλονότι, total hits: 46 (letters counted not instances; search conducted 28 January 2023)

	Private	Official	Literary
Ptolemaic Greek (300–0 BCE)	–	–	12
Roman Greek (0–400 CE)	3 fragments: 2	10	3
Early Byzantine Greek (400–650 CE)	1	13	2
Total	6	23	17

Table 10.3: δηλονότι in the papyri. (See [Section 10.5](#).)

	Private	Official
Ptolemaic Greek (300–0 BCE)	–	–
Roman Greek (0–400 CE)	–	2 + 1 (φανερών)
Early Byzantine Greek (400–650 CE)	1	5 + 1 (δηλαδῆ)
Total	1	9

The analytic structure, like the sentence adverb, appears primarily in the official registers rather than the private/personal ones. Noticeably, there is also still some marginal variation of the sentence fragment preceding ὅτι, as shown in [Table 10.3](#), and patterns with a neuter demonstrative, thus making the ὅτι-clause explicative appear marginally in all periods. Explicative patterns appear in P. Oxy. 14.1664, ll. 4–9 (letter, Oxyrhynchus, 200–201 CE), P. Panop. Beatty. 2, ll. 149–50 (official letter, Panopolis, 300–301 CE), and PSI 1.76, ll. 7–8 (oath, Oxyrhynchus, 573–574 CE). This indicates that analyticity was not lost. When comparing [Tables 10.2](#) and [10.3](#), the numeric counts indicate that the sentence adverb may be gradually taking over from the impersonal structure. Yet this change is in progress in the papyri.²⁹

Stand-alone factive insubordinates resemble δηλονότι in that they function at the discourse rather than the sentence level, assigning illocutionary force, and in that they convey epistemic modality, elaborating, for example, in the form of a summary or evaluating in the form of an exclamative. In both functions, the insubordinate can serve as a signpost in the discourse highlighting a piece of information.

Stand-alone factive insubordinates differ from *δηλονότι* in that formally they do not differ from their subordinate counterparts. *ὅτι*, unlike *ὥς*, in Greek did not have a stressed and an unstressed variant, such that a distinction based on this is not to be expected.³⁰ However, prosodic differences have been observed for adverbial insubordinates as opposed to their subordinate counterparts in spoken languages (Günther 1993, 1999; Pusch 2017). Similarly, prosodic differences also exist between sentence adverbs as opposed to adverbs functioning within the sentence grammar (Giorgi 2016; Kojadinović 2022).

10.5 Data

The chapter is based on searches of the Duke Databank of Documentary Papyri (DDBDP) for *ὅτι*. Literary texts and those of unknown provenance are excluded, and the timeframe is 300 BCE to 650 CE. Like this, most phonetic spellings (e.g. involving iotacism) are included as they appear in the critical apparatus, which is searched. Manual data collection in all the papyri identified as relevant by the DDBDP search function is then necessary, as often more instances than identified by the tool appear in the relevant texts. Weakness of word-final vowel and thus interchange with *ὅτε* ‘when’ is not captured in this way, if not listed in the critical apparatus.

In total, there are 2,664 instances of *ὅτι*. In 533 instances, the context is too damaged to determine the syntax of *ὅτι*. In 91 instances, *ὅτι* is not a complement or adverbial subordinator; rather, *ὅτι* heads result/purpose/adverbial/conditional clauses in 17 instances, is a relative pronoun in 47 instances, is a particle with superlatives/adverbs/participles/infinitives in 22 instances, appears in a verbless pattern once, and is an editorial addition or writing error in four instances.³¹ These 91 instances are not discussed further. However, the diversification of functions of *ὅτι* in the postclassical papyri shows it taking over from *ὥς*, which was used in these contexts in classical times.

In total, 2,040 passages feature *ὅτι* as an adverbial conjunction or a complementiser. The distribution of functions and contexts is summarised in [Table 10.4](#). The table shows that for adverbial causal *ὅτι*, any pattern apart from the subordinate one is marginal. The marginal patterns appear in private/personal registers. This aligns with the classical situation (e.g. Lysias’ speeches or Plato’s dialogues) and postclassical literature: causal elaborative insubordination appears in the Gospel

Table 10.4: ὅτι as an adverbial conjunction or complementizer

	Factive = 1743				Causal = 297			
	Subor- dinate	Expli- cative	Recita- tive	Indepen- dent	Subor- dinate	Dyadic	Insubor- dinate	Indepen- dent
PG	177	37	17	14	45	∅	∅	∅
RG	917	94	206	6	210	1	2	1
EBG	199	23	45	8	34	∅	∅	4
Total	1293	154	268	28	289	1	2	5
Of which private	1073 83%	101 66%	229 85%	14 50%	223 77%	1 100% P. Oxy. 59. 3993, ll. 17–18	2 100% Apf. 63. 144; BGU. 7. 1673	1 20% see Sections 10.7 and 10.8

Note: PG = Ptolemaic Greek (300–0 BCE); RG = Roman Greek (0–400 CE); EBG = Early Byzantine Greek (400–650 CE).

of Luke (e.g. 14.11, 16.3, 22.22, 23.31) and once in Plutarch’s *Life of Anthony* (76.9). Conversely, all the patterns available to factive complement ὅτι in classical times are still in use in the papyri throughout periods and across registers. The additional pattern of ὅτι as a stand-alone insubordinate appears across registers.

Of the 28 instances of completive ὅτι as a stand-alone insubordinate, 11 were discussed in [Section 10.4](#), 15 are discussed in [Section 10.6](#), and two are discussed in [Section 10.7](#). Of the five instances of causal ὅτι as a stand-alone insubordinate, three are discussed in [Section 10.7](#) and two in [Section 10.8](#).

10.6 Condensed assertives (15 instances)

Most passages featuring ὅτι as a stand-alone complement insubordinate reflect a structure such as example (17).

(17) P. Col. 3.8 (letter, Memphis, 257 BCE)

ll. 7–10 Ἀρτεμίδωρος περὶ τοῦ σίτου **ὅτι** παραμεμέτρηται παρὰ Δημοστράτου καὶ Δημητρίου.

‘Artemidoros about the grain—that it has been measured by Demostratos and Demetrios.’

ὅτι is preceded by the subject in the nominative case and a topic expression, with περί ‘about’ or ὑπέρ ‘regarding’ (Kirk 2012, 229). The verb following ὅτι is in the aorist or perfect tenses, that is, a completed event is referred to. The verb follows ὅτι immediately with only function words, such as negatives, intervening. [Table 10.5](#) provides an overview of all the relevant passages.

Table 10.5: Condensed assertives with ὅτι

	Passage	Text	Date	Provenance	Type of document
1	P.Mich. 1.86	ll. 6–11 περὶ[ρ]ῖ Ἑριε[ῦ]τος τοῦ λιθο- τ[ό]μο[ρ]υ ὅτι οὐκ ἀποδ[έδωκεν] τάς λ[.] [δραχμάς]. ‘About Herieus, the stone-cutter—that he has not paid the 30 <i>drachmae</i> .’	275– 226 BCE	Arsinoites	memo- randum
2	P.Col. 3.8	ll. 7–10 Ἀρτεμίδωρος περὶ τοῦ σίτου ὅτι παραμετρέρηται παρὰ Δημοστρά- του καὶ Δημητρίου. ‘Artemidoros about the grain—that it has been measured out by Demostra- tos and Demetrios.’	257 BCE	Memphis	letter
3	P.Cair.Zen. 1.59122	ll. 5–8 Κτησίας περὶ Ἱεροικλέους ὅτι ἐμνήσθη σοι περὶ ὀψωνίου. ‘Ktesias, about Hierokles—that he was mentioned to you regarding the salary.’	257– 256 BCE	Philadelphia	fragment
4	P.Cair.Zen. 1.59121	ll. 8–10 Κτησίας ἀντακαίου κεραμίων β ὅτι οὐ πέπραται. ‘Ktesias, (with regard to) the making (?) of 2 items of pottery—that it has not been done.’	256 BCE	Alexandria	letter
5	P.Cair.Zen. 1.59124	ll. 11–13 Πανακέστωρ ὅτι κεκόμισται παρὰ Ἰάσονος χαλκοῦ (δραχμάς) A. ‘Panakestor—that 1 <i>drachma</i> had been delivered by Iason.’	256 BCE	Philadelphia	letter

	Passage	Text	Date	Provenance	Type of document
6	P.Cair.Zen. 2.59142	ll. 7–9 Ἀπολλώνιος ἐρίων Μι(λη- σίων), ῥτι ἔχουσιν αἱ παιδίσκαι καὶ ἵνα ἄλλα αὐταῖς δοθῇ. 'Apollonios, (with regard to) woollen items from Miletus—that the maidens have (them) and others shall be given to them.'	256 BCE	Alexandria	letter
7	P.Lond. 7.1979	ll. 21–23 περὶ τε τῆς μν(ᾶς) τοῦ ἄρ(γυρίου) ῥτι οὐκ εἴληφεν, καὶ περὶ τῶν τυλῶν, ῥτι ἀπολελειμμένα [εἰσίν.] 'About the <i>mina</i> of silver—that he has not received (it), and about the mat- tresses (?), that they were left behind.'	252 BCE	Alexandria	letter
8	P.Lond. 7.1979	ll. 21–23 περὶ τε τῆς μν(ᾶς) τοῦ ἄρ(γυρίου) ῥτι οὐκ εἴληφεν, καὶ περὶ τῶν τυλῶν, ῥτι ἀπολελειμμένα [εἰσίν.] 'About the <i>mina</i> of silver—that he has not received (it), and about the mat- tresses (?), that they were left behind.'	252 BCE	Alexandria	letter
9	P.Cair.Zen. 3.59362r	ll. 11–16 ἐγὼ δὲ οὐχ ῥτ[ι] ὃν ἐώ- νηντ[ο] τόπον, ἀλ[λὰ] καὶ ἄλλον Ἀμμωνίου με ἀξιώσαντος ἐδεδώκειν αὐτοῖς, παρ' ἄλλων οὐχ ὑπομείνας τιμὴν λαβεῖν. 'Yet I—not that I had given to them whichever place they had bought but also another, after Ammonios had asked me, while not having expected to receive payment from the others.'	243 BCE	Philadelphia	letter
10	Chr.Mitt. 45	ll. 1–5 Σεμφθεὺς Περιγένους ῥτι διώρυξεν οἰκίαν καὶ τὴν λείαν εὗρεν ἐν τοῖς καναβίνοις λαβὼν (δραχ- μὰς) σ ἀφῆκεν. παρεδόθη δὲ Παῶτι δεσμοφύλακι. 'Semphtheus, son of Perigenes—that he searched a house and took the booty in the <i>canabinoi</i> . Having taken the 200 <i>drachmae</i> , he sent them off. It was given to Paos, the prison guard.'	224– 218 BCE	Arsinoites	petition

Passage	Text	Date	Provenance	Type of document
11 Chr.Mitt. 45	ll. 6–7 [ῥ]ος Ἀρουήτιος ἔδραγ- ματοκλέπτει τρίτος ὦν λαβὼν παρ’ αὐτοῦ (δραχμὰς) ρ ἀφῆκεν. ‘Horos, son of Aroues—that he stole corn, being the third (to do so) and having taken 100 <i>drachmae</i> from him, he sent it off.’	224– 218 BCE	Arsinoites	petition
12 P.Erasm. 1.16	ll. 1–5 Σαραπίων Διονυσίῳ χαίρειν· ὥς γὰρ δι γέγραφάν σοι χέρα οἱ νωτοφόροι καὶ οἱ χειρισταὶ πρὸς ἐμὲ εἰ... ἀπο{σ}κουφίσαι τὸν πυρόν. ‘Sarapion, to Dionysos, best wishes. For—that the porters have written to you by hand (?) and the managers have ... to me (in order to?) release the wheat.’	152 BCE	Arsinoites	letter
13 P.Fay.19	ll. 1–7 [Αὐτοκράτ]ωρ Καῖσαρ Ἀδρι- ανὸς Σε[βαστὸ]ς Ἄν[τ]ωνίνῳ [...τ]ῷ τειμιωτατῷ χαίρειν. δι [τι] οἴτε ἀφ[ρεῖ] οὔτε ἀλόγως οὔτε οἰκτρῶς οὔτε ἀπ[ροσ]δοκῆτῳ[ς] [οὔτε ἀνοή]τως ἀπαλλάσσομαι τοῦ βί[ο]υ προ[...] [λόγον διδ]οναὶ εἰ καὶ παρατυχό- ντα μοι νοση[λεύοντα] [καὶ παρα] μυθούμενον καὶ προτρέποντα δι[.....] [- ca.10 -][ἀ]δικεῖν ὥς εὖρον καὶ ἀπὸ τοιου[τ].....\	101– 200 CE	Bakchias	letter
	‘The ruler Caesar Adrianos Sebastos, to Antonios, the most honoured ..., best wishes. That—neither with a weapon nor without reason nor lam- entable nor unexpectedly nor sense- lessly I will leave behind my life ... to speak even if ... is near to me, tortures (me) with illness and encourages and urges ... to wrong when I found (it) and from ...’			

Passage	Text	Date	Provenance	Type of document
14 P.Fay.19	ll. 16–20 (hand 2) [Αὐτοκρ]άτωρ Καῖσαρ Ἀδριανὸς Σεβαστὸς Ἄντῳ [νίνῳ τ]ῷ τιμιωτάτῳ χαίρει[ν]. ἔτι οὐ ἀ[ρ]ὶ οὔτε] [ἀλόγως] οὔτε οἰκτρῶς οὔτε ἀπροσδοκῇ[τως] [οὔτε ἀ]νοήτως ἀπαλλάσσομε τοῦ βίου προ[....] [....] [ο]ναί εἰ κὲ πατυχόντα μοι νοσηλεύ- ο[ντα] ‘The ruler Caesar Adrianos Sebastos, to Antonios, the most honoured, best wishes. That—neither with a weapon nor without reason nor lamentable nor unexpectedly nor senselessly I will leave behind my life ... even if ... is near to me and torturing (me) with illness.’	101– 200 CE	Bakchias	letter
15 SB.1.2137	ll. 8–12 Μιζαῖλ (καὶ) Ῥεβέκκα νιὸς Ἑλισαῖος Πατερμού(θου) πρὸς Γεώρ- γιον Ἑλισαῖον Πέτρου, ἔτι ἀπηλλά- γημεν πρὸς σε περὶ τῆς ἀσφ(αλείας) τῶν νο(μισματίων) β Μάρθας τῆς γυναικ(ὸς) τοῦ ἀδελφ(οῦ) τοῦ πατρός σου (καὶ) περὶ προσελεύσεως (καὶ) μετὰ πολλῶν παρακλήσεων [τῷ] νό(μισμα) α (κεράτιον) γ’. ‘Mizael and Rebecca’s son Elisaaios, son of Patermouthes, to Georgios Elisaaios, son of Petros—that we have delivered to you with regard to the surety of 2 <i>nomismata</i> on behalf of (?) Martha, wife of the brother of your father, and with regard to the visit (?) and with many summons, 1 <i>nomisma</i> and 3 <i>keratia</i> .’	501– 700 CE	Thebes	certificate

[Table 10.5](#) shows that relevant structures appear primarily in the Ptolemaic period (passages 1–8). These passages all reflect the canonical structure described above with the small exception of a present tense verb in P.Cair.Zen. 2.59142. However, the aspect of the verb seems to be resultative. In passages 1–8, the relevant structure appears as seemingly a summary at the end of the letter, recapping in highly condensed form what has been discussed. For illustration, P. Col. 3.8 is quoted in full in example (18).

(18) P. Col. 3.8

[Ἀρτ]εμίδωρος Ζήνωνι χαίρειν. παραμεμετρήμεθα
 [παρ]ὰ Δημητρίου καὶ Δημοστράτου πυρῶν ἀρ(τάβας) Γρρ
 [καὶ] Μυ.[-ca.?-]ου καὶ Θευδώρου ἀρ(τάβας) σι ὧν καταβεβλή-
 καμεν παντὸς
 [τοῦ πλο]ίου φόρετρα διὰ τὸ μὴ εἰπεῖν ἡμῖν ἐπὶ τοῦ πλοίου ὅτι καὶ
 κακεί-
 [νων] ἔνεστιν ἐν τῷι πλήθ\ε/ι {καὶ} κριθῶν ἀρ(τάβας) ωοβ.
 vac.? ἔρρωσο. (ἔτους) κη, Δύστρου κγ.ν

Ἀρτεμίδωρος περὶ τοῦ σίτου
ὅτι παραμεμέτρηται
παρὰ Δημοστράτου καὶ
Δημητρίου. (ἔτους) κη. Ξανδικοῦ β.
 Ζήνωνι

Artemidoros, to Zenon, best wishes.

We have been given in measured form by Demetrios and Demostratos 3190 *artabae* of wheat and from My ... and Theudoros 210 *artabae*, with regard to which I have paid the transport charge for the whole ship(ment) due to the fact of (them) not telling us concerning the ship(ment) what is theirs in the whole lot, and 872.5 *artabae*.

Be well! Year 28, Dystros 23.

Artemidoros about the grain—that it has been measured out by Demostratos and Demetrios.

Year 29, Xandikos 2.

To Zenon.

Passages 9–11 in [Table 10.5](#) also date from the Ptolemaic period, but differ from the canonical form, in that passage 9 contains a pro-nominal subject rather than a subject in the form of a personal name as well as a negative preceding ὅτι rather than following it (cf. di Bartolo 2022). All three passages appear at the beginning of the letter (body), apparently setting the topic rather than summarising at the end. Passages 10 and 11 appear as part of a list;³² passage 9 stands at the start of the letter body. Passage 12 appears at the beginning and is followed by

a request following on from the topical statement (ll. 5–9, flagged by καλῶς οὖν ποιήσεις ‘please’).

Passages 13 and 14 come from the same Roman-period letter. In both, the verb after ὅτι is in the future tense, as opposed to the canonical form, and there are no elements (such as a subject or a topic expression) preceding ὅτι. Both structures appear at the beginning of the letter body immediately following an internal address. Passage 12, although Ptolemaic, seems to pattern with these, yet differs from them in that the verb after ὅτι is still in the perfect tense and in that ὡς γάρ precedes ὅτι, yet again no subject or topic expression appears.

Finally, passage 15 is the only early Byzantine example of the pattern and resembles the Ptolemaic pattern, in that the verb is in the aorist and the subject in the form of personal names precedes ὅτι. However, instead of a topic expression, we find a prepositional phrase indicating the recipient of the message. The structure seems to appear as part of a list and a request following on from the assertion expressed by it follows (ll. 12–13 δεδώκατε (καὶ) συνεχωρήσαμεν ὑμᾶς τὴν λοιπάδα ‘pay the remainder when we have met you’).

[Table 10.6](#) summarises the structural, positional, and functional characteristics of the pattern(s) in [Table 10.5](#) schematically. [Table 10.6](#) shows that the stand-alone insubordination of the completetiser ὅτι emerged in technical contexts (i.e. a summary under a letter) but was already in the Ptolemaic period extended to the new context of

Table 10.6: Instances of the condensed structure

	Total	With subject before ὅτι	With about- ness phrase before ὅτι	Verb in the perfect/ aorist	Position in the letter and function	Clus- ters/ letters	Clusters/ archives
PG	12	8	7	11	end, sum- mary (8)/ start, topic (4)	2 + 2	Zenon (5)
RG	2	–	–	–	start, topic	2	–
EBG	1	1	–	1	start, topic	–	–

Notes: PG = Ptolemaic Greek (300–0 BCE); RG = Roman Greek (0–400 CE); EBG = Early Byzantine Greek (400–650 CE).

presenting a topic. This resulted in modification of the form in the Roman period with the proleptic elements (subjects, topic expressions with *περί* or *ὑπέρ*) no longer appearing and the verb now being permissible in a tense other than the perfective aorist or perfect tenses. However, the structure appeared increasingly rarely from the Roman period onwards. The only early Byzantine example we find goes back to the Ptolemaic pattern. It might be that after undergoing a change of function, the structure faced too much competition from, for example, the disclosure formula or thethetic/deictic particle *ἰδοῦ*. This may also explain the apparent reversion of the Roman-period formal and functional changes to the structure in the early Byzantine period. The one-off appearance of the structure may be a relic rather than a productive pattern.

Generally speaking, it seems as if the verb ‘say’ has been omitted from the structure discussed here. Without the repeated appearance of the structure, across periods of time, we might have supplied the verb and interpreted the instances in [Table 10.5](#) as writing errors. However, the seeming omission of the verb ‘say’ and the consequent situation where the conjunction as opposed to any superordinate verb assigns illocutionary force and modality reflects the development of hypotaxis: ‘The idea is that in specific contexts subordinate *dat*-clauses happened to express interpersonal meaning, ..., and that **language users came to reinterpret** this meaning as an inherent semantic property of the construction with the subordinating conjunction (*dat*), which paved the way for the emergence of the (semi-)autonomous subordination patterns’ (Van linden and Van de Velde 2014, 228, my emphasis). In other words, Huitink’s parenthetical *οἷδ’ ὅτι* is condensed into the conjunction. Prolepsis of elements including subjects and topic expressions is still possible.³³ [Section 10.8](#) returns to the usage-based aspect of the process.

In the context of prolepsis still being permissible when *ὅτι* is used as a stand-alone insubordinate, it is noticeable that *ὅτι* appears usually contiguously with its verb. In only three passages above, a function word (negative) intervenes. In three passages, a parenthetical expression separates *ὅτι* from its verb, yet the parenthetical functions outside the sentence grammar. It thus appears that *ὅτι* functions like a particle with the verb in the sentential core rather than akin to discourse markers in the left periphery. The left periphery remains available for topic expressions and the like.

10.7 Future-open conditionals (five instances)

A conditional sequence consists of a protasis (the if-clause) and an apodosis. The protasis is marked by the conjunction ‘if’; the apodosis can be marked with an apodotic element, such as ἔπειτα (LSJ I.4) (cf. Ruiz Yamuza 2011, 7; see also Bonifazi et al. 2016, chap. IV.2.2.4 on apodotic δέ). The information structure determines the order of the protasis and apodosis in Greek (e.g. Dik 1995). When the protasis precedes, the apodotic element unambiguously marks the boundary line between clauses, as in example (19).

- (19) P. Misc. inv. 2. 70, l. 18–20 (letter, unknown, 4th c. CE, Gonis 2008)

ἢ μὴ διὰ τὴν ἀγάπην τοῦ Θεοῦ, ἐπὶ ἔμελλον ἀποθανῖν τῇ πίνῃ

‘If it had not been for God, I would have died of thirst’

ἐπεὶ is ‘historically derived ... from a paratactic marker’ (Hackstein 2017, 260), such that its use as a stand-alone insubordinate is not surprising and appears throughout classical Greek (e.g. Plato, *Gorgias* 473e; Hackstein 2017, 258). Conversely, ὅτι is ‘historically derived from a subordinate clause’ and is thus not expected to feature as a stand-alone insubordinate (Catasso 2018; Hackstein 2017, 260; Trotzke and Villalba 2021, 115–17).

Nonetheless, there are several future-open conditional sequences, in which ὅτι seems to function as an apodotic element.³⁴ The relevant passages are shown in [Table 10.7](#). Of the two Ptolemaic instances in [Table 10.7](#), neither is prototypical. Passage 1 involves a parenthetical verb of speaking (ἔφη ‘(s)he said’) separating the apodosis and following protasis. Passage 2 contains an elliptical protasis. There are no examples from the Roman period. Passage 4, from the early Byzantine period, is perhaps the most prototypical, in that it involves a protasis followed by an apodosis with initial ὅτι. Conversely, passages 3 and 5 show initial ὅτι followed by the protasis, only after which the apodosis appears. Noticeably, in both passages, the verb in the ὅτι clause is an infinitive. In passage 5 (SB 6 8988), this seems to parallel earlier ὥστε in the sentence stretching over lines 70–80 and preceding passage 5.

As a matter of fact, the verb in the *ὅτι* clause is infinitival also in passage 4. Infinitival patterns with *ὥστε* are current unlike infinitival patterns with *ὅτι* (Fendel 2022a, chap. 4 §155). There is a clear association with the higher register in passages 3 to 5, as evidenced by the document type. The resultative force of *ὥστε* fits well into the apodosis of a conditional sequence. [Section 10.5](#) showed how *ὅτι* in the postclassical period gradually intruded in contexts in which *ὥς* and *ὥστε* had previously dominated. Finally, insubordinate *ὥστε* is attested already in classical Greek (Ruiz Yamuza 2020). Thus, we may explain passages 3 to 5 by *ὅτι* functioning as an alternative to (adverbial) *ὥστε*.

Table 10.7: Future-open conditionals with *ὅτι*

	Passage	Text	Date	Provenance	Type of document
1	P. Cair. Zen. 2 59160	ll. 7–9 ἡξίου δὲ καὶ Μενέμαχος ἡμᾶς πρὸς Ἀπολλώνιον καταπλεῦσαι, δοκιμάζων ὀφθῆναι αὐτῷ, καὶ ὅτι διαλέξεται περὶ ἡμῶν ὅπως ἂν πράσσωμέν τι, καὶ ὅτι μάλιστα ἡμῖν ποιήσει, ἔφη , ἐὰν αὐτῷ μνησθῶμεν περὶ τοῦ ἐμ Φιλαδεῶ/φείας ἔργου. 'Menemachos asked us to sail to Apollonios, thinking (that he?) has been noticed by him. He will speak about us how we are doing and he will do what's best for us, he said, if we remind him about the work in Philadelphia.'	255 BCE	Memphites	letter
2	HGV Les vaisseaux du désert et des steppes S. 172	ll. 7–9 εἰ δὲ μή, ὅτι ἀποτείσουσί μοι τρὸς πρόβους οὓς δεῖ αὐτὰς τεκεῖν. 'If not, they will deliver to me the calves which they must give birth to.'	223 BCE	B'ir Samut	letter
3	SB 14 11957	ll. 30–31 ὅτι, ἐὰν ἀπ[ο]δῶ[ς] τ[ᾶς] χώρας ἡμῶν, οὐκέτι πολεμῆσαι μετὰ ἀλλήλους ἕως τῶν ἑωνίων, εἰ μή τὴν εἰρηνὴν φυλάξω καλῶς. 'That, if you let go of our regions, we will no longer wage war (?) with each other before all time, (even?) if you/I do not protect the peace well.'	451–500 CE	Primis	royal letter

Passage	Text	Date	Provenance	Type of document
4 SB 6 9456	ll. 20–22 εἰ δὲ τοῦ λοιποῦ [ἐπέλω κατὰ σοῦ τρόπον οἷον]δήποτε, ὅτι ἐνέχεσθαι [τῷ ὀρισμένῳ προστίμῳ] τῶν (hand 2) δύο νομ(ισμάτων). ‘If I come up to any place of yours in future, you are liable to the predefined penalty of two <i>nomismata</i>.’	594–595 CE	Arsinoiton Polis	legal document
5 SB 6 8988	ll. 80–90 καὶ ὅτι εἴπερ δόξη αὐτῷ ἢ τινι αὐτοῦ καθ’ οἷονδήποτε τρόπον ἢ καιρὸν ἢ χρόνον τι βούλεσθαι παρασαλεύειν ἢ παρατιτρώσκειν πάντων τῶν ἐμφορομένων ταύτῃ τῇ Ἀκυλιανῇ διαλύσει, ἐφ’ ᾧ πάντα τὸν τοιοῦτό τι διαπράξασθαι τολμήσονται πρωτοτύπως μὲν ἐνοχον ἔσεσθαι τῷ τῆς ἐπιorkίας ἐγκλήματι τε καὶ κινδύνῳ, παρασχεῖν δὲ τῷ μέρει Φύλημωνος καὶ Θέκλης συμβίου αὐτοῦ ὑπὲρ μόνης τῆς ἐπιχειρήσεως καὶ παραβάσεως χρυσοῦ νομίσματα δώδεκα ὄβρυζα, ζύγω Ἀπόλλωνος, λόγῳ προστίμου, καὶ μόνου. ‘And thus, if it seems good to him or anyone there—in whatever way or at whatever moment or time—to want to shake up or wound all those who have been brought to this Akylian separation, for this (?) everyone who dared to do something like this will in the first instance be liable to the charge of a false oath and to the danger/lawsuit, and (will be liable) to give towards Philemon and Thekla’s, his wife’s, part 12 <i>nomismata</i> of pure gold for an attack/defence and escape, under the yoke of Apollo, by the word of the penalty, and on their own.’	647–648 CE	Apollo-nopolis	legal document

Unlike ἵνα in comparable structures which (i) appear primarily in the Ptolemaic and Roman periods, and (ii) have the order protasis–apodosis, ὅτι is prosodically speaking a discourse marker in passages 3 and 5 above, in that it is clearly separated from the sentential core and especially the verb phrase in the sentential core of the apodosis

(cf. Fendel 2025). This is in line with adverbial insubordinates (including ὥστε and ἐπεὶ). Conversely, in the two Ptolemaic examples in passages 1 and 2, ὅτι appears contiguously with a finite verb in the future tense. However, given that passages 1 and 2 are isolated in the papyri, they may be explicable by analogy between ὅτι and ἐπεὶ, something that on the basis of, for example, Hackstein's etymological considerations should not happen, but that in the actual everyday usage of the language may happen. After all, analogy is a phenomenon that involves language users interfering with the natural development of the language. The same is true, however, of pragmaticalisation (Deulofeu 2008, 47; Patard 2014, 126–28), such that it is difficult to decide whether the isolated passages 1 and 2 are due to analogy or independent pragmaticalisation of the complementiser ὅτι.³⁵

10.8 Summary and conclusion

[Section 10.1](#) introduced the reader to Kaltenböck's (2019) distinction between stand-alone as opposed to elaborative insubordination. The distinction is applied to patterns of ὅτι in the postclassical papyri ([Section 10.5](#)). ὅτι, in classical and postclassical times, can be an attributive, adverbial, and factive complement conjunction. The focus in this chapter was on the latter. [Section 10.2](#) explained how ὅτι-clauses assert foregrounded pieces of information while possibly moving the governing verb, when one is present, out of the sentence grammar and into the discourse grammar. Furthermore, we observed that elaborative insubordination with completive ὅτι is classical, whereas stand-alone insubordination with completive ὅτι is a development of the postclassical period.

When used as an insubordinate, completive ὅτι seems to assign illocutionary force and modality (epistemic vs deontic), which in subordinate contexts would be assigned by the combination of the superordinate verb and the conjunction ([Section 10.3](#)). It has been suggested that factive complement insubordinates fall into two categories, functionally speaking, evaluative/exclamative ones and elaborative ones. The preceding sections have focused on the former type, especially the assertives in [Section 10.6](#), yet examples (20) and (21) illustrate the latter type in the papyri.

- (20) P.Cair.Masp.3.67279 (request, Antinoopolis, 567 CE)

ll. 15–18 καὶ τούτου τοῦ τρόπου(υ), ὑπ(ἐρ) αὐτῶν πάλιν, τοποτη-
ρ[ητ]ῆς γενάμενος Ἑλλά[διο]ς ὁ λαμπρ(ότατος) σκρ(ινιάριος)
ἀπήτησέν με ἕτερα ὑπὲρ αὐτῶν νο(μίσματα) η. καὶ ο[ὗ] μόνον
ὅτι παρίδεν με εἰς ταῦτα ὁ α[ὐ]τὸς Διόσκορος καὶ Θεο[φίλη] ἡ
αὐτο(ῦ) μήτηρ, μηδὲν ἐκ τούτων [δ]εδωκότες μοι, ἀλλὰ [κ]αὶ
ἐ[π]’ αὐτοῖς το(ύ)τοις ἀφείλ[α]γτό μοι ὀκτώ [ἑξ] κυκλάτας ἵππους
[ἐμ]ὰς, \ θ μὲν [ἐμ]ὰς, ζ δὲ [τῆς] μητρὸς μου·

‘And in this way, regarding them again, having become the man-
ager, Helladios, the illustrious *scriniarios* asked me concerning
them for another 8 *nomismata*. **In fact**, not only did the same
Dioscoros and Theophile, his mother, look at me concerning
these, without ever giving me anything of these, **but** they **also**
took 16 of my recurring (?) messengers (?) away from me con-
cerning these same, 9 of mine, 7 of my mother’s.’

- (21) PSI 12.1246 (letter, 219–222 CE, Hermopolites)

ll. 1–5 δεῖ γὰρ τῶ[ν] φίλων καὶ ἀ[ε]ὶ καὶ ὁμοίως καὶ πανταχῇ προ-
ντίζειν. τὸν δὲ ἀδελφόν μου συ[μ]πράσσοντα αὐτῷ ὅτι δεξιώσεις
ἐν πᾶ[σι] πέπεισμαι.

‘For it is necessary to worry about the friends always, equally and
everywhere. My brother who helped him, **in fact**, I trust (his) sup-
port (?) in everything.’

In examples (20) and (21), the ὅτι-clause elaborates on the preced-
ing statement. In (20), the writer details further extortion of money,
possibly to underline the point already made. In (21), the writer pro-
vides a concrete example as compared to the group of friends refer-
enced in the statement preceding the ὅτι clause.³⁶

The evaluative/exclamative vs elaborative functions of insubordi-
nate ὅτι tie in with Altshuler and Truswell’s (2022, 216) subordinating
vs coordinating discourse relations: ‘coordinating relations change the
scene, and hence move forward the narrative ..., while subordinating
relations detail the scene, and thereby deepen the narrative’. Examples
(20) and (21) provide an elaboration on and/or explanation of the
preceding statement. They are thus discursively subordinate. Con-
versely, the apodosis of a conditional sequence ([Section 10.7](#)) provides a

result to the protasis of the conditional sequence, and the ὅτι-assertives ([Section 10.6](#)) introduce a new occasion in the discourse. Thus, both these are discursively coordinating (Altshuler and Truswell 2022, 224). There seems to be a correlation between discursively subordinating and the elaborative function of factive insubordinates and discursively coordinating and the evaluative function of factive insubordinates.³⁷

In conclusion, we noticed that stand-alone insubordination with ὅτι is a postclassical development, both on the factive completive and on the adverbial causal side. Adverbial insubordination seems to have existed before the postclassical period, noticeably with a preference for conjunctions that are etymologically speaking derived from paratactic items (e.g. ἐπεὶ comparable to Latin *quippe*) rather than hypotactic ones (e.g. relative pronouns). In the postclassical period, this seems to have changed. This change may be tying in with the usage-based phenomenon of pragmaticalisation, with ὅτι taking over from ὥς and also ἐπεὶ ([Section 10.5](#)). As opposed to condensing the assignment of illocutionary force and modality into the conjunction (hypoanalysis) ([Section 10.6](#)), δῆλον solves this problem by means of univerbation (δηλονότι) and the creation of a new sentence adverb already in classical times. This sentence adverb is firmly established in literary and non-literary writings.

As compared to insubordination with ἵνα (Fendel 2025), both complement and adverbial, the elaborative insubordinate pattern with ὅτι, which may act as a bridging context, existed already in classical literature. We thus observe a top-down rather than a bottom-up change. Completive insubordinate ἵνα appears primarily in the disclosure formula (*I want you to know that ...*) and the apodosis of future-open conditional sequences; the former pattern is primarily early Byzantine, the latter spans the Ptolemaic, Roman, and early Byzantine periods. Classical predecessors for completive insubordinate ἵνα are marginal, which may be because completive ἵνα in subordinate structures is a postclassical development.

Prosodically speaking (cf. principle of iconicity; [Section 10.1](#)), ἵνα seems to cliticise to the verb in the disclosure formula but can be separated from its verb in the future-open conditional. We observed a similar separation in [Section 10.7](#) with apodotic ὅτι. While adverbial insubordinates apparently become discourse markers in the left periphery, that is, followed by a pause in modern languages ([Sections 10.3](#) and [10.4](#)), complement insubordinates seem to stay part of the

sentential core (Section 10.3). The hypothesis based on the ὅτι data is that the patterns in Section 10.6 are linked to factive completive ὅτι, but those in Section 10.7 to causal ὅτι.

ὅτι in stand-alone insubordinates shows that complement insubordination differs from adverbial insubordination formally and functionally and more importantly that usage-based patterns override etymologically explicable ones.

Notes

- 1 The chapter was written in the context of the project *Giving Gifts and Doing Favours: Unlocking Greek Support-Verb Constructions* (University of Oxford, 2020–2024), which was funded by the Leverhulme Trust (Grant no. ECF-2020-181) with the author as the PI. All the translations are my own.
- 2 Narrower definitions, as for example la Roi (2021, 8), would only accept a structure like example (2) as insubordinate.
- 3 Pusch (2017, 338) notes that with insubordinate *bien que* the subjunctive of the subordinate is preserved the less often the more items intervene between the conjunction and the verb.
- 4 Literally: ‘it is necessary for you to show amongst your father’s enemies as what kind of person you were brought up (and) from what kind of (background)’.
- 5 Kühner and Gerth (1894, 376 n. 6) assume ellipsis, similarly to Evans’ seminal paper (2007).
- 6 See similarly on dyadically dependent patterns, which reflect interlocutors working together in order to establish the dependency relation, Sansinena, De Smet, and Cornillie (2015).
- 7 For the sociolinguistic notion of ‘register’, see further Bentein (2013), Biber and Conrad (2009), and Willi (2003).
- 8 Lakoff and Johnson (1980, 130) observe that a semantic link is reflected in the formal shape. For example, ‘I taught Greek to Harry’ and ‘I taught Harry Greek’ differ in that only the latter refers to the acquisition of Greek, which is reflected in the formal expression by the positioning of ‘Harry’ (see also Frenda 2017).
- 9 While the auxiliary uses of a verb may formally differ from lexical uses (Vincent and Wheeler 2022), support-verb uses align formally with the latter.
- 10 The annotated dataset is accessible at <https://doi.org/10.5287/ora-rdqm5myvk>.
- 11 Present stem with aorist optative ending.
- 12 For ἄκουσας.
- 13 For προεστῶτος.
- 14 For ἐπιτρέποντος.
- 15 The Attic orators also switch between direct speech and parentheticals conveying the narrator’s point of view, for example Aeschines 1.19–20 ὅτι οἶμαι στεφανηφόρος ἢ ἀρχή ‘because I think this official wears the wreath’ (Maier 2015, 160–61) with causal ὅτι.
- 16 See similarly Hackstein (2017, 258) on assertivity and ‘paratactic ἐπεὶ’.

- 17 Direct speech following indirect speech may offer immediacy/vividness at the climax point; indirect speech following direct speech may offer a pointed summary at the climax point (Scardino 2012).
- 18 Compare the French *discours indirect libre* (Marnette 1998).
- 19 Banos (2011, 200) aligns the contrast with causal adjuncts (ὥς, Latin *quod/quia*, French *parce que*, English *because*) and causal disjuncts (ἐπεὶ, Latin *quoniam/quando*, French *puisque*, English *since*). Banos (2011, 202) explains the difference between those conjunctions by the fact that the former are primarily causal but the latter only secondarily. Hackstein (2017, 261) considers Latin *quippe* vs *quod*, with the former appearing in insubordinate contexts already in classical times.
- 20 Yet note also Aeschines 1.19–20 (see n. 14) for classical predecessors of ὅτι functioning at the discourse rather than the sentence level.
- 21 Similar mixture of independent and dependent clause features appears in the French *discours indirect libre* (Marnette 1998) and Greek mixed quotations (Maier 2012, 2015).
- 22 Hackstein's 'assertivity' (2017, 258) seems to refer to illocutionary force.
- 23 'Elaborative' is descriptive with regard to the semantics here, unlike in Kaltenböck's terminology.
- 24 Exclamatives seem to be limited to relatively fossilised phrases featuring *que* and the subjunctive, for example *qu'il en soit ainsi* 'so be it!' or *qu'il vienne* 'Bring him along!'.
- 25 Their clauseless type is not of interest here: <Roland> *Ja, Armand is gene gemakkelijke, zo'n slecht karakter*. 'Yes, Armand is not an easy person, such a bad character. <bambi> *Oeh! Dadde*. 'Yes, you can say that again!' The deviant form of the subordinator is sub-standardly attested in subordinate clauses (Van linden and Van de Velde 2014, 228, n. 2).
- 26 This is an instance of transgressive rather than phrasal universion in Lehmann's terms.
- 27 Other pragmatic devices with a highlighting function that arise through transposition of a phrase from the morphosyntactic onto the interpersonal level are the disclosure formula (Fendel 2022a, ch. 8; James 2008; Porter and Pitts 2013), and the thetic/deictic particle ἰδοῦ (Bailey 2009; la Roi 2022).
- 28 While in cases of adjacency we cannot fully rule out editorial preference for a one-word vs two-word representation, in several instances a particle intervenes between the impersonal adjective and the conjunction, that is, P.Lond.5.1734 (EBG, sale), ll. 18–20 and P.Muench.1.1 (EBG, contract), ll. 53–55 δέ, and P.Oxy.12.1415 (RG, report), ll. 26–27 δέ (φανερὸν), and in one instance the impersonal adjective is moved after the ὅτι-clause, that is, P.Oxy.8.1101 (RG, edict), l. 12.
- 29 The following passage is not included in [Table 10.3](#) because (i) it seems to be more deictic than elaborative/summarising, functionally speaking and (ii) it structurally resembles ἰδοῦ 'behold' structures more than the usually impersonal sentence fragment discussed here: SB 20 15165 (letter, Arsinoites, 151–200 CE), ll. 18–22 ὅρα οὖν ὅτι [ι] [μη] παρεξουθενῶσ[ι] αὐτοί με εἰδὼς ὅτι οὐκ ἔστιν ὁλείγῃ ἢ γεναμένη ἡμεῖν ὕβρις 'Behold, that they will not leave me alone—while you know that the hybris against me is not small'.

- 30 However, personal pronouns of the first and second persons have a full and a reduced form; the third-person pronoun αὐτός is always *written as* accented (Luraghi 2003, 172–73). Joseph (2013, 31) observes that phonologically reduced forms are not, semantically speaking, weak pronouns.
- 31 For example, B. Brem. 64 (letter, Hermopolis, 113–120 CE), ll. 5–7 πῶς γράφεις μοι ὅτι ἀσθενῶς ἔχωι; [ῥτι] ἔλεγάν μοι ὅτι οὐκ ἀσθενεῖς καὶ εἰς τοσαύτην λοίπην με βάλλεις ‘why are you writing that you are unwell? they said that you are not unwell but you throw me into such great grief’.
- 32 In Chr.Mitt. 45, a third instance of the pattern might be lost in ll. 8–11.
- 33 The parenthetical may well have coexisted (cf. Soltic 2016).
- 34 The pattern seems more heterogenous and less established than apodotic ἵνα (cf. Fendel 2025).
- 35 This is why the two Ptolemaic instances discussed here feature under factive complement insubordination in the statistics in [Section 10.5](#), whereas the three instances of analogy with ὥστε feature under adverbial insubordination.
- 36 The floating accusative (T. Evans 2012, 107) seems at first to resemble the structures in [Section 10.6](#). The difference lies in their function and attachment to the context.
- 37 Parentheticals fall outside of this idea of discourse organisation, as they have their own intonation contour and illocutionary force (Koev 2022). While possibly being a stepping stone to divorcing the formerly superordinate verb and conjunction from the sentence level (Heine and Kaltenböck 2021), they differ from the outcome structure ([Section 10.3](#) on state vs process).

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CHAPTER 11

Investigating the disclosure formula in non-literary papyri

Some observations on complement clauses

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Abstract

As already pointed out by Bentein (2018), formulaic expressions are an important aspect of non-literary papyri that may provide valuable insights into postclassical Greek. I focus on a corpus consisting of complement clauses that follow the initial greeting formula of private and business letters and by which the senders inform the recipients about a past, present, or future event. This event is encoded within a finite or non-finite complement clause dependent on the verb γι(γ)νώσκω that constitutes part of the so-called disclosure formula. I discuss statistical data concerning the use of tenses in this corpus and reexamine several issues concerning temporal properties of infinitive clauses in postclassical Greek. These issues include expressions of anteriority in infinitive complements, the impact of Latin on the use of the synthetic perfect as the perfective past, and the confusion of tenses in infinitive clauses. In

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addition, I discuss past-oriented participle clauses, arguing that in the corpus, in contrast to classical Greek, the perfect participle adopts the function of conveying anteriority.

11.1 Introduction

In discussing the perfect in Modern English, Comrie (1981, 55) argues that in clauses of the type ‘The security officer believes Bill to have been in Berlin before the war’ the perfect infinitive adopts the function of the simple past (or the perfective past). This is because the infinitive clause can be paraphrased with a finite clause that contains the simple past, and the sentence above corresponds to the sentence ‘The security officer believes that Bill was in Berlin before the war’. The same can be applied to a participle clause. In the sentence ‘Having been in Berlin before the war, Bill is surprised at the many changes’, the participle adopts the function of the simple past because this sentence can be paraphrased as ‘As he was in Berlin before the war, Bill is surprised at the many changes’. Thus, in certain non-finite constructions in English, the perfect infinitive and participle adopt the function of the simple past or the perfect tense (Comrie 1981, 55).

This claim is based on the judgement of English speakers, and it is clear that similar judgements are unavailable in the case of ancient languages such as Ancient Greek. However, documentary papyri appear to contain passages that may provide closer insight into which tense might have been used in finite clauses, corresponding to non-finite clauses, including those that contained non-finite perfect forms, as is the case in the aforementioned English examples. For instance, an ancient receipt typically begins with a greeting formula, which is followed by a statement of acknowledgement. In example (1), this statement contains the perfect infinitive ἀπεσχηκέναι ‘to have received’, dependent on ὁμολογῶ ‘I acknowledge’:

(1) P.Lond. 2.157B, ll. 3–4 (3rd century CE)

ὁμολογῶ
ἀπεσχηκέναι τὰ ἐκφόρια

‘I acknowledge that I have received the rents’

Alternatively, the statement can contain a finite clause, as is the case in example (2). As in (1), the statement refers to having received a rent.

However, it contains the aorist indicative ἀπέσχον ‘I received’ rather than the perfect infinitive ἀπεσχηκέναι, dependent on ὁμολογῶ.

(2) BGU 7.1665, ll. 4–5 (248 CE)

ἀπέσχον παρ’ ὑμῶν
τὸ ἐκφόριον

‘I received the rent from you’

It is reasonable to assume that such near-identical passages, which occur in the same types of documents and can be dated to approximately the same period, provide fairly reliable insight into the aforementioned issue. Arguably, they are one of the many advantages that these texts have for the study of Greek.

This chapter is about a corpus consisting of initial parts of private and business letters (on the tenses in receipts, see Kavčič 2021, 279–81). In addition to infinitive and finite clauses, which may occur—as is the case in examples (1) and (2)—in near-identical contexts, this corpus also contains participle clauses. All these finite and non-finite clauses refer to a variety of events and also shed light on the issue of which tenses were used in finite clauses corresponding to non-finite clauses. I discuss complement clauses that typically follow the initial greeting formula of private and business letters and by which the senders inform the recipients about a past, present, or future event. This event is encoded within a finite or non-finite complement clause dependent on the verb γινώσκω ‘know’ that constitutes part of a formulaic expression that is usually called the disclosure formula. For instance, in example (3), the disclosure formula contains the imperative γίνωσκε ‘know’.¹ This imperative governs an infinitive clause, in which the sender informs the recipient that he has come to the strategos.

(3) SB 3.7264, ll. 1–2 (2nd century CE)

[X]αἰ[ρ]ήμων Ὡρωγι[τῶι] φιλτάτ(ωι) χαίρειν.
γείνωσκε με ἐληλυθέναι ἐπὶ τὸν στρ(ατηγόν)

‘Chairemon greetings to Heron, his dearest. Know that I have come to the strategos’

On the other hand, in example (4) the same disclosure formula governs a finite clause, which is introduced by ὅτι and contains the aorist indicative ἐξῆλθον ‘I came out’.

- (4) P.Col. 4.103, ll. 1–3 (3rd century BCE)

Πᾶις Ζήνωνι χαίρειν.
γίνωσκε ὅτι κα ἐξήλ-
θον ἀπὸ τοῦ δεσμοτηρίου.

‘Pais greetings to Zenon. Know that on the 21st I came out of prison.’

Furthermore, the same disclosure formula introduces the future participle of the verb *τρυγῶ* ‘gather grapes’ in example (5).

- (5) P.Petr. 2.40, ll. 1–3 (3rd century BCE)

Δωρόθεος Θεοδώρῳ
χαίρειν. γίνωσκέ με
τρυγήσοντα τῇ θ
τοῦ Παῦνι

‘Dorotheos greetings to Theodoros. Know that I will gather grapes on the 9th of Pauni’

In addition, the disclosure formula can contain the infinitive *γινώσκειν*, governed by *θέλω* ‘want’ (*γινώσκειν σε θέλω* ‘I want you to know’). This formula can also introduce a finite or, rarely, a non-finite dependent clause. As in examples (3)–(5), this clause is dependent on the verb *γινώσκω*. In example (6), this type of disclosure formula introduces a *ὅτι*-clause.²

- (6) P.Oxy. 41.2982, ll. 1–5 (2nd/3rd century CE)

[Θ]έων Θεωνι τῷ
φιλτάτῳ χαίρειν.
γινώσκειν σε θέλω ὅτι
τῇ ια γεγόναμεν εἰς
Ἑρμοῦ πόλιν

‘Theon greetings to dearest Theon. I would like you to know that on the 11th we came to Hermopolis’

11.2 Aims and corpus

The significance of studying the disclosure formula (as well as other formulaic phrases in documentary papyri) has already been pointed

out by Bentein (2018). Based on the analysis of formulaic phrases and the complementation types they associate with, he has argued that in postclassical Greek the infinitive became increasingly ambiguous in temporal and modal terms, which may have led to its demise. I would like to add statistical data concerning the use of tenses in finite and infinitive clauses and reexamine several issues concerning temporal properties of infinitive clauses in postclassical Greek that were raised in recent studies. They are discussed in greater detail in [Section 11.3](#). In addition, I study temporal properties of participle complements, which have so far been given significantly less attention than infinitive complements.

My corpus contains all reliable instances of finite and non-finite complement clauses, introduced by one of the two types of disclosure formulae that are available in the Duke Databank of Documentary Papyri. All these passages occur after the initial greeting formula of a private or business letter and date back to the period between the third century BCE and fourth century CE.³ [Table 11.1](#) shows the diachronic distribution of the two types of disclosure formulae and the complementation types they introduce.

Table 11.1: Disclosure formula and complementation patterns

Disclosure formula	Complement	3rd–1st c. BCE	1st–4th c. CE	Together
γί(γ)νώσκειν σε θέλω/βούλομαι	Participle	0	0	0
	Infinitive	0	2	2
	Finite clause	0	199	199
γί(γ)νώσκει	Participle	37	8–9	45–46
	Infinitive	10	21–22	31–32
	Finite clause	22	25–26	47–48

Note: The number of complement clauses after γί(γ)νώσκει depends on the interpretation of certain passages; cf. [Subsection 11.4.1](#) and [note 16](#).

The table shows that the disclosure formula of the type γινώσκειν σε θέλω is more common in the Roman period than earlier, which is consistent with the view that it gradually evolved from the formula that contains the imperative of γινώσκω (cf. Porter and Pitts 2013, 422). I assume that there are no semantic differences between the two types of formulae that may be relevant for the purposes of this study.

11.3 Tense in non-finite complement clauses: some open issues

11.3.1 *Declarative infinitive clauses*

An issue that has attracted significant attention in recent studies concerns temporal properties of declarative infinitive clauses. These are infinitive clauses dependent on verbs of saying and thinking, and they ‘represent a statement or thought of the subject of the main verb concerning some state of affairs in the “real” world’ (Rijksbaron 2006, 97), for instance, example (7).

(7) Pl., Resp. 277e8

ἃ φησι δρᾶσαι αὐτὸν Ἡσίοδος

‘What Hesiod said that he had done’

According to grammars of classical Greek, in declarative infinitive clauses infinitives adopt the same temporal functions as the corresponding indicatives in finite clauses. The present infinitive thus expresses simultaneity and the future infinitive posteriority. The aorist infinitive conveys anteriority (or the perfective past), as is also the case in example (7).

The same grammars usually pay little attention to the use of the perfect infinitive in declarative infinitive clauses. Rijksbaron (2006, 98) explicitly states that this infinitive is rare. This may seem expected given that the perfect became especially common in late classical and postclassical Greek (e.g. Haspelmath 1992, 217–20). When attested in classical Greek, it is usually argued that in declarative infinitive clauses the perfect infinitive adopts the function of the perfect indicative of finite clauses, the same as other infinitives adopt the function of their corresponding finite forms. An example is found in van Emde Boas et al. (2019, 594), who claim that the perfect infinitive expresses states or lasting effects that result from a completed anterior event and are simultaneous with the governing verb (cf. Rijksbaron 2006, 98).

It has also been observed that, in contrast to classical Greek, the perfect infinitive is very common in this construction in the postclassical period. Fanning (1990, 401) observes the phenomenon in the New Testament, also adding that the aorist infinitive is not attested at all in the function of conveying anteriority in declarative infinitive

clauses. This observation goes back to Burton de Witt (1898, 53). The same tendencies were observed in private and official papyrus documents and in postclassical lower-register literary texts, although the aorist infinitive is sometimes attested in these texts (Bentein 2018, 95; Kavčič 2020, 11). It is also possible to argue, however, that it tends to be restricted to specific, predictable contexts, such as sequencing of anterior events and factive complements (Kavčič 2020, 18–23).

The lack of the aorist infinitive in postclassical declarative infinitive clauses can be explained as a result of the spread of the perfect, which led to the perfect infinitive adopting the function of the perfective past in declarative infinitive clauses and toward replacing the aorist infinitive (Kavčič 2016, 2020). According to this view, the development was a result of the changes that affected the Ancient Greek synthetic perfect. It is usually argued that classical Greek saw the emergence of the perfect that is usually called the anterior perfect and expresses a past event with subsequent relevance (e.g. Bentein 2016, 153; Haspelmath 1992, 213–17). Subsequently, the perfect became increasingly past-oriented and tended toward adopting the function of the perfective past, thus functionally merging with the aorist. It is well known that, despite this tendency, the perfect only rarely replaced the corresponding aorist form in finite clauses. According to a recent account, this was the case only with the perfect εὑρηκα ‘I have found’ (Modern Greek βρήκα; Holton et al. 2019, 1342–43). However, high frequencies of the perfect infinitive and the lack of the aorist infinitive in declarative infinitive clauses, attested in postclassical texts, suggest that the development was different (namely, the reverse) in this construction. This can be explained as a result of the lack of the augment in the case of the aorist infinitive, which is why the aorist infinitive was ambiguous in temporal terms.⁴ No temporal ambiguity concerned the aorist indicative because, in contrast to other aorist forms, it contained a past-tense marker (namely, the augment). Moreover, perfect forms, including the perfect infinitive, contained a reference to anteriority, and this past-orientedness became increasingly prominent in diachronic terms. As a result, the perfect infinitive tended toward adopting the function of the perfective past in declarative infinitive clauses and—due to the lack of the augment in the case of the aorist infinitive—this tendency was more prominent than the tendency of the perfect indicative toward adopting the function of the perfective past and replacing the aorist

indicative in finite clauses; in the former construction, the perfect infinitive tended toward replacing the aorist infinitive.⁵

The view that the aorist infinitive was ambiguous and that the perfect infinitive is often used in the function of conveying anteriority in declarative infinitive clauses is also adopted by Bentein (2018, 94–95). However, he also adds that changes that affected infinitive clauses in postclassical Greek were more profound, and this is also reflected in the confusion concerning temporal properties of infinitives in post-classical texts. The present infinitive can be used in the function of conveying posteriority and anteriority, in addition to the function of conveying simultaneity. In addition, the aorist infinitive is used not only in the function of conveying anteriority but may also convey posteriority. According to Bentein (2018, 104–5), this confusion may have led to the eventual demise of the infinitive.

Therefore, it appears that expressions of temporality in declarative infinitive clauses underwent significant change in postclassical Greek. It remains open, however, whether or not this concerns only expressions of anteriority in this construction.

11.3.2 *Participle and finite clauses*

Already in classical Greek, the verb γινώσκω could govern a declarative infinitive clause in addition to the participle complement, but with a semantic distinction. According to van Emde Boas et al. (2019, 620), it was used as a verb of opinion (corresponding to ‘judge’) in the former case and as a verb of knowledge in the latter case (corresponding to ‘find, notice, realise’). In postclassical Greek, this distinction appears to have been lost. According to Bentein (2017, 12), the infinitive is found even after verbs that ‘are clearly factive in nature’ (in other words, after verbs of knowledge).⁶ The participle was nonetheless also used in postclassical Greek, as is also indicated by example (5), and my corpus contains examples of both infinitive and participle complements. It appears that there was a diachronic tendency toward the infinitive becoming more common than the participle in this construction. Ljungvik observes that in early Christian texts the latter is more common after the verb γινώσκω than the former, also suggesting that this was a feature of Koine (Ljungvik 1926, 52, 55). This also means that in postclassical Greek the infinitive may have seen a spread of this type of complement clause, which may seem especially

surprising in light of the well-known process of the infinitive demise. However, such phenomena have been observed in postclassical Greek as well as in later Byzantine Greek. Joseph (2000, 319) thus argues that ‘the development of a new function for the infinitive is not such an unusual or unnatural occurrence.’²

As for the temporal properties of factive participle complements dependent on γινώσκω, grammars of classical Greek usually claim that participles adopt the same temporal functions as the corresponding indicatives in finite clauses, as is the case with infinitives in declarative infinitive clauses (cf. [Subsection 11.3.1](#)). In other words, the aorist typically expresses anteriority (or the perfective past), the present simultaneity, and the future posteriority. As for the perfect participle and infinitive, it is usually assumed that in classical Greek they express simultaneous states that may originate from a past event (van Emde Boas et al. 2019, 608–9; cf. Rijksbaron 2006, 117).

Considering that expressions of temporal relations in infinitive complements may have undergone significant change in postclassical Greek, one can also raise the issue of whether a corresponding process affected participle complement clauses. If it is assumed that the tendency of the perfect to adopt the function of the perfective past in declarative infinitive clauses was related to the lack of the augment in the case of the aorist infinitive and to the spread of the anterior perfect, this seems to be the expected development because the aorist participle—which adopted the function of the perfective past in classical Greek in complement clauses dependent on γινώσκω—also lacked the augment. Therefore, the expected development in this construction in postclassical Greek would be a preference for the perfect participle over the aorist participle. This issue has so far attracted no attention, which is why I address it in this chapter.

Already in classical Greek, γινώσκω could govern finite clauses introduced with ὅτι or ὥς (van Emde Boas et al. 2019, 620). This complementation pattern became increasingly prominent in later periods and is also attested in my corpus, as was already shown in examples (4) and (6).

11.3.3 Language contact and the function of the perfect

As stated in [Subsection 11.3.1](#), the processes that appear to have affected expressions of anteriority in infinitive complements in postclassical

Greek can be seen as a language-internal development, resulting from the changes that affected the synthetic perfect, and the lack of the augment in the case of the aorist infinitive. It can also be argued that the tendency of the perfect to adopt the function of the perfective past in declarative infinitive clauses was a common feature of Koine, given that it has been observed in a variety of postclassical texts, including private and official non-literary papyri, New Testament and other early Christian texts, and literary, mostly lower-register texts (for a detailed discussion, see Kavčič 2021).

It nonetheless needs to be mentioned that the corpus discussed here contains texts that may have been significantly affected by intense language contact. According to Leiwo (2010, 2017, 2018, 2020), this was the case in the language of texts preserved on ostraca from the Eastern Desert, which in my corpus represent approximately 40 per cent of the texts from the first and second centuries CE.⁸ Many authors of these texts knew Greek only as their second language, and they display standard and non-standard features, including non-native and non-grammatical ones. For the purposes of this chapter, it must also be emphasised that these conditions may have strengthened the tendency of the perfect to adopt the function of the perfective past (Leiwo 2020, 17). This is not an entirely novel idea. According to Robertson (1915, 359), the confusion of the perfect and the aorist in Greek was ‘partly due to the Latin influence’, whereas more recently Horrocks (2010, 176) mentioned the possibility that Latin ‘promoted’ the tendency toward the perfect adopting the function of the perfective past.⁹ These claims typically contain examples of the perfect indicative and do not explicitly mention non-finite forms of the perfect (which are the focus of this chapter). This does not mean, however, that language contact may not have played a role in the use of latter forms. As a result, I also discuss whether this could have been the case in my corpus.

In what follows, I first examine whether participle clauses in my corpus display a tendency towards the perfect participle adopting the function of the perfective past (and towards replacing the aorist participle in this function). Subsequently ([Subsection 11.4.2](#)), I discuss infinitive clauses in my corpus. I argue that they provide additional evidence in support of the view that the perfect infinitive typically adopts the function of the perfective past, and I discuss whether the corpus displays confusion in terms of the temporal properties of infinitives. In addition, I examine whether, in terms of expressing temporal

relations in non-finite clauses, the texts from the Eastern Desert display significant differences with respect to other texts from the same period ([Subsection 11.4.3](#)). [Section 11.5](#) contains conclusions.

11.4 Expressions of temporality in the corpus investigated

11.4.1 Participle clauses

My corpus displays examples of participle complements in texts dating to between the third century BCE and fourth century CE. It contains 45 or 46 instances of participle clauses, the number depending on the interpretation of the complement clause in P.Hamb 3.227, l. 4. According to Hagedorn (2001), it may contain the aorist participle or the aorist infinitive of λαμβάνω ‘get’ (λαβόντα or λαβεῖν). [Table 11.2](#) also shows that participle complements are by far the most common in the third century BCE.

The most common tense in participle complements is the perfect. The corpus contains 22 instances of the perfect participle, which amount to approximately 48 per cent of all the participle complements. The perfect is followed by the present participle, which is represented by 17 cases. The aorist participle and the future participles are much rarer. The former is represented by three reliable cases and an additional two unreliable cases,¹⁰ and the latter is represented by two cases from the early Hellenistic period. [Figure 11.1](#) shows the relative frequencies of these forms in the corpus, if all (including unreliable) instances of the aorist participle are counted. In this case, the participles amount to 46 instances, and the perfect participle is more than

Table 11.2: Complementation types by century in the corpus investigated

	3 c. BCE	2 c. BCE	1 c. BCE	1 c. CE	2 c. CE	3 c. CE	4 c. CE	Together
Participle	33	3	1	2	3	1–2	2	45–46
Infinitive	2	5	3	3	15	1–2	4	33–34
Finite clause	17	2	3	13	108	67–68	36	246–247

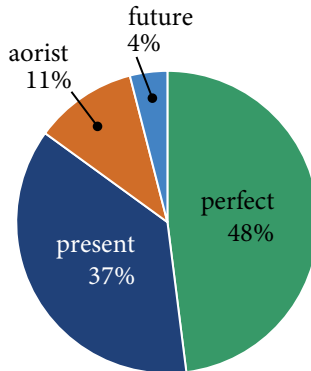


Figure 11.1: Aspect/tense in participle complements (percentages)

four times as frequent as the aorist participle (which is represented by five instances); if, on the other hand, only reliable instances of the aorist participle are counted, the former is more than seven times as frequent as the latter (and the aorist participle amounts to 7 per cent of the participles in the corpus).

This data indicates that in my corpus the aorist and the perfect participle display similar tendencies as the aorist and the perfect infinitive in declarative clauses in postclassical Greek, where the perfect infinitive strongly prevails over the aorist infinitive (cf. [Subsection 11.3.1](#)). In my corpus, this holds true in participle clauses, even if all (including unreliable) instances of the aorist participle are counted. This can be taken as an indication that participle complements underwent the same development as declarative infinitive clauses and that, owing to the lack of the augment in cases of the aorist participle, the perfect thus tended toward replacing the aorist participle in the function of the perfective past. Further evidence for this view concerns the fact that in my corpus the perfect participle can be modified by a time specification of a past event. An example is (8), in which the accusative form of the perfect participle (παραδεδοκώς ‘having handed over’) is modified by τοῦ Ἐφείπ ι (‘on the 10th of Epeiph’).

(8) P.Mich. 1.58, ll. 6–9 (248 BCE)

γείνωσ-
κε Ἐτέαρχον παραδε-
δοκός/τα με τῶι πρῶ-

κτορι τοῦ Ἐφεῖπ ι

‘Know that Etearchos handed me over to the praktor on the 10th of Epeiph’

It is widely accepted that, if a perfect form is modified by a time specification of a past event, it adopts the function of the perfective past, as happens in English in the examples that were cited in [Section 11.1](#) (cf. Bentein 2016, 153; Mandilaras 1972, 17; another example: PSI 5.499, ll. 2–3).

Another piece of evidence for the view that in my corpus the perfect participle adopts the function of the perfective past concerns the fact that the corpus displays variation between infinitive and finite clauses in complements introduced by the disclosure formula. [Table 11.2](#) has already shown that finite complement clauses are already attested in the early Hellenistic period, which also displays the majority of participle complements from my corpus. [Table 11.3](#) provides a more detailed account of these complementation patterns and the tense forms they contain.

[Table 11.3](#) shows that, especially in the third century BCE, both finite and participle complement clauses are fairly frequently attested in my corpus. The letters from this century contain more than 30 examples of the latter and 17 examples of the former. On the other hand, infinitive complements are highly uncommon in this period. Furthermore, finite clauses in this period display a significantly different distribution of tense forms than participle complements: there are five instances of the aorist indicative, five instances of the perfect, six instances of the present, and one instance of the future indicative. The absolute numbers are low, and it appears that in this period the participle complement was commonly adopted after the verb γινώσκω. There is, nonetheless, no reason to assume that the aorist was avoided in finite clauses, which stands in contrast to the distribution of tense forms in participle complements from the same period. For instance, the aorist indicative is found in example (4).¹¹

According to Porter and Pitts (2013, 434), ‘[t]he most fundamental function of the [disclosure] formula is to mark important or thematic information.’ This means that the information in the dependent clause may have been expressed with the perfect to stress its relevance; as stated in [Subsection 11.3.1](#), this was the main function of the anterior perfect (for a similar approach, see Bruno 2021, 252). This assumption

Table 11.3: Aspect/tense in complement clauses introduced by disclosure formulae

Comple- ment	Century	Aorist	Per- fect	Pre- sent	Future	Impf.	Plupf.	Imper.	Σ
Participle	3rd BCE	0	18	13	2				33
	2nd BCE	1(?)	2	1(?)	0				3
	1st BCE	0	0	1	0				1
	1st CE	0	2	0	0				2
	2nd CE	0	0	3	0				3
	3rd CE	1–2	0	0	0				1–2
	4th CE	2	0	0	0				2
Infinitive	3rd BCE	0	1	1	0				2
	2nd BCE	0	4	1	0				5
	1st BCE	0	2	1	0				3
	1st CE	0	3	0	0				3
	2nd CE	0	13	2	0				15
	3rd CE	1 (?)	1	0	0				1–2
	4th CE	0	3	1	0				4
Finite clause	3rd BCE	5	5	6	1	0	0	0	17
	2nd BCE	1	0	1	0	0	0	0	2
	1st BCE	0	1	2	0	0	0	0	3
	1st CE	6	4	3	0	0	0	0	13
	2nd CE	58	21	26	0	3	0	0	108
	3rd CE	41	8	14	1(?)	2	1	1	67–68
	4th CE	22	6	4	0	1	0	3	36

Note: Especially in the Roman period, some documents cannot be safely dated to a particular century. In such cases, I adopted the latest possible datation. The abbreviations Impf. and Plupf. refer to the imperfect and the pluperfect, whereas Imper. refers to finite forms expressing an order or another directive (cf. Fendel 2022).

can provide an explanation for the preference for the perfect participle in participle complements. However, one would also have to assume that there was less stress on the information expressed in the complement clause if it contained the aorist, and that especially the events expressed in finite clauses were seen as less relevant than those expressed in participle clauses (because, in contrast to participle complements, the aorist does not seem to be avoided, in this period, in finite clauses). This is far from a plausible assumption, however, because it is unclear why this distinction between finite and participle clauses might have applied. It is much more reasonable to assume that the function of the perfective past is typically adopted by the aorist indicative in finite clauses and by the perfect participle in participle clauses (which is related to the lack of the augment in the case of the aorist participle, as suggested in [Subsection 11.3.2](#)). To be precise, the perfect participle adopts the function of the perfective past in addition to the function of the perfect; as stated in [Section 11.1](#), this also happens in certain participle (and infinitive) constructions in English. For instance, the perfect participle of the verb *παράγινωμι* 'arrive' (*παράγεγονότα*) is modified with *οὐπω* 'yet' in P.Cair.Zen.1.59084, l. 10. It thus refers to a past event that happened at an unspecified time, and this function is typically associated with the anterior perfect.¹²

It could also be argued that the situation in the Roman period is inconsistent with the view that the perfect participle typically adopts the function of the perfective past, because the documents from this period contain several (namely, three or four) aorist participles (cf. [Table 11.3](#)). It seems possible that in at least one of these cases the aorist participle occurs within a frequent, widely used phrase. This is the case with *παράγενόμενος* in P.Stras. 1.37, ll. 3–4 (third century CE): *γείνω[σκέ] με παράγενόμεν[ον]* 'know that I have arrived'. The same participle, however, was perhaps also used in P.Ryl. 4.671, ll. 3–4, which contains the only potential instance of the aorist participle in the Hellenistic period; namely, *παρ[α]γ[ε]νόμενον*, where the reading is ambiguous between the present and the aorist participle (*παράγε-νόμενος* and *παράγενόμενος*).¹³ In general, the verb *παράγινωμι* is common in both finite in non-finite clauses in my corpus. It contains examples of the perfect infinitive *παράγεγονέναι* (O.Claud. 1.141, l. 3), the present participle *παράγινόμενος* (SB 14.11699, ll. 4–5), the perfect participle *παράγεγονός* (P.Cair.Zen.1.59084, l. 10), and the aorist indicative *παρεγένετο* (e.g. P.Mert. 2.66, l. 6). Therefore, frequent use

of this verb in complement clauses introduced by the disclosure formula perhaps led to the retention of an archaic expression with the aorist participle.

These examples show that, despite the spread of the perfect participle in complement clauses governed by γινώσκω, the aorist participle could be used in the function of the perfective past.¹⁴ It is also true, however, that in the corpus as a whole the perfect participle strongly prevails over the aorist, whereas no such tendency applies in finite clauses. As stated in [Subsection 11.3.2](#), this is the expected situation if it is assumed that in postclassical Greek participle complements underwent the same development as declarative infinitive clauses.

It is worth noting that this development may not have affected all participle clauses. Bentein (2017, 11) cites the phrase εὔρον αὐτ[ὴν ἐ]μνησθεῖσαν, which contains the aorist participle ἐμνησθεῖσαν, dependent on εὔρισκω, which conveys anteriority. He also adds that in this case the accusative can function as the object of the governing verb or as the subject of the participle clause (and the passage can be interpreted as ‘I found it burnt’ or ‘I found that it had been burnt’; Bentein 2017, 11). Therefore, it seems possible that the spread of the perfect participle primarily concerns the construction in which the accusative functions as the subject of the participle clause (which is named the “real” accusative plus participle’ in Rijksbaron 2006, 118), as is the case in my corpus.¹⁵

11.4.2 *Infinitive clauses*

My corpus contains 33 or 34 examples of the infinitive complement that date to between the third century BCE and the fourth century CE. As already stated, the number depends on the interpretation of the complement clause in P.Hamb. 3.227 (cf. [Subsection 11.4.1](#)). In contrast to the participle complement, which is mostly attested in the early Hellenistic texts, the majority of the infinitive clauses in my corpus are from the Roman period. This data is consistent with the view that, in diachronic terms, there was a tendency toward the use of the infinitive rather than the participle in non-finite clauses dependent on γινώσκω (cf. [Subsection 11.3.2](#)).

The distribution of tense forms in these passages is similar to the distribution of tense forms in participle complements in the respect that the perfect is the most common tense and that it is followed by the

present and the aorist. In relative terms, the perfect infinitive is even more common in infinitive complements than the perfect participle in participle clauses. It represents 79 per cent of all infinitive complements if the unreliable instance of the aorist infinitive in P.Hamb. 3.227 is counted (and 82 per cent if it is not counted). The aorist infinitive, on the other hand, is highly uncommon (if not absent): the unreliable instance of the aorist infinitive represents 3 per cent of infinitive complements. The present infinitive is found in six passages, which represent 18 per cent of all infinitives in my corpus. In contrast to the future participle, which is attested in two instances from the Hellenistic period, the future infinitive is not attested in my corpus. This can be seen as a result of the retreat of the synthetic future, a well-known process that affected postclassical Greek. The majority of the infinitives in my corpus are from the Roman period—that is, from a later period than the majority of the participles from my corpus. Therefore, the future participle may have been more common in the Hellenistic period than was the case with the future infinitive in the subsequent centuries, which explains why only the former is attested in my corpus.

[Figure 11.2](#) shows the relative frequencies of the infinitive in my corpus if the unreliable instance of the aorist infinitive is counted. In this case, perfect infinitives amount to 79 per cent, present infinitives to 18 per cent, and aorist infinitives to 3 per cent.

My corpus does not differ significantly from the other postclassical corpora that were mentioned in [Subsection 11.3.1](#): the aorist infinitive appears to be avoided, whereas the perfect infinitive is by far the most frequent infinitive in the construction. As was suggested in the same section, this is an indication that in postclassical Greek the perfect infinitive tended toward adopting the function of the perfective past in declarative infinitive clauses (and replacing the aorist infinitive). As with the participle, this assumption is further supported by those passages from my corpus in which the perfect infinitive is modified by a time specification of a past event; for instance, the infinitive *κατηντηκέναι* ‘to have arrived’ is modified with *τῇ τρίτῃ μηνὸς* ‘on the third day of the month’ in P.Brem. 48, ll. 3–4 (see also SB 20.15165, l. 5).

As was argued in relation to the participle clause in my corpus, further evidence for this view concerns the fact that my corpus displays variation between infinitive and finite clauses in passages introduced by the disclosure formula. [Table 11.3](#) shows that in the documents from

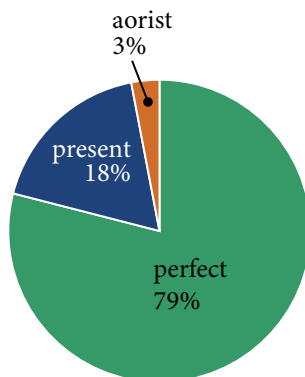


Figure 11.2: Aspect/tense in infinitive clauses (percentages)

the second century CE, which contain the most examples of infinitive complements in my corpus, the aorist strongly prevails over the perfect, whereas the reverse applies in infinitive clauses from the same period, which display no reliable instance of the aorist infinitive. In this century, there are 58 instances of the aorist and 21 instances of the perfect indicative. In addition, the latter is often used in the function of the perfective past rather than in the function of the anterior perfect; for instance, in passages in which the perfect indicative is modified by a time specification of the past event, as is the case in example (6) (see also P.Koeln. 1.56, ll. 3–4; SB 24.16337, l. 2). According to Horrocks (2010, 176), this is also likely to be the case with the perfects ἐπιβέβηκα and ἔμελκε (l. μεμέληκε) in P.Oxy. 8.1155, ll. 3–5 (which is part of my corpus). The latter contains the augment rather than the reduplication, which can be taken as reflecting the confusion between the aorist and the perfect.

It is also true that not all perfect forms are necessarily used in the function of the perfective past because the distinction between the perfective past and the anterior perfect is far from clear-cut (e.g. Horrocks 2010, 176). This data nonetheless shows that, in finite complements of my corpus, the perfective past was the most common tense and that it was even more common than suggested by the numbers of the aorist indicative in my corpus. It can also be argued that in finite clauses past events are typically encoded with the perfective past. Therefore, an additional argument in support of the view that in infinitive

complements the perfect infinitive adopts the function of the perfective past concerns the distinction between the use of the perfect in non-finite clauses and in finite clauses in my corpus. It is unlikely that in infinitive clauses, which display a preference for the perfect infinitive over the aorist infinitive, the perfect infinitive is used to stress current relevance of a past event (or in the function of the anterior perfect): this would mean that in my corpus the events expressed in finite clauses would be presented as less relevant than those expressed in infinitive complements because the perfect is much rarer, in relative terms, in the former than in the latter. It is much more reasonable to assume that in infinitive complements the perfect infinitive typically adopts the function of the perfective past, as is the case with the perfect participle in my corpus (cf. [Subsection 11.4.1](#)).

11.4.3 Confusion of tenses in infinitive complements?

As stated in [Subsection 11.3.1](#), Bentein (2018) has also suggested that in postclassical Greek there may have been confusion regarding the temporal properties of infinitives.

So far the data from my corpus has shown that in infinitive complements the perfect infinitive typically adopts the function of the perfective past. If the aorist infinitive is the correct reading in P.Hamb. 3.227, l. 4., there is, however, no reason to believe that it is not used in the same function; in ll. 4–6, the sender of the letter informs the recipient that he received the contract (on this passage, cf. [Subsection 11.4.1](#)).

Rather than assuming that this data reflects confusion in terms of temporal properties of infinitive clauses, it can be argued that it is a reflection of the tendency toward the perfect adopting the function of the perfective past in non-finite complements in general because non-finite aorist forms lacked the past-tense marker. According to this view, which was explained in greater detail in [Subsection 11.3.1](#), the tendency of the perfect to adopt the function of the perfective past was more prominent in non-finite clauses than in finite clauses (where the perfect only rarely replaced the aorist in this function). My corpus is consistent with it because the aorist is the most common tense in finite clauses. It is used in 54 per cent of the finite clauses in my corpus, whereas the second most common tense in finite clauses is the present indicative (23 per cent of finite clauses), followed by the perfect

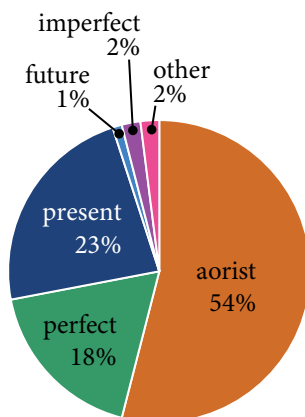


Figure 11.3: Aspect/tense in finite clauses (percentages)

indicative (18 per cent), whereas other finite forms are much less common. This is shown in [Figure 11.3](#).

It remains to be seen whether there may have been confusion regarding temporal properties of other infinitives (namely, the future and the present) in my corpus. It can first be observed that the future is highly uncommon in both finite and infinitive clauses (cf. [Table 11.3](#)). This can be seen as a result of two tendencies. As stated in [Subsection 11.4.2](#), the disclosure formula usually introduces a complement clause referring to a past event. References to future events are much rarer, although the corpus also contains two instances of the future participle (which convey posteriority; see passage (5), as well as PSI 5.522, l. 1). In addition, it contains a reliable and an unreliable instance of the future indicative (cf. [Table 11.3](#)).¹⁶ However, the lack of the future-tense forms in my corpus can also be related to the retreat of the Ancient Greek synthetic future. This may have led to occasional adoption of the present in references to future events even in finite clauses. An example is μέλλων ἡνιαυτὸν μ[ό]νον στρατεύομαι καὶ ἀπολύομαι ‘I will be in service the next year and I will be released’ (SB 9636, ll. 4–5), which contains future-oriented present indicatives (στρατεύομαι ‘I am in service’ and ἀπολύομαι ‘I am released’), as is also indicated by the adverbial τὸν μέλλοντα (l. μέλλοντα) ἡνιαυτὸν ‘the next year’.

Finally, my corpus contains six instances of the present infinitive. One of these is ἐκβάλλειν ‘to throw out, send’ in example (9).

According to Bentein (2018, 99), this is one of the rare instances of the present infinitive adopting the function of conveying anteriority.

(9) BGU 16.2602 ll. 5–11 (14/13 BCE)

γεινωσκε Ἐρωτον τὸν παρὰ
 Λ<ο>ύπου τοῦ στρατηγοῦ ἐγβάλλ-
 λειν ἀνθρώπους ἐπὶ τὰ χόματα
 καὶ τὰ νῦν ἦλθεν ἐπὶ τοῦς
 γεωργούς σου καὶ ἀνήγκασε
 αὐτούς ἡμέρας δύο ἐκεῖ ἐρ-
 γάζεσθαι, ll. 8–11

‘You should know that Eros, the subordinate of Lupus, the strategos, has sent men to the dikes. Even now he is going to your farmers and forcing them to work two days there’ (transl. Brashear 1995, 87)

This is part of a letter in which farmers of village complain that ‘a certain Eros ... has attempted to coerce them into canal work’ (Brashear 1995, 86). The view that the infinitive ἐκβάλλειν conveys anteriority is also supported by the translation that is cited above. However, Bentein (2018, 99) already draws attention to the fact that there is little difference in this case between the present infinitive (ἐγβάλλειν) and the corresponding aorist infinitive (ἐγβαλεῖν), which may raise the issue whether the author of the letter was aware of the difference between the two infinitives or (perhaps) whether the reading of the passage is correct. Nevertheless, the context also suggests that, if ἐγβάλλειν is the correct reading, one should not exclude the possibility that it conveys simultaneity—namely, the habit of Eros to coerce the farmers into the canal work—which is followed by a statement that now he came again and forced them to work there for two days. In this case, example (9) is translated as follows: ‘Know that Eros, the subordinate of Lupus, the strategos, is sending men to the dikes. Even now he came to your farmers and forced them to work there for two days.’ It seems that the English translation of the tense forms in Brashear (1995, 87), although consistent with Bentein (2018, 99), should not be taken as entirely correct. It is worth noting that the aorist indicatives (ll. 8–9) are translated with the present tenses, namely, ἦλθεν as ‘he is going’ and ἀνήγκασε as ‘[he is] forcing’. In any case, this does not seem to be a convincing example of a present infinitive conveying anteriority.

It seems noteworthy that, in two instances from the Hellenistic period, the present infinitive is coordinated with one or more perfect infinitives (P.Mich. 10.601, ll. 2–9, ca 250 BCE; UPZ 1.61, ll. 5–13, 161 BCE). It may thus seem that it conveys anteriority, the same as the preceding perfect infinitives. However, there is no reason to assume this. For instance, in P.Mich. 10.601, ll. 2–9 (ca 250 BCE), in which the perfect infinitive *κεκωλύσθαι* cooccurs in a complement clause with the present infinitive *φάσκειν*, the latter conveys simultaneity and the former anteriority. This is also supported by the modern translation of the Michigan papyri, in which the former infinitive is translated as ‘we have been prevented’ and the latter as ‘they are saying’ (Brown 1970, 79). Finally, there is no reason to assume that the other present infinitives in my corpus do not convey simultaneity; for instance, the present infinitive *ἔχειν* ‘to have’ (spelt *ἐχίν*) in O.Krok. 2.321, ll. 5–6, refers to the state of not having vessels, which is simultaneous with the governing verb (see also P.Fay. 117, ll. 3–4; P.Herm. 8, ll. 7).

Therefore, it can be argued that, rather than displaying confusion in terms of the temporal properties, in my corpus infinitive clauses reflect processes that affected the tense system in postclassical Greek. It may be true that the disclosure formula rarely introduces a complement clause that refers to posteriority, which may have contributed to the lack of the future infinitive in my corpus. However, this lack is also consistent with the retreat of the synthetic future, and this process explains why my corpus contains two future participles in the early Hellenistic period and no future in infinitive clauses, which are much more common in the Roman period than earlier. Furthermore, low relative frequencies of the aorist infinitive and high relative frequencies of the perfect infinitives can be accounted for in terms of the tendency towards the perfect adopting the function of the perfective past. Finally, there is no reason to believe that this corpus displays any confusion concerning temporal properties of the present infinitive, which appears to convey simultaneity.¹⁷

11.4.4 Infinitives in the texts from the Eastern Desert

In the passages that are investigated in this chapter, the texts from the Eastern Desert contain four instances of the perfect infinitive and one reliable instance of the present infinitive. Whereas the only instance of the present infinitive was cited in [Subsection 11.4.3](#), the perfect

infinitive is found in O.Claud. 1.141, O.Claud. 2.383, O.Did. 449, and O.Did. 406. These infinitives display several non-standard features or simple mistakes. For instance, the syllable *-ve-* is missing in the form *παραγεγοναι* (O.Claud. 1.141, l. 3), which appears to represent the perfect infinitive *παραγεγονέναι* ‘to have arrived/come’, and the perfect infinitive in O.Claud. 2.383, l. 4 is wrongly augmented (*ὕπηκουκέναι* instead of *ὕπακηκουέναι* ‘to have listened’). On the other hand, *παρὰδεδωκέναι* in O.Did. 406 is the correct form but is used in a syntactically rather unusual construction. As shown in [Table 11.1](#), this is one of two instances of the infinitive complement after the latter type of the disclosure formula (see also P.Mich. 8.476).

The numbers are low and may not be conclusive. It is, nonetheless, worth noting that these infinitives reflect what appears to be a general tendency in my corpus, namely, the preference for the perfect infinitive and the occasional adoption of the present infinitive. There is also no reason to believe that the latter is not used in the function of conveying simultaneity, as was argued in [Subsection 11.4.3](#). Furthermore, the perfect infinitive adopts the function of conveying anteriority (or the perfective past). An example is found in O.Claud. 1.141, in which the sender (Silvanus) informs another Silvanus that he has arrived at the Dry Sea:

- (10) O.Claud. 1.141, ll. 2–4 (ca 109–110 CE)

Σιλβανὸς Σιλβανῶι τῶι
ἀδελφῶι χαίρειν. γείνωσ-
κε, ἄδελφε, παραγεγο<νέ>ναι
ἡμᾶς εἰς Ξηρὸν Πέλαγον

‘Silvanus to Silvanus, his brother, greetings. Know, brother, that we came to the Dry Sea’

In another letter, the sender Silvanus informs the addressee, who is also called Silvanus, that he came to Raima:

- (11) O.Claud. 1.142, ll. 1–3 (ca 109–110 CE)

Σιλβανὸς Σιλβανῶι τῶι ἀδελ-
φῶι πλεῖστα χαίρειν. παραγενά-
μην εἰς Ῥαίμα

‘Silvanus to Silvanus, his brother, many greetings. We came to Raima’

There is an important syntactic difference between the two examples: in (10), the past event is encoded within an infinitive clause that contains the perfect infinitive παραγεῖν<νέ>ναι, whereas in (11) the event is encoded within a finite clause that contains the aorist indicative (παράγενάμην ‘I arrived/came’). Like examples (1) and (2), these examples from the Eastern Desert contain a finite clause and an infinitive clause in near-identical contexts. It also seems that, unlike examples (1) and (2), the two passages from the Eastern Desert may have had the same author, although the handwriting in the two letters appears to be different and they may have been written by different persons called Silvanus (Bülow-Jacobsen 1992, 141–42). Even if this was the case, however, these examples suggest—as do examples (1) and (2)—that a finite clause, corresponding to a declarative infinitive clause containing a perfect infinitive, contains the aorist indicative and that the perfect infinitive is thus used in the function of the perfective past. It seems possible that the author(s) of the texts may not have had the best command of Greek, as is indicated by the lack of the augment in the case of the aorist indicative παράγενάμην in (11) (on this phenomenon, see Gignac 1981, 223) and perhaps also the missing syllable in the perfect infinitive in (10). It remains to be seen, however, whether this may have also led to the adoption of this infinitive in the same passage (for a detailed discussion of these passages, see Kavčič 2023; in Slovenian).

The same as other texts from my corpus, the texts from the Eastern Desert also display a contrast between finite and infinitive clauses in the respect that the aorist appears to be avoided in the former and not in the latter. In finite clauses, the aorist is the predominant tense and is found in 26 finite clauses (53 per cent). This is shown in [Table 11.4](#).

Table 11.4: Aspect/tense in ostraca from the Eastern Desert

	Aorist	Perfect	Present	Imperfect	Together
Indicative	27 (53%)	12 (23.5%)	11 (21.5%)	1 (2%)	51 (91%)
Infinitive	0	4 (80%)	1 (20%)	0	5 (9%)

As in other texts from the same period, the function of the perfective past can also be expressed in a finite clause with a perfect indicative. For instance, the passive indicative [πε]φόνευνται ‘she was killed’ in O.Krok. 2.218, ll. 3–4, is modified with the adverbial μέσον τῆς πορείας ‘in the middle of the journey’, which implies a past event, and thus the perfect indicative seems to be used in the function of the perfective past without referring to the subsequent state of affairs, the same as happens if a perfect form is modified with a time specification of a past event (cf. [Subsection 11.4.1](#)). In addition, ἔμηνηκα ‘I became mad’ in O.Did. 44, ll. 8–9, contains the augment in place of the reduplication; as stated in [Subsection 11.4.2](#), this may have been a result of the confusion between the aorist and the perfect. These are further indications that, in texts from the Eastern Desert, a past event is usually encoded in a finite clause with the perfective past. As was argued in [Subsection 11.4.2](#), this supports the view that in my corpus the perfect infinitive also adopts the function of the perfective past.

Comparison between the letters from the Eastern Desert and other texts from my corpus nonetheless reveals two interesting differences. First, infinitive complements are less common, in relative terms, in the texts from the Eastern Desert than in other letters from the same period (first–second century CE). In the texts from the Eastern Desert, the infinitive complement is used in 9 per cent of complements, whereas it is almost twice as common in other letters from the same period, amounting to 16 per cent of all the complement clauses. Furthermore, the perfect indicative is more common, in relative terms, in the texts from the Eastern Desert than in other texts from the same period. [Table 11.4](#) shows that it is used in 23.5 per cent of finite clauses in my corpus and that it is the second most common tense in finite clauses. The situation is different, however, in other letters from the same period, where the perfect indicative is used in 17 per cent of finite clauses and is significantly less common than the aorist and the present indicative. This is shown in [Table 11.5](#).

Therefore, this data, in addition to passages displaying the use of the perfect indicative in the function of the perfective past, indicates that the tendency of the perfect indicative to adopt the function of the perfective past in finite clauses was more prominent in the texts from the Eastern Desert than in other texts from the same period. This is also consistent with Leiwo (2020, 17; cf. [Subsection 11.3.3](#)). However, there is no reason to assume that the tendency towards the perfect

Table 11.5: Aspect/tense in other letters (first–second century CE)

	Aorist	Perfect	Present	Imperfect	Together
Indicative	38 (54%)	12 (17%)	18 (26%)	2 (3%)	70 (84%)
Infinitive	0	12 (92%)	1 (8%)	0	13 (16%)

infinitive adopting the function of the perfective past in declarative infinitive clauses was more prominent among speakers of Greek in the Eastern Desert than elsewhere. Indeed, Tables 11.4 and 11.5 suggest that in the texts from the Eastern Desert the perfect infinitive was even less common in relative terms in infinitive complements (80 per cent) than in other texts from the same period, where it amounts to 92 per cent of all infinitives. It is also true that these numbers are very low in absolute terms and are best interpreted as inconclusive. Given the lack of evidence that the adoption of the perfect infinitive in the function of the perfective past in declarative infinitive clauses is contact-related, it is best explained as a language-internal development, related to the lack of the augment in the case of the aorist infinitive. In other words, the perfect and the aorist may have been confused in finite clauses because the perfect tended towards adopting the function of the perfective past, and this confusion may have been especially prominent among speakers of Greek in the Eastern Desert. However, no such confusion affected non-finite clauses: owing to the lack of the augment in the case of non-finite aorist forms, the latter were aspectual (perfective) in form, and only the corresponding perfect forms could unambiguously convey the perfective past.¹⁸ Concerning example (10), this means that although the author of the text may not have had the best command of Greek, the adoption of the perfect infinitive was a result of the language-internal development that affected postclassical Greek and appears equally common in other texts from the same period.¹⁹

11.5 Conclusions

In clauses introduced by the disclosure formula, the authors of the texts from my corpus usually report a past event. In the letters from the early Hellenistic period, this event is usually encoded in a participle clause and less frequently in a finite clause or an infinitive clause. The latter

two complement types become more common in later periods, and it is thus possible to compare the use of tenses in non-finite and finite clauses introduced by the disclosure formula throughout the period that was in focus here. This comparison shows that the most common tense in finite complements is the aorist indicative, which expresses the perfective past, and this function is also occasionally adopted by the perfect indicative. On the other hand, participle and infinitive complements in my corpus commonly adopt the perfect, whereas the aorist is significantly less common. This contrast between finite and non-finite clauses is consistent with the view that, owing to the lack of the augment in the case of the aorist participle and aorist infinitive, the tendency of the perfect to adopt the function of the perfective past was more prominent in non-finite complement clauses than in finite clauses. My corpus thus provides additional evidence for the view that this process affected declarative infinitive clauses. Furthermore, the corpus suggests that the same process affected participle clauses, which have so far been given significantly less scholarly attention than infinitive clauses. It is possible, however, that this happened only in the construction accusative plus participle, in which the accusative functions as the subject of the complement clause. This issue requires further investigation.

It has also been suggested that postclassical texts display confusion in terms of temporal properties of infinitives. My corpus appears consistent with the view that, in declarative infinitive clauses, the aorist infinitive tended to be omitted due to the spread of the perfect, whereas the present tended to retain its function of expressing simultaneity. The future infinitive is not attested at all, which is consistent with the gradual retreat of the synthetic future, although future-oriented complement clauses are in general rare in my corpus. This may have contributed to the lack of this infinitive. It nonetheless does not seem that the corpus displays any significant confusion in terms of temporal properties of the infinitive, and it may seem surprising that this also applies to the texts from the Eastern Desert. The authors of these texts may have been uncertain regarding the functions of the perfect and the aorist in finite clauses, which appears to have led to an increase in the use of the perfect indicative in the function of the perfective past. However, due to the lack of the augment in the case of the aorist infinitive, no such confusion concerned declarative infinitive clauses.

Notes

- 1 When referring to postclassical Greek, I use the form γινώσκω rather than γινώσκω because the former prevailed over the latter by the Hellenistic period (e.g. Schwyzler 1939, 215).
- 2 The conjunction ὅτι 'that' is sometimes omitted (e.g. Chr.Wilck. 21, l. 5). These passages are counted together with other finite clauses.
- 3 I omitted from my corpus P.Tebt. 1.56, in which γείνωσκε governs a substantivised infinitive clause (περὶ τοῦ κατακεκλῦσθαι τὸ πεδίον ὑμῶν 'about our plain having been flooded'), as well as P.Lond. 6.1914, l. 2 (γινώσκιν ὑμᾶς θέλομεν τὰ πραχθέντα ἐνταῦθα πράγματα 'We want you to know the things that happened here'). In contrast to other cases from my corpus, this passage contains the participle in the attributive position. On the other hand, I included in the corpus passages in which the disclosure formula occurs after the initial greeting formula (as is the case in passages 3–6) and another politeness formula (e.g. εἰ ἔρρωσθε, εὖ ἂν ἔχοι-ύγειαινομεν δὲ καὶ αὐτοί 'We hope you are well; we are also healthy', P.Mich. 1.58 ll. 3–5).
- 4 This is why it can convey posteriority, for example in διὰ τῆς χάριτος τοῦ κυρίου πιστεύομεν σωθῆναι 'We believe that we shall be saved through the mercy of our lord' (NT Acts 15.11).
- 5 It appears that the perfect infinitive also allows for imperfective readings (Kavčič 2020, 24). However, I found no reliable examples in the corpus investigated.
- 6 On the other hand, Blass, Debrunner, and Rehkopf (2001, 327) suggest that the semantic distinction between the two types of non-finite complements after γινώσκω may have been retained in the New Testament. However, these complements are very rare in the New Testament, which is why it is difficult to draw safe conclusions.
- 7 An example is the deliberative infinitive (e.g. ἡξιου βουλευέσθαι, τί ποιῆσαι 'He asked to consult what to do'; Joseph., AJ 1.15.45); cf. Blass, Debrunner, and Rehkopf (2001, 298).
- 8 Although the exact origins of the ostraca from the Eastern Desert may not always be known, they are mostly texts that were sent from one Roman praesidium in this area to another (Leiwo 2020, 15).
- 9 Note, however, that the authors of the texts from the Eastern Desert were not necessarily native speakers of Latin (Leiwo 2020, 7).
- 10 Reliable cases of the aorist participle: ἐπέϊξαντα in P.Oslo 3.162, l. 3, παραγενόμενον in P.Stras. 137, l. 4, and ἐργασαμένους in SB 6.9230, l. 5. Unreliable instances occur in P.Hamb. 3.227 and P.Ryl. 4.671, l. 3, on which cf. [Subsection 11.4.1](#).
- 11 Other instances of the aorist indicative in this century: PSI 4.382, l. 2; PSI 6.603, l. 7; PSI 4.331, ll. 3–4; as well as P.Sorb. 3.137, l. 4, where the initial lines are not entirely clear (see Cadell, Clarysse, and Robic 2011, 160).
- 12 As shown in [Table 11.3](#), my corpus also contains the perfect indicative in finite clauses. It should not be excluded that some of these perfects may be used in the function of the perfective past, although the evidence is far from reliable, partially because it is often difficult to identify this use of the perfect (on which cf. [Subsection 11.4.2](#)). As suggested in [Subsection 11.3.1](#), it is expected that the tendency of the perfect to adopt the function of the perfective past was more

prominent in non-finite clauses than in finite clauses, and the lack of reliable examples of the perfect indicative adopting the function of the perfective past in the Early Hellenistic period is consistent with this view.

- 13 The common present-tense form in Hellenistic/Roman Greek is (παρ)αγίνομαι rather than παραγίνομαι; cf. note 1. Other aorist participles are stated in note 10.
- 14 It appears that in infinitive complements the tendency toward the perfect adopting the function of the perfective past was somehow less prominent in factive complements than in other infinitive clauses (cf. [Subsection 11.3.1](#)). This could have contributed to the use of the aorist participle in my corpus. The aorist participle can also occur after the verb γινώσκω in passages that were not included in my corpus because they do not occur after the initial greeting formula. An example is found in P.Mich. 1.10, ll. 11–12 (cf. Bruno 2020, 232).
- 15 The fact that the former constructions might have behaved differently than the latter is also suggested by a passage from P.Lond. 6.1914 (see note 3) that contains the aorist participle in the function of conveying anteriority. However, in this case the accusative can be interpreted only as the object of the governing verb. Note also that James (2001–2005, 161–62) nonetheless cites examples of the perfect participle after εὑρίσκω ‘find’.
- 16 The former occurs in PSI 5.499, l. 3; the latter is ἐμν[]ξει in P.Genova 1.16, l. 5.
- 17 Perhaps this use of the present infinitive was more common in other contexts (cf. Bentein 2018, 93).
- 18 As a result, it is also unlikely that this use of the perfect infinitive emerged due to language contact; cf. Leiwo (2018, 178).
- 19 As one of the reviewers commented, language contact was an important factor elsewhere in Egypt as well. Following Leiwo (2018, 2020), I nonetheless assume that it was a particularly prominent phenomenon in the Eastern Desert and that it may have played a significant role in the adoption of the perfect in the function of the perfective past, which is the focus of this chapter.

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PART IV

Socio-Pragmatic Approaches

CHAPTER 12

Communicating in high-register Greek in private papyrus letters of the Roman period of Egypt

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Abstract

This chapter deals with high-register linguistic choices found in private correspondence on papyri and ostraca that are dated from the Imperial period of Egypt (31 BCE–330 CE). The objects of our analysis are the attempts of ancient writers to refine the style of their letters by alluding to or citing either secular or religious literary texts. Our aim is, on the one hand, to enrich the list of instances already offered in the relevant research and, on the other hand, to explore the function of such linguistic choices in request letters written on papyri through the discussion of characteristic cases.

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12.1 Introduction

12.1.1 Uniformity and variation in private correspondence

Non-literary papyri were not meant to generate aesthetic pleasure; instead, they were linked to the prosaic side of life. Correspondence on papyri and ostraca made no exception to this rule. Letters, either official (i.e. addressed to individuals as members of the administrative system) or private, were intended to cover continuously emerging practical and interpersonal needs of everyday life (on the distinction between private and official correspondence, see Koroli 2016, 42–44; Sarri 2018, 67–68). As a result, they share typical features in terms of content, structure, and linguistic properties. They were written in vernacular postclassical Greek, that is, in a language which is not expected to be of high-level style or of any literary interest. As regards private letter writing, the recurrence of thematic areas, motifs, formulae, and structures detected in the vast corpus of the already published instances leave no doubt that these texts were ruled by a set of conventions and were intended to fulfil specific readership expectations. Some of the standardised linguistic elements and devices recur throughout the whole so-called papyrological millennium, whereas others change, in whole or in part, over time.

Nevertheless, non-literary production is far from being homogeneous in terms of language usage. This is the case especially with letters and petitions to the authorities, and mostly with private correspondence. The difference of this genre from other categories of non-literary texts lies in that, despite their commonalities, private letters present a greater variety regarding the topics referred to and their structure, as well as the occurrence, kind, and/or tense of the emotions expressed. Furthermore, private letters inscribe in a more informative manner the sender's mentality, level of literacy and social profile, their relationship with the recipient, as well as the particular circumstances under which they were written as compared with other kinds of texts. This multi-level diversity is reflected in the language used.

First of all, it should be pointed out that demarcation of standardised linguistic use for private letters is based on frequency; recurrent linguistic elements tend to become expected and may be viewed as 'average' (cf. Luiselli 1999, esp. 65). However, some private letters fail to meet these standards, and others are written above the ordinary.

Hence, language of private correspondence falls on a continuum from low-quality to sophisticated linguistic expression (on the variety in non-literary papyri, and especially in letters and petitions, see, among others, Bentein 2013, 2015a, 2015b, 2016; Clarysse 2010; Evans 2010, 2012; Luiselli 1999, 2010).

12.1.2 Register-based and genre-based approach to private papyrus letters

The components of register studies

The sociolinguistic notion of register serves as a useful methodological tool for describing linguistic variety in private papyrus correspondence.¹ According to Biber and Conrad (2009, 6), ‘a register is a variety associated with a particular situation of use (including particular communicative purposes)’. Hence, register-based analysis consists of associating the frequent occurrence of linguistic elements found in a corpus of texts with the context of the situation. What is examined in such an analysis is ‘the functional associations’ between particular features of the situational context and the linguistic features that pervade a certain variety (Biber 1994, 33; Biber and Conrad 2009, 8). The recurrence of grammatical and/or lexical characteristics derives from the suitability of these elements to certain components of the situational context (Biber and Conrad 2009, 6). The number and kind of these components taken into consideration in register-based studies vary according to the purposes of the applied analysis. According to Halliday’s social-functional approach to language (1978), ‘what is linguistically significant in the context of situation’ (1978, 33) may be described through three concepts, namely the ‘field’, that is, ‘the whole setting of relevant actions and events within which the language is functioning’ including the subject-matter, the ‘tenor’ (i.e. participants in linguistic communication and their relationship) and the ‘mode’ (i.e. the means of linguistic interaction, e.g. spoken vs written language). (For an overview of the ‘situational parameters of variation’ see the table in Biber 1994, 40–41.)

In the present study, the concept of register is preferred to the broadly used notion of style, since the ancient sender’s high-level linguistic choices are viewed not as a means of textual embellishment but as performing a certain function, which is in alignment with the

sender's purpose and, in general, the situational framework.² The ancient sender's high-level linguistic choices are not to be viewed separately from the components of the situational context. The pivotal question is whether and to what extent the ancient writer's high-level linguistic choices can be attributed to the factors that fall under the umbrella of field and tenor,³ namely the topic(s) referred to, the sender's intentionality (i.e. their communicative goal(s)), as well as factors underlying field and tenor, namely the correspondent's educational level, worldview, or ideology, and the relationship between the correspondents.⁴

All situational contexts had a common ground, namely living conditions and the role of letters in Graeco-Roman Egypt, the difficulties of letter writing and sending in this era, as well as the cultures and ideologies influencing the mentality and writing habits of the ancient writers.

Defining high-register language in the texts under study

As already pointed out in this section, the publication of non-literary texts conventionally classified as private letters has provided us with instances of low-quality, so-called standard, and high-level writing. Setting clear boundaries between low, middle, and high register and, consequently, defining high-register Greek in private papyrus letters is not easy.

Written communication in general always has space for linguistic elaboration, which in the case of papyrological evidence becomes obvious from the occurrence of drafts and instances of self-correction (see Bentein 2013, 29; Evans 2010; Luiselli 2010). But when can the result of this elaboration be classified as high-level, beyond-the-ordinary written text? The criterion that could be applied is the connection to literature, which is made evident in a variety of manners, for instance, through (a) the occurrence of separate lexemes or wordings attested exclusively (or, at least, mostly) in literature thus far; (b) the occurrence of abstract nouns, which are uncommon in private correspondence; (c) figurative language and literary/rhetorical devices, such as metaphors, similes, antitheses, hyperbole, emphatic repetitions, rhetorical questions, and chiasmus; (d) asyndeton or polysyndeton (when it is a stylistic effect and not due to the inability of the scribe to use connectors); (e) particles and/or textual markers to bind

the textual units and show the sender's sequence of thoughts; given that in postclassical Greek, the use of these grammatical words gradually decreases and tends to disappear, the high frequency and variety of such linguistic elements in a text might well be considered an element of elaborate style; (f) the pursuit of variety, that is, the avoidance of unnecessary repetition; (g) sententious tone through the use of gnomes, sayings, or proverbs; and (h) references to literary passages (in the form of citations or allusions).⁵ Stylistic elaboration with references to literature has been associated with the phenomenon of Atticism in relevant research.⁶

There is a common ground in these linguistic choices, and that is rarity: these linguistic elements and choices derive from the scribe's effort to display inventiveness, and in doing so they always refer to literature. In cases (a) to (g), this reference is more indirect and thus uncertain—the use of particles being, perhaps, the least obviously connected to literature—whereas in the case of (h), there is a direct and thus easily detectable connection to literary production. The concept of literature as being the norm even for everyday writing has been discussed with reference to Atticist purism (cf. Bentein 2013, 2016; Luiselli 1999; Roumanis 2017). Even when reference to literature is not easily detectable, highly elaborate writing *per se* (see (a) to (g)) serves as proof that the ancient scribe was an adequate reader of literary texts, familiar with a range of means of expression.

In defining high-register Greek in private letters the following difficulties are encountered.

Firstly, the situational context, including the content of the text and the sender's communicative purposes, is not easy to reconstruct, not only owing to the often fragmentary condition of the material, but also because some of the register-variants discussed here, specifically the correspondents' educational level, their faith in the Christian doctrine, and the relationship between them, are assumed merely by the level of linguistic elaboration itself.

In addition, the efforts of the ancient senders to refine their writing are not always successful; in some cases, they are clumsy or insufficient to give the linguistic expression an aura of sophistication, since they co-occur with mistakes such as misspellings,⁷ redundant repetitions, and so forth, or, in general they are not enough to elevate the register of the whole letter.⁸ On the other hand, high-level linguistic choices are usually combined with more standardised, or even low-quality

linguistic choices. Hence, instead of drawing strict lines between registers, the phenomenon of linguistic refinement should also be viewed as a spectrum.⁹ The placement of a private letter on this spectrum depends on the kind, density, variety, and originality of high-level linguistic choices, as well as the co-occurrence of high-level linguistic choices with standard or low-quality ones. As already shown in the relevant research, private letters and, to a lesser extent, petitions to the authorities, are more likely to contain high-level linguistic features—or, at least, indications that the senders tried to elaborate their text (see Benaissa 2012; Clarysse 2010; Fournet 2012; Koroli 2019; Luiselli 1999, 2010; Olsson 1925; Papathomas 2006, 2016, 241–247, 2021; Papathomas and Koroli 2014; Papathomas and Tsitsianopoulou 2019, 2020, 2021; Sarri 2023; Schubart 1918; Thoma 2025; Thoma and Papathomas 2024; Zilliaceus 1967, esp. 62–89).

Request letters as a distinct subgenre

The abundance of directives should be added to the set of common features found in private letters.¹⁰ The greatest part of private correspondence on papyrus may be classified as request letters, that is, letters in which requesting constitutes the primary communicative goal—or one of the main communicative goals—of the sender. In most cases, directives contained in papyrus private letters are direct, since their formulation points unequivocally to the writer's intention to request.¹¹ Direct requests constitute the core of thematic-textual units including their thematically relevant co-text, which are organised on the basis of the following organisational pattern, linguistically realised in various manners regarding both its completeness and its function:

preparation for the directive—formulation of the directive—supplement of the directive

The framing of requests, that is, their thematically relevant co-text, functions as their preparation or their supplement. In these parts of request letters the sender often imposes direct or indirect psychological pressure on the recipient (for the notions of direct and indirect pressure, see Koroli 2016, 2020, 2021). In the first case, the sender gives his/her text an imperative tone; in the second case, the sender resorts to indirect manners of exercising pressure, namely to politeness strategies, which aim at the moral engagement of the recipient.¹² Psychological pressure may also be exercised by means of emotion-inducing

strategies. These kinds of strategies intersect with imperative tone markers and politeness strategies (on emotions in private correspondence, see Clarysse 2017; Kotsifou 2012a, 2012b; Kreinecker 2012; Papathomas 2020; Skarsouli 2023).

Request letters in papyri and ostraca constitute a distinct subgenre included in the genre of private letters, bearing special and detectable structural features.

12.2 The aim of the present analysis

The present chapter aims at furthering the discussion of high-register Greek attested in private letters by enriching the list of the relevant instances analysed already. Our study includes private letters that date from the Roman period of Egypt. It also includes instances dating from the second half of the fourth century which give us the chance to discuss the changes deriving from the prevalence of the Christian ideology. Our analysis focuses on letters in which the sender's attempt to express themselves in a 'literary' manner can be detected in part(s) of the letters or in the whole text regardless of the result of this attempt. The select instances therefore include letters the register of which is mixed, that is, both high-register and middle- or low-register elements are included.

In the analysis offered in this chapter, we initially locate uncommon linguistic items, wordings, or passages that echo literary passages as potential markers of high register. Given that register markers are pervasive, fragments of letters are also included in the study. At a second level, we explore, when possible (i.e. in the case of letters that clearly fall into the category of request letters), (a) whether the high-level linguistic choices under study may be viewed as politeness and/or emotion-inducing strategies framing the formulation of request; and (b) whether literary references are associated with the topic referred to, the sender's educational level, their faith in Christian doctrine, and relationship with the recipient. These situational and background components will be assumed on the basis of information contained in the main body of the letter (e.g. nouns denoting kinship or friendship, words and wordings pointing to Christian faith, such as wishes), as well as the opening and closing formulae (e.g. terms denoting the social status of the correspondents); handwriting and spelling may also be taken into account.

In sum, variationist, namely register-based analysis, will be combined with a genre-perspective or text-linguistic approach, that is, analysis focusing on structural-rhetorical organisation.¹³

12.3 The select corpus of private request letters

12.3.1 *Passages with literary colour*

In what follows, the selected passages are presented in chronological order. The words or phrases that are of interest for the purposes of the present analysis are highlighted and contrasted with both the papyrological corpus and the literature.

- (1) P.Brem. 59.13–14 (Hermopolis; 113–20)¹⁴

ἀσπάζεται σ[ε] καὶ ὁ υἱός | μου ποιητῆς αὐτόλυρος.

‘My son, a poet that plays the lyre to himself, greets you.’¹⁵

In this letter, which belongs to the strategos Apollonios archive, the sender, a woman, whose exact relationship with Apollonios is not clear, enriches the greeting formula with a phrase clearly drawn from literature, that is ποιητῆς αὐτόλυρος, to refer to her own son. The compound αὐτόλυρος is a hapax legomenon not only in the papyri but also in literature. However, αὐτόλυρίζων ‘that plays the lyre to himself’ is found only once, specifically in Lucian (Dialogi meretricii, 14.4): αἱ μὲν γὰρ χάριτες, ὧ Διοσκόρῳ, πολλάί, καὶ μάλιστα ὁπότεν ἄδη καὶ ἄβρὸς εἶναι θέλη, ὅνος αὐτολυρίζων, φασίν.¹⁶ The occurrence of such a poeticism serves as an indication that the sender may have belonged to a local elite (Bagnall and Cribiore 2006, 140; Thoma 2020, 78–79).¹⁷ However, there is no other information regarding her social profile.

- (2) P.Oxy. XLI 2996.38–45 (Oxyrhynchus; 2nd century?)

ἔγραψα δὲ καὶ Σαραπάμμωνι ἐλθεῖν πάλιν πρὸς σ[ε] ἵνα μὴ | ἀναι-
δομαχῆς ἀ[γν]ωμονῶν πρὸς τὴν ἀπαίτησιν | προφασιζόμενος, ἀλλὰ
| πάντως εὐγνωμόνησ[ο]ν | μὴ καὶ ἄλ[λ]ως πως πράξω.

‘I also wrote to Sarapammon to go again to you so that you will not continue to quarrel insolently, disregarding my demand and making excuses. But comply without fail, lest I take other measures.’¹⁸

The compound ἀναιδομαχῶ ‘quarrel insolently’ included in the request, which is formulated through the phrase γράφω + ἵνα, is a hapax legomenon in the papyri. Perhaps the fact that the only close parallel, the adjective ἀναιδομάχας ‘ruthless in fight’ (see LSJ s.v.), is found only in Bacchylides (fifth century BCE), *Epinicia* ode 5, ll. 104–5 (εὐρυβίαν δ’ ἔσσευε κούρῃα κάπρον ἀναιδομάχαν)¹⁹ makes this word a high-register marker. This fragmentary letter refers to a series of practical issues and was addressed to a potter in a rather criticising manner, and contains no misspellings. The sender’s social profile remains unknown.

(3) P.Ryl. II 235.7–12 (unknown provenance; 2nd century)

οὐκ ἐδήλωσάς μοι περὶ τῆς εὐρωστίας σου καὶ πῶς | διάγεις ἵν[α]
καὶ ἡμεῖς περὶ σοῦ ἀμερ[ί]μνωσ διάγω|μεν, ἀλλὰ οὐ πρότωσ σου τὸ
| εἰκαῖον μανθάνομεν.

‘You did not inform me of your good health and how you are in order that we too may be free of care about you, but it is not the first time that we learn your heedlessness.’²⁰

This fragmentary and correctly spelt letter contains an indirect request; the sender probably addresses a family member expressing their anguish about the recipient’s health by complaining about the recipient’s failure to inform them. The neuter of the adjective εἰκαῖος meaning ‘heedless, careless, hasty’ is used here to denote an abstract notion, that is, ‘heedlessness’. The adjective is very rare in the papyri,²¹ but very common in literature; see Epictetus, *Dissertationes ab Arriano digestae* 4.4.46: εἰ τὸ κακότηδες καὶ λοῖδορον ἀποτέθεισαι, μεμείωκας, εἰ τὸ προπετές, εἰ τὸ αἰσχρολόγον, εἰ τὸ εἰκαῖον, εἰ τὸ ἐπισεσυρμένον, ... ἐορτὴν ἄγειν δύνασαι καθ’ ἡμέραν, κτλ.²²

(4) W.Chr. 480 (= Sel. Pap. I 112 = C.Pap.Hengstl 84 = BGU II 423).11–18 (Misenum [Italy]?; 2nd century)

ἔρωτῶ σε οὖν, κύριέ μου πάτερ (l. πάτερ), | γράψον μοι ἐπιστόλιον
πρῶτον | μὲν περὶ τῆς σωτηρίας σου, δεύ|τερον περὶ τῆς τῶν ἀδελ-
φῶν μου, | τρ[ί]τον, ἵνα σου προσκυνήσω τὴν | χέραν (l. χεῖρα), ὅτι
με ἐπαίδευσας καλῶς, | καὶ ἐκ τούτου ἐλπίζω ταχὺ προκό|σαι (l.
προκόψαι) τῶν θε[ῶ]ν θελόντων.

‘Therefore, I request you, my lord father, write me a letter, (telling me) first about your welfare, secondly about the welfare of my brother and sister, in order that, thirdly, I may take obeisance before your handwriting, because you trained me well.’²³

The sender of this much-discussed family letter, a certain Apion, a young recruit, asks, including others, his father to write him a letter. This letter offers the only attestation of this use of the enumerating connectors *πρῶτον*, *δεύτερον*, and *τρίτον* in the papyri so far (the co-occurrence of only the connectors *πρῶτον* and *δεύτερον* is adequately attested). Both W.Chr. 480 and BGU II 632 (Arsinoite nome; second century), written by the same individual, are carefully composed and spelt, and convey the sender’s genuine interest in the recipient’s health. Moreover, the phrase *προσκυνῶ τὴν χεῖρα* used as an expression of reverence is not elsewhere attested in the papyri. Although this is clearly not a Christian letter, the phrase is attested in religious literature; see *Acta Joannis*, 7: Δίκαιον **τὴν χεῖρα** τοῦ θεοῦ ἐν πρώτοις προσκυνεῖν, κτλ.²⁴

(5) PSI XII 1246.1–3; 5–7 (Hermopolite nome?; c. 219–222)

[- -] ἵνα ἀπ[.....] ..ω. **δεῖ γὰρ** | **τῷ[ν] φίλων καὶ ἀ[ε]ῖ** καὶ ὁμοίως καὶ **πανταχῇ φροντίζειν**. | ... | ... καὶ αὐτῷ δὲ ἐντεταλμένην, | **φί[λτατ]ε, φιλητά σοι φίλα** ἀπ’ ἐμοῦ προσαγο[ρε]ύειν].

‘... because we must always and equally and in every way take care of friends ... and I enjoined you, my dearest, to send loving greetings to your loved ones.’²⁵

First of all, this fragmentary request letter provides us with an adage (see the use of the deontic marker *δεῖ* and the emphatic polysyndeton *φίλων καὶ ἀ[ε]ῖ καὶ ὁμοίως καὶ πανταχῇ*) concerning the right attitude towards friends. The value of friendship and the appropriate attitude towards friends was a favourite topic in Late Antiquity, which is obvious in both the papyri and literature; cf. Alciphron 1.7.1: ἀντίδοσις γὰρ {ἡ} παρὰ φίλων εἰς φίλους. ὁ γὰρ προχείρως καὶ θαρσαλέως αἰτῶν εὐδηλός ἐστιν ἅπαντα κοινὰ {τὰ πρὸς τοὺς φίλους καὶ} τὰ τῶν φίλων {ἔχειν} ἡγούμενος.²⁶ The scribe here stresses even more the value of friendship by means of a play on words, an alliteration: *φί[λτατ]ε, φιλητά σοι φίλα*.

(6) P.Oxy. XIV 1766.16–18 (Oxyrhynchus; 3rd century)

... ἐρρῶσθαι | [καὶ ὀλοκληρεῖν (?)] σε εὐδοξοῦντα καὶ εὐτυ[χοῦντα
καὶ εὐπρα]γοῦντα θεοῖς πᾶσι εὖχομαι.

‘... I pray to all gods for the welfare and good health of you, who are
honoured, happy, and flourishing.’²⁷

The sender of this request letter, who in a complaining tone asks the recipient to write to him, closes his text with an extended version of the standardised formula, which includes a unique (in the papyri) co-occurrence of the plesionym participles εὐδοξῶν, εὐτυχῶν, and εὐπραγῶν in a polysyndeton, creating a kind of emphatic repetition.²⁸ The verbs εὐδοξῶ and εὐπραγῶ are in any case rare in the papyri but rather frequent in literature.

(7) P.Oxy. XLII 3065.4–9 (Oxyrhynchus; 3rd century)

ἤδη πολλάς ἐπιστο|λάς ὑμῖν ἔγραψα δηλῶν ὅτι μ[έλλ]ω πλεεῖν (l.
πλεῖν) καὶ σωθῆ|ναι τῆς πόλεω[ς] τᾶχα δὲ | περὶ τῶν ἐνθάδε |
γενομ[έ]ν[ω]ν. τοιαυ[τ]α γέγονεν οἷα οὐδέποτε ἐκ τοῦ | αἰῶν[ο]ς γέ-
γονεν. νῦν ἀνθρωποφαγία (l. ἀνθρωποφαγία) ἐστὶν καὶ οὐ πόλε|μος.

‘I’ve already written you many letters saying that I’m about to sail
and get clear of the city. Perhaps ... about what’s happened here.
Things have happened, the like of which hasn’t happened through
all the ages. Now it’s cannibalism, not war.’²⁹

The style of this fragmentary letter is rather ‘jerky’ and repetitious, whereas the grammar is of low quality.³⁰ Its sender writes to his parents. He is obviously upset due to some atrocities. He expresses himself in a hyperbolic and ‘literary’ manner. Thus far, there are no papyrological parallels for the phrase ἐκ τοῦ αἰῶνος, which is, however, found in many theological texts; see *Novum Testamentum, Evangelium secundum Joannem*, 9.32: ἐκ τοῦ αἰῶνος οὐκ ἠκούσθη ὅτι ἤνοιξεν τις ὀφθαλμοὺς τυφλοῦ γεγεννημένου.³¹ Similarly, there are no papyrological parallels for the abstract noun ἀνθρωποφαγία (‘cannibalism’; see LSJ s.v.), which is also found in literature. Due to the fragmentary condition of this request letter the co-text of the passage remains unclear.

- (8) P.Rain.Cent. 70.3–15 with BL XI 184 (Hermopolis; 3rd century; see BL XIII 176)

[- - -] ἀναμνημονεύ[ο]υσα γὰρ τῆς ὑπερβολῆς καὶ | ἀπροσδ[ο]κήτου
 συ[μ]φορᾶς | οὐδὲ πρ[ὸς] βραχὺ κοιμῶμαι· | χεῖρω[ν] δέ μοι εἶ
 αὐτῆς | καὶ αὐτῇ [- - -] καὶ πεφύση[μαι] ἐν ἐ[μ]αυτῇ ἐξου[σί]αν |
 οὐκ ἔχουσα ἐλθεῖν πρὸς σε | καὶ ἀνοιμῶξαι καὶ κλαῦσαι | μετὰ σου·
 τάχα γὰρ ἂν ἐκουφ[ί]σθην [- - -] παρεκάλεσα καὶ τὸν | [- - -] [μο]υ
 ἐπιτρέψαι | [- - -] πρὸς σε.

‘... Because when I remember such an extreme and unexpected misfortune, not even for a little can I sleep. But you yourself are more worrying to me than that. And I puff myself up because I have no possibility of coming to you to lament and weep with you. Perhaps then I would have been relieved. I asked ... to allow me (to go?) to you...’³²

This is the fragment of a letter of condolence (or a reply to one) written by and addressed to a woman.³³ What is noticeable in this letter is the density of words and phrases clearly pointing to literature, along with the intense emotional tone. The sender describes thoroughly, in correct and elaborate Greek, her emotional condition; an unexpected sorrow does not allow her to sleep. The verb ἀναμνημονεύω (‘remember’; see LSJ s.v.) is a hapax legomenon in the papyri but it is attested in literature; as is the case for ἀπροσδόκητος (‘unexpected’; see LSJ s.v.).³⁴ As for the prepositional phrase πρὸς βραχὺ (‘briefly’), there is only one other papyrological attestation (P.Rain.Cent. 99 verso.6, Hermopolite nome?; 451), but it is frequent in literature.³⁵ Finally, the present perfect πεφύσημαι of φυσάω (‘blow up’; ‘kindle’; see LSJ s.v.) is a hapax legomenon in the papyri, and so is ἀνοιμῶζω (‘wail aloud’; see LSJ s.v.). Both are attested in literary texts.³⁶ The combination κλαίω (‘cry’; ‘lament’; see LSJ s.v.) καὶ ἀνοιμῶζω is attested in a few Byzantine texts of theological nature; see Clemens Romanus et Clementina, *Homiliae*, 4.3.2: τῆς τοῦ σώματος ἡμῶν ἀναπαύσεως πρὸς βραχὺ ἀμελήσαντες κτλ.,³⁷ Ephraem Syrus, *In sermonem, quem dixit dominus, quod: In hoc mundo pressuram habebitis, et de perfectione hominis*, p. 338: καὶ ἀνοιμῶξομεν καὶ κλαύσομεν πικρῶς καὶ βρύξομεν τοὺς ὁδόντας, καὶ οὐδεὶς ὁ ἐλεῶν ἡμᾶς,³⁸ Cyrillus Alexandrinus, *Commentarius in xii prophetas minores* 1, p. 38: ἀλλ’ ἦσαν ἐκεῖ κλαίοντες τε καὶ ἀνοιμῶζοντες καὶ ἀπρακτοῦντες περὶ τὸν νόμον.³⁹

- (9) P.Princ. II 102.11–17 with BL XI 183; XIII 176 (unknown provenance; 4th century)

τοιγαροῦν | ἀπόθου τὸ λυπηρὸν τοῦ ἀνθρωπίνου πτέσματος (l. πταίσματος) καὶ ἀπόβλη|ψον (l. ἀπόβλεψον) ὅτι οὐδεὶς ἐν ἀνθρώποις ἀθά|νατος εἰ μὴ <μό>νος [τὸν] ὁ θεὸς καὶ | μνημόνευσον τῆς ὑποσχέσε[ως τοῦ] μακαρ[ίου Πα]ύλου.

‘Therefore, put away the grief of human fault and think that nobody among men is immortal, but only God, and remember the promise of the blessed Paul.’⁴⁰

This letter of condolence, obviously addressed to a close friend and fellow-Christian,⁴¹ who had lost his son, has a philosophical and consultative tone, which is obvious from both the accumulation of imperatives ἀπόθου (l. 12),⁴² ἀπόβληψον (l. ἀπόβλεψον) (ll. 12–13), and μνημόνευσον (l. 16), and the adage οὐδεὶς ἐν ἀνθρώποις ἀθάνατος εἰ μὴ μόνος ὁ θεός.⁴³ In addition, the letter contains an explicit reference to a theological source (l. 17), the content of which is now lost (see Chapa 1998, n. to l. 17 [p. 136]). The phrase ἀνθρώπινον πταίσμα is not attested elsewhere in the papyri, but is frequently found in religious literature; Eusebius, *Constantini imperatoris oratio ad coetum sanctorum*, 26.2: ὁ δὲ θεὸς ἀναίτιος τῶν ἀνθρωπίνων πταισμάτων,⁴⁴ Athanasius, *Expositiones in Psalmos* 27, p. 564: πρέπει γε ... κατοικτεῖν τοῖς ἀνθρωπίνους πταίσμασι κτλ.;⁴⁵ Basilii Caesariensis, *Homiliae super Psalmos* 29, p. 257: οὐδένα τῶν ἔγγιστα αὐτὸς ὠνείδισε, τῶν ἐν ἀνθρωπίνους πταίσμασι γενομένων, κτλ.⁴⁶

- (10) SB XII 10803.3–13; 16–19 (Hermopolis; 4th century)

καὶ δι[α] τίνος ἦν εἰκός σοι γρά|φειν [ὥς] διὰ τοῦ κυρίου μου | πάτ[ρω]νος Θεοφάνους εἰς Ἀλε|ξάν[δρει]αν ἀποδημοῦντος; πέ|πεισός [μοι γ]ὰρ εἰ β[ούλ]η ὅτι ὁ [μου] πατέρ (l. πατήρ) | μου [ἔ]τι τῆς αὐτῆς προ[θ]έσεως | ἔχετ[αι] ὥς σε βουλόμενος ἤκειν. | ἔπε[ι]χε δὲ αὐτὸν τὸ συμ[β]εβηκός | ἀνθρ[ώπι]νον τῇ ἀδελφ[ῇ] αὐτοῦ | τῇ πρ[εσβ]υτέρᾳ. μετὰ δὲ τὴν κηδύαν αὐτ[ῆς] {ἤξει} ὅτι ἐλεύσεται. | ... | ἐρρωσθαί σε θεοῖς | πᾶσιν εὐχομαι | πανοικησία τῶν | ἱερέων τὸ ἀγλίσμα.

‘Now, through whom was it more natural to write to you, as I do through my lord patron Theophanes, who is departing for Alexandria? For you must believe me, if you please, that my father’s

intention is unchanged, and that he wishes to come to you. What prevents him is the fate of all mortals, which has overtaken his elder sister. After her obsequies are complete, he will come. ... I pray to all gods for your and all your family's good health, glory of the priests!⁴⁷

This letter belongs to the Theophanes archive (see Matthews 2006). What is striking in terms of style in this private letter, also dated from the fourth century, is the rhetorical question that is found at the beginning, as well as the extended version of the closing formula, in which the abstract noun ἀγλαΐσμα ('ornament'; 'honour'; see LSJ s.v.) was included. There are no parallels for ἀγλαΐσμα in the non-literary papyri up to now, although the word is frequently attested in literature. The phrase ἱερέων ἀγλαΐσμα is found in theological context: *Analecta Hymnica Graeca* (varia). *Canones Septembris* 12.20.8: ἱερέων ἀγλαΐσμα καὶ κλέος;⁴⁸ id. 27.32.8: πάτερ Ζωσιμῶ, ἱερέων ἀγλαΐσμα, κλέος μοναζόντων, κτλ.⁴⁹ Finally, the scribe's effort to elaborate his text linguistically becomes apparent through the self-corrections found in the letter, and especially the replacement of ἥξει by the synonym ἐλεύσεται, so that the repetition of the verb is avoided; however, the scribe forgot to delete his initial choice.⁵⁰

(11) P.Stras. IV 286.13–18 (unknown provenance; mid-4th century)

ἐρρωμένος | ε. θυμ[] διατελοίης | τὸν ἅπαντα χρόνον, | δέσποτα
τῆς ἐμῆς ψυχῆς, | ἄδελφε, σεμνολόγημα | ἐμόν.

'May you be healthy ... always, lord of my soul, brother, my pride.'⁵¹

The sender of this request letter enriches the closing formula with an asyndeton, in which an abstract noun, σεμνολόγημα ('pride'; see LSJ s.v.) is included. There are no papyrological attestations for σεμνολόγημα.⁵² The word in question is frequently attested in Late Antique literature, very often in a theological context: Gregorius Nazianzenus (fourth century CE), *Epistulae*, 93.3: Ἀρά σε ὀψόμεθα πάλιν; Ἄρα περιπτυξόμεθα τὸ ἡμέτερον σεμνολόγημα, καὶ τοῦτο δοθήσεται τῷ τῆς ζωῆς ἡμῶν λειψάνῳ;⁵³ id. 183.11: Ἐρρωμένος, εὖθυμος, προκόπτων κατὰ Θεὸν χαρισθείς ἡμῖν καὶ τῇ Ἐκκλησίᾳ, τὸ κοινὸν σεμνολόγημα.⁵⁴

- (12) P.Herm. 10.7–12 (Lykopolis; late 4th century; see BL X 85)

[±10 τὸ]ν ὑπὲρ ψυχῶν ἀγῶ|[να ἀγωνίζει κ]αὶ ἡμῶν βοηθὸς | [±8]·
εἰς σὲ γὰρ ἐρίψαμεν (l. ἐρρίψαμεν) | [ἅπασαν τ]ὴν μέριμναν, ἀφ'
οὗ κατέσχε | [±8 τ]ὴν ψευδοκατηγορίαν ταύ|[την ±6]

‘carries out the struggle for the good of souls and helps us ...
because we entrusted all the care to you, since he (?) possessed (?)
... this false accusation’⁵⁵

This letter, written by a Christian, contains allusions to both religious and secular literature.⁵⁶ Specifically, the phrase τὸν ὑπὲρ ψυχῶν ἀγῶνα ἀγωνίζει is a reference mostly, though not exclusively, to theological literature: *Septuaginta*, *Machabaeorum* iv 13.15: μέγας γὰρ ψυχῆς ἀγὼν καὶ κίνδυνος ἐν αἰωνίῳ βασάνῳ κείμενος τοῖς παραβάσι τὴν ἐντολὴν τοῦ θεοῦ;⁵⁷ Clemens Romanus et Clementina, *Homiliae*, 4.1.4: δέδιμεν γὰρ ὑπὲρ πολλῶν ψυχῶν τὸν ἀγῶνα ἔχοντες;⁵⁸ Lucianus, *De mercede conductis potentium familiaribus*, 11: σοὶ δὲ ὁ ὑπὲρ τῆς ψυχῆς ἀγὼν καὶ ὑπὲρ ἅπαντος τοῦ βίου τότε προκεῖσθαι δοκεῖ;⁵⁹ Athanasius, *Expositiones in Psalmos* 27, p. 444: μέχρι τούτου ἐκακοπάθησε τὸν ὑπὲρ ψυχῆς ἀγῶνα κλαίων κτλ.⁶⁰ The phrase ῥίπτω τὴν μέριμναν is not elsewhere attested in the papyri.⁶¹ This passage points to literary passages; cf. Nilus Ancyranus, *Epistulae*, 2.179: πᾶσαν ἐπὶ Κύριον ῥίπτειν φροντίδα καὶ μέριμναν.⁶² Finally, the abstract noun ψευδοκατηγορία is a hapax legomenon in the papyri, although there are many literary parallels.

- (13) P.Lond. III 981 (p. 241) = W.Chr. 130.4–13 with BL II.2 84 (Lykopolis; late 4th century; see BL X 101)

καθὼς γέγραπται ἐν τῇ γραφῇ | ὅτι μακάριοί εἰσιν οἱ ἔχοντες |
σπέρμα ἐν Σιών, τὰ νῦν ἡμεῖς | ἐσμεν, ὅτι ἔχομέν σε σκοπὸν | καὶ
ἀγαθότατον πατέρ (l. πατέρα). ἡ γὰρ εὐ|φημία σου, πάτερ, περι-
εκύκλω|σεν τὸν κ[όσ]μον ὅλον ὡς ἀγαθὸν (l. ἀγαθοῦ) | πατέρα (l.
πατρός). περιδεύομεν καὶ περιπατοῦμεν νυκτὴμαρ θαρροῦ|μεν
ταῖς προσευχαῖς σου.

‘As it is written in the Scripture: “Blessed are they who have their seed in Zion”, blessed are we now because we have you for protector and most excellent father. For your good repute, father, has encircled the whole world as a good father. We continue our visits

and journeyings about night and day; we find strength in your prayers.’⁶³

It is not clear whether this evidently Christian letter contains a request.⁶⁴ The sender addresses a person he calls father, who might be his spiritual guide. Interestingly, he mentions explicitly that he is quoting a passage from the Scripture (see l. 4; **καθὼς γέγραπται ἐν τῇ γραφῇ**).⁶⁵ The quoted passage points to passages such as *Septuaginta*, *Isaias*, 31.9: Μακάριος ὃς ἔχει ἐν Σιών σπέρμα κτλ.⁶⁶ Another point of interest is the simile περιεκύκλωσεν τὸν κ[όσ]μον ὅλον ὡς ἀγαθὸν (l. ἀγαθοῦ) πατέρα (l. πατρός). Equally noteworthy is the co-occurrence of περιοδεύω and περιπατέω, which is not attested elsewhere in the papyri and probably echoes literary passages; cf. Hippocrates et Corpus Hippocraticum, *De diaeta acutorum* 18: ξυμφέρει δὲ ... κοιμηθέντας δὲ **περιπατῆσαι** βραδέως συχνὴν **περίοδον**;⁶⁷ also the much later *Vitae Sancti Andreae Sali* (10th century CE), *Vita sancti Andreae Sali* (sub auctore Nicephoro) 29, ll. 1791–92: ... **περιπατῶν** ἐν ταῖς νυκτεριναῖς **περίοδοις** κτλ.⁶⁸ The word νυκτήμαρ is a hapax legomenon.

12.3.2 Literary references as parts of the rhetorical structure

The following instances are longer passages drawn from letters that can be securely classified as request letters. This subsection discusses how high-level, literature-echoing linguistic choices contribute to the framing of the requests, reinforcing the communicative goal of the senders. In other words, we explore whether and to what extent high-register markers function as politeness strategies and/or emotion-inducing strategies.

- (14) P.Oxy. I 120 recto (= Sel.Pap. I 162).2–26 with BL I 316; (Oxy-rhynchus; 3rd century; see BL VII 127; Kim [2011] 104–5; alternative dating: 4th century; see Nachtergaele [2023, 240 n. 6; 338])

Despite the large number of spelling mistakes, it is obvious that the Christian sender of this letter,⁶⁹ a certain Hermias, is trying to give his text a philosophical depth. At the same time, he expresses explicitly his emotions, that is his disappointment and despair due to the fact that the recipient, his sister (see the greeting formula in l. 1), has not yet satisfied a request formulated in the past.

PREPARATION FOR THE DIRECTIVE

λοιπὸν τί σοι γράψω οὐκ οἶδα, ἀπαίκα|καμον (l. ἀπέκαμον) γάρ σοι αἵκαστον (l. ἔκαστον) λέγων καὶ | οὐκ αἰνακούεις (l. ἐνακούεις). **χρὴ γάρ τινα ὀρῶν|τα αἰαυτὸν (l. ἑαυτὸν) ἐν δυστυχίᾳ κᾶν ἀνα|χωρῖν (l. ἀναχωρεῖν) καὶ μὴ ἀπλῶς μάχαισθαι (l. μάχεσθαι) τῷ | δεδογμένῳ. μετρίων γὰρ καὶ δυσ|τυχῶν γένεσιν αἴχοντες (l. ἔχοντες) οὐδὲ | οὕτω αἰαυτοῖς (l. ἑαυτοῖς) προσαίχομεν (l. προσέχομεν).** | τέως | μὲν οὖν οὐδὲν οὐδέπω παίπρακται (l. πέπρακται), |

‘What remains to write to you about I do not know, for I have told you of everything till I am tired, and yet you pay no attention. When a man finds himself in adversity he ought to give way and not find stubbornly against fate. We fail to realize the inferiority and wretchedness to which we are born. Well, so far nothing at all has been done; ...’

FORMULATION OF THE DIRECTIVE

κᾶν ὥς, εἴπερ μέλι (l. μέλει) σοι, ἀπόστιλόν (l. ἀπόστειλόν) | μοί τινα ἢ Γοῦνθον ἢ Ἀμμώνιον | παραμένοντά μοι ἄχρις ἂν γνῶ | πῶς τὰ κατ’ αἵμαί (l. ἐμέ) ἀποτίθεται (l. ἀποτίθεται).

‘make it your business to send someone to me, either Gunthus or Ammonius, to stay with me until I know the position of my affairs.’

SUPPLEMENT OF THE DIRECTIVE

μὴ ἄρα | παρέλκομαι ἢ καὶ εἵργομαι ἔστ’ ἂν | ὁ θεὸς ἡμᾶς αἰλαιήση (l. ἐλεήση); καὶ γὰρ Ἑρμεία[ς] | αἰτεῖγεται (ἐπείγεται) ἐλθεῖν πρὸς ὑμᾶς, ἀλλὰ αὐ|τὸν ἀξιώσας παραμῖναι (l. παραμεῖναι) οὐκ αἰβου|λήθη (l. ἐβουλήθη), λέγων ὅτι ἀναγκαῖόν τι αἴχω (l. ἔχω) | καὶ δὴ (l. δεῖ) μοι (l. με) ἀνελθεῖν, καὶ υἱὸς δὲ Γεννά|διος οὐκ (l. οὐχ) ὕός (l. οἶός) τέ ἐστιν προσαιδρεύειν (l. προσεδρεύειν) | κτήσι (l. κτήσει), μάλιστα ἐπεὶ (l. ἐπὶ) ξένης καὶ | παρὰ τῇ τάξιν (l. τάξει) ὄντα (l. ὄν). τὰ κατὰ σὲ διοίκη|σον ὡς πρέπον ἐστίν, μὴ τέλειον (l. τέλειον) ἀνα|τραπῶμεν. οὐ δέδοκται γὰρ ἡμῖν αἴχιν (l. ἔχειν) | τι δυστυχοῦντες.

‘Am I to be distracted and oppressed until Heaven takes pity on me? Hermias is anxious to come to you. I requested him to stay, but he refused, saying that he had pressing business and that he must go, and that his son Gennadius was unable to attend to the property, especially as he was a stranger to the place that was engaged at his post. See that

matters are properly conducted on your own part, or our disasters will be complete. We are resolved not to continue in misfortune (?).⁷⁰

Hermias' letter is full of lexemes not attested in non-literary written sources. In ll. 2–10 (preparation for the request), he writes in a sententious and rather pessimistic style about the need to accept our inferiority and misery (cf. Papathomas and Tsitsianopoulou 2019, 133). Wordings such as μάχομαι τῷ δεδομένῳ, not attested in non-literary papyri, combined with a deontic tone (see χρή, in l. 4), indicate his effort to imitate sophisticated language. In addition, in the supplement of the request, the rhetorical question concerning the sender's fate and God's pity, as well as the co-occurrence of the verbs παρέλκομαι and εἴργομαι (see ll. 14–16), indicate that the scribe attempted to express himself in an original manner. The occurrence of linguistic items that echo literature function as request strategies. Similarly to example (8), the sender becomes self-referential and describes in detail his sentimental state; unlike, however, the sender of (8), Hermias exercises pressure on his sister, an individual with whom he is intimate, so that she satisfies his request. In a desperate final attempt to convince his sister, he intensifies the emotional and criticising tone of the parts of the text framing his request.

- (15) SB I 2266.5–22 with BL III 168; VI 126; IX 236 (unknown provenance; 4th century)

Though abounding in spelling mistakes, this letter, dated to the fourth century, contains very interesting references to texts of a religious nature.

PREPARATION FOR THE DIRECTIVES

πιστεύομεν γὰρ | τὴν πολιτείαν (l. πολιτείαν) σου ἐνν (l. ἐν) οὐρανῷ.
| ἐγίθην (l. ἐκέθην) θεωροῦμέν (l. θεωροῦμέν) σε τὸν | δεσπότην καὶ
κενὸν (l. καινὸν) ἄνθρωπο[ν] (l. ἄνθρωπον). | ἵνα οὖν μὴ πολλὰ γράφω
καὶ | φλυαρήσω (l. φλυαρήσω), ἐν γὰρ [πο]λλῇ | λαλιᾷ οὐκ ἐκφεύξο-
ντ[αι] | αἱ ἁμαρτίαι,

'For we believe that your commonwealth is in heaven. Wherefore we regard you as master and new patron. In order, then, that I may not write much and babble, for "in the multitude of words they shall not escape sin", ...'

FORMULATION OF THE FIRST DIRECTIVE

παρακαλῶ [ο]ὔν, | δέσποτα, ἵνα μνημον[ε]ύῃς | μοι εἰς τὰς ἀγίας σου
 εὐχάς,

‘I beg you then, master, to remember me in your holy prayers ...’

SUPPLEMENT OF THE FIRST DIRECTIVE

ἵνα δυνηθῶμεν μέρος τῶν (1. τῶν) (ἀμ)|αρτιῶν καθαρίσσεως. εἰς γάρ ἡμεῖ
 (1. εἰμὶ) τῶν (1. τῶν) ἁμαρτουλῶν (1. ἁμαρτωλῶν).

‘in order that we may be able [to receive] part in the cleansing of sins.
 For I am one of the sinners.’

FORMULATION OF THE SECOND DIRECTIVE

παρακαλῶ καταξίωσον δέξεσθαι | τὸ μικρὸν ἐλέου (1. ἐλαίου) διὰ τοῦ
 ἀδελ|φοῦ ἡμῶν Μαγαρίου.

‘I beg you, be pleased to accept the little gift of oil through our brother
 Magarius.’⁷¹

The phrase ἡ πολιτεία σου ἐν οὐρανῷ, not elsewhere attested in the papyri, clearly points to theological texts: *Vitae Capri, Papyli et Agathonicae. Martyrium sanctorum Carpi, Papyli et Agathonicae* 1.23: οἱ γὰρ πρὸς Κύριον ὁμόφρονοι κεκτημένοι **τὴν οὐράνιον πολιτείαν** εἰκότως ἐπὶ γῆς ἀλλήλων οὐκ ἀπελιμπάνοντο ψάλλοντες καὶ λέγοντες;⁷² Origenes, *Fragmenta in Psalmos* 1–150 [Dub.] 86.7: Ἡ γὰρ ἐν οὐρανῷ **πολιτεία** πάσας ἀθυμίας κεχώρισται;⁷³ Gregorius Nyssenus, *In Canticum canticorum* (homiliae 15) 6, p. 45: πάντα ὅσα πρὸς **τὴν οὐρανίαν τε καὶ ἀσώματον πολιτείαν** βλέπει.⁷⁴

Similarly, the here misspelled phrase καινὸς ἄνθρωπος, for which there are no parallels in the papyri so far, points once more to well-known theological literature: *Novum Testamentum, Epistula Pauli ad Ephesios* 2.14–15: ἵνα τοὺς δύο κτίσῃ ἐν αὐτῷ εἰς ἓνα **καινὸν ἄνθρωπον** ποιῶν εἰρήνην κτλ.;⁷⁵ id. 4.20–24: καὶ ἐνδύσασθαι **τὸν καινὸν ἄνθρωπον** τὸν κατὰ θεὸν κτισθέντα ἐν δικαιοσύνῃ καὶ ὁσιότητι τῆς ἀληθείας;⁷⁶ Clemens Romanus et Clementina, *Homiliae*, 2.26.5–6: καὶ οὕτως ἑαυτὸν πείσας **καινὸν ἄνθρωπον** δύνασθαι ποιῆσαι, τὰς τροπὰς ἀναλύων πάλιν ἀποδεδωκέναι ἔλεγε τῷ ἀέρι.⁷⁷

The verb ἐκφεύγω, (οὐκ ἐκφεύζοντ[αι]), is very rarely attested in the papyri, but very frequent in literature, among others in theological context: Septuaginta, *Psalmi Salomonis* 15.8: καὶ οὐκ ἐκφεύζονται οἱ ποιοῦντες ἀνομίαν τὸ κρίμα κυρίου;⁷⁸ Justinus Martyr, *Apol. Dialogus cum Tryphone* 138.3: ἐκφεύζονται τὴν μέλλουσαν ἐπέρχεσθαι τοῦ θεοῦ κρίσιν.⁷⁹ The phrase ἐν γὰρ πολλῇ λαλιᾷ οὐκ ἐκφεύζονται αἱ ἁμαρτίαι as a whole clearly points to theological texts: Gregorius Nyssenus, *De instituto Christiano* 8.1 p. 49: καὶ φεύγειν πᾶσαν ἁμαρτίαν ὡς πορρωτάτῳ κελεύει (sc. ἡ παρθένος).⁸⁰ Usually the noun ἁμαρτία ('guilt'; 'sin'; see LSJ s.v.) occurs as the object of φεύγω, there are many such parallels). In this letter, the phrase πολλῇ λαλιᾷ is correlated with sin, as it is the case in many texts of theological nature; Septuaginta, *Ecclesiasticus sive Siracides (Sapientia Jesu filii Sirach)* 27.13: διήγησις μωρῶν προσόχθισμα, καὶ ὁ γέλως αὐτῶν ἐν σπατάλῃ ἁμαρτίας. λαλιὰ πολυόρκου ἀνορθώσει τρίχας, καὶ ἡ μάχη αὐτῶν ἐμφραγμὸς ὠτίων;⁸¹ Pseudo-Macarius, *Apophthegmata*, p. 281: φεύγε τοὺς ἀνθρώπους· κάθισον εἰς τὸ κελλίον σου, καὶ κλαῦσον τὰς ἁμαρτίας σου, καὶ μὴ ἀγαπήσης λαλιὰν ἀνθρώπων.⁸² Finally, the phrase τὼν (l. τῶν) <ᾠ>μαρτιῶν καθαρίσεως also points to theological literature. For example: Septuaginta, *Exodus* 30.10: ἀπὸ τοῦ αἵματος τοῦ καθαρισμοῦ τῶν ἁμαρτιῶν τοῦ ἐξίλασμοῦ ἅπαξ τοῦ ἐνιαυτοῦ καθαριεῖ αὐτὸ εἰς τὰς γενεὰς αὐτῶν.⁸³

The plethora of religious intertextual references function as the preparation for the directive in ll. 14–16, which in reality is a pseudo-request, given that its formulation functions as an expression of reverence towards the recipient. All these references fit the content and the nature of this request (on requests of this type, see Koroli 2021; Martin 2003). The second directive is in essence one more expression of reverence, since the sender asks the recipient to accept a gift.

- (16) **P.Lond.** VI 1923.6–15; 19–24 (unknown provenance; mid-4th century)

Similarly to example (15),⁸⁴ this private letter, abounding in spelling mistakes, contains a pseudo-request: the sender asks the recipient to include him in his prayers. Yet it contains many references to religious literature. Once more, the content of these references is relevant to this special petitum and the religious tone of the whole letter.

PREPARATION FOR THE DIRECTIVE

οἶδα μὲν αἰεὶ ὅτι διὰ τῶν ἁγίων σου εὐχῶν σωθήσομαι (l. -μαι) | ἀπὸ παντὸς πειρατηρίου (l. πειρατηρίου) τοῦ | διαβόλου καὶ ἀπὸ πάσης ἐπι-
βουλίας ἀνθρώπων,

‘I always know that by your holy prayers I shall be saved from every temptation of the Devil and from every contrivance of men, ...’

FORMULATION OF THE DIRECTIVE

καὶ | νῦν παρακαλῶ ὅπως | μνημονεύσης μου ἐν τῇς (l. ταῖς) | ἁγίαις
εὐχαῖς (l. εὐχαῖς) σου·

‘and now I beg you to remember me in your holy prayers’

SUPPLEMENT OF THE DIRECTIVE

μετὰ γὰρ | τὸν θεὸν ἡ σωτηρία μου | εἰ σύ.

‘for after God you are my salvation.’⁸⁵

The co-occurrence of διάβολος and ἐπιβουλή is not elsewhere attested in the papyri, but is rather a commonplace in theological texts; cf. Origenes, *Fragmenta in Lucam (in catenis)* 9: ὧν (sc. τῶν συγγεγραμμένων εὐαγγελίων) οὐδὲν ἢ τοῦ διαβόλου ἐπιβουλῇ καθήψατο κτλ.;⁸⁶ Origenes, *Homiliae in Psalmos* (xv, xxxvi, lxvii, lxxiii, lxxiv, lxxv, lxxvi, lxxvii, lxxx, lxxxi) 18.1: καὶ καθόλου δὲ λεκτέον, ὅτι ζῶσιν ἐπιβουλεύει ὁ διάβολος καὶ τὰς ἐκκλησίας βούλεται διασκορπίζειν κτλ.;⁸⁷ Gregorius Nyssenus, *In diem luminum (vulgo In baptismum Christi oratio)* 9 p. 239: ὁ διάβολος ἡμῖν ἐπιβουλεύει σφοδρότερον βασκάνῳ θηκόμενος ὀφθαλμῷ, κτλ.;⁸⁸ Eriphanus, *Panarion (= Adversus haereses)* 2, p. 449: ἀθάνατον κακὸν ἐξ ἐπιβουλῆς τοῦ διαβόλου.⁸⁹

An interesting intertextual reference occurs in the closing formula: ἐρρωσθαί σ[ε] εὐχομαι (l. -μαι) | πολλοῖς χρόνοις, | γλυκύτατε πάτερ· | ὁ θεὸς τῆς εἰρήνης | διαφυλάξει (l. διαφυλάξη) σε ἐπὶ μήκιστον χρόνον.⁹⁰ The nominal phrase ὁ θεὸς τῆς εἰρήνης is not elsewhere attested in the papyri, but is very frequently attested in theological literature: *Novum Testamentum, Epistula Pauli ad Romanos* 15.33: ὁ δὲ θεὸς τῆς εἰρήνης μετὰ πάντων ὑμῶν;⁹¹ *Novum Testamentum, Epistula Pauli ad Philippenses*, 4.9: καὶ ὁ θεὸς τῆς εἰρήνης ἔσται μεθ’ ὑμῶν;⁹² Origenes,

Commentarii in Romanos (cod. Athon. Laura 184 B64), 15.33: ὁ δὲ θεὸς τῆς εἰρήνης μετὰ πάντων ὑμῶν.⁹³

- (17) P.Herm. 8.4–20 with BL V 44 (Lykopolis; late 4th century; see BL X 85)

The sender of this Christian letter,⁹⁴ an educated man, which is made obvious by the handwriting and spelling,⁹⁵ was addressed to an Apa (see the opening and closing formulae). It contains the commonplace Christian pseudo-request: the sender asks the recipient to include him in his prayers.

PREPARATION FOR THE DIRECTIVE

ὥς καὶ πιστεύω ὅτι μ[έλε]ταί μου καὶ τοῦ οἴκου | μου σοι, εὐχαρ[ιστῶ]
τῇ σῇ θεοσεβείᾳ {σου}· | οὕτω καὶ σου τὸ ἱερὸν πρόσωπον | ἐν τῇ δια-
νοίᾳ μου γίνωσκέ με ἔχειν.

‘As I am also confident for your concern for me and for my house, I give thanks to your reverence; so too be sure that I hold your holy face in mind.’

FORMULATION OF THE DIRECTIVE

προσαγορεύω σου τοιγαροῦν τὴν εὐλάβειάν | {σου} διὰ τούτων μου
τ[ῶν γ]ραμμάτων, παρα|καλῶν ὅπως μνημονεύης καὶ κἀμοῦ τοῦ σε |
προσκυνούντος καὶ παντὸς τοῦ οἴκου μου | ἐν αἷς ἀναπέμπεις [αἰ] καὶ
μεθ’ ἡμέραν | εὐχαῖς τῷ κυρίῳ σωτῇρει (l. σωτῇρι) ἡμῶν. | πέποιθα γὰρ
ὥς διὰ τῶν ἀγιοτάτων (l. -ιωτάτων) | σου εὐχὼν καὶ τοῦ κ[α]μάτου τού-
του | ἐν ᾧ ἐσμὲν ἐλεηθῆρωθῆναι καὶ | ἐπανελθεῖν πρὸς [ύ]μᾱς. λοιπόν,
δέξο|τα, ἀληθὺς Θεοῦ ἄνθρωπε, | καταζώωσον ἐ[ν] μνήμῃς ἔχειν |
ἡμᾶς.

‘Therefore I greet your reverence by this my letter, entreating you to remember both me who salute you and all my house in the prayers that you send ever daily to the Lord our Saviour. For I trust that through your most pious prayers I may be relieved also from this trouble in which we are, and return to you. Therefore, master, truly man of god, be so good as to hold us in memory.’⁹⁶

It is obvious that we are dealing with the written communication between two highly religious persons. It is also more than obvious that the sender’s primary goal is to express his reverence and friendliness

towards the recipient. The letter bears the features of the so-called Christian letters of the Byzantine period, in which the expression of politeness and reverence is mixed with a display of Christian virtues, mostly humbleness. What classifies this text as a high-register text is linguistic choices such as the prepositional phrase ἐν τῇ διανοίᾳ μου, for which there are no papyrological parallels, but there are numerous parallels in theological and hagiographical literature (see Naldini 1998, no. 83, n. to l. 7 [p. 329]). This is exactly the case with the phrase ἐν μνήμαϊς (see Naldini 1998, no. 83, n. to l. 19 [p. 329]). Similarly, the address ἀληθῶς Θεοῦ ἄνθρωπε ‘truly man of God’ possibly echoes Origenes *Commentarii in evangelium Joannis* (lib. 1, 2, 4, 5, 6, 10, 13, 19–20, 28–32) 1.2.9: Ἀμβρόσιε, ἀληθῶς θεοῦ ἄνθρωπε.⁹⁷

In addition, in the stereotypical request προσαγόμενε παρ’ ἐμοῦ | πάντας τοὺς [σὺν] σοὶ κάμνοντας | ἀδελφούς (ll. 20–22) points to passages such as the following: Clemens Romanus et Clementina, *Epistulae de virginitate* [Sp.] 1.12.5: Καλὸν οὖν τὸ συγκοπιᾶν τοῖς κάμνουσιν ἀδελφοῖς, κτλ.⁹⁸

12.4 Concluding remarks on the select corpus

The select letters did not provide us with answers to the arising questions already discussed by Luiselli (1999) as to whether the occurrence of high-register linguistic features is conscious or automatised, pretentious or unpretentious, premeditated or spontaneous, whether they should be viewed as writing habits of a certain sender’s writing in a certain circumstance, as a feature of a sender’s general style of writing, or as a generalised trend of his/her era, and, finally, whether these linguistic choices are those of the senders themselves or of the professional scribes to whom the letter was dictated. Similarly, no one-to-one correspondence between particular high-level linguistic items or devices and the components either immediately connected to the context of situation (tenor and field) or indirectly connected to it (education and worldview/ideology) studied here can be detected with certainty. However, the following conclusions may be reached.

The choice of high-register Greek could indeed be classified as a category of politeness or emotion-raising strategies in request letters. In letters like the example (17), elaborate expressions are part of both the formulation and the framing of the request. Grammatical correctness, correct spelling, and variety in stylistic devices, as well as intertex-

tual references, form a harmonious and functional whole and leave no doubt for the upper-level literacy of the writer who addresses an Apa. In this case, we may speak of a special code of written communication between cultivated individuals who share the same interests.⁹⁹ In most instances, though, literary references coexist with spelling mistakes, which obscures the literacy status of the sender.¹⁰⁰

In the select corpus the occurrence of literary references is very often linked with the expression of emotions, mostly of negative emotions due to a difficult situation (e.g. death, or an urgent situation). In this case, elaborate language functions as a means of describing this sentimental condition more emphatically. In letters such as examples (5) and (14), expression of emotions (through literary references) can be seen as a strategy enhancing the persuasiveness of the letter. Furthermore, in the above-examined instances, the use of high-register Greek could be associated with the sender's counselling or exhorting intention concerning the important issues of life. In general, the letters examined here evidence a sort of intimacy between the correspondents. In many cases, there was a spiritual bond between them.

The select corpus comprises many Christian letters, including letters that contain the commonplace request of the sender, who asks the recipient to remember him in his prayers. Given that Christian faith is evidenced in a variety of manners,¹⁰¹ there is no doubt concerning the ideology or the worldview of the sender. In this case, literary passages drawn from theological and hagiological texts are added to the list of the means of display of Christian faith in everyday writing practices (cf. Blumell 2012, esp. 164–231). In such letters it is not easy to distinguish between stylistic and religious awareness. Furthermore, in the letters dated from the Byzantine period, literary references are combined with the 'overabundant' writing style and the conception of φιλοφρόνησις in this era (Papathomas 2007; Zilliagus 1956, 1967). The three letters belonging to Apa Joannes' archive, examples (12), (13), and (17), constitute typical instances of this category.

In general, high-register Greek serves as an indication for reader-ship habits and reception in the era of the Second Sophistic and early Christianity. In their effort to refine their text the ancient senders refer not only to Homer and the authors of the archaic and classical eras, but also to postclassical literary production, either secular or Christian. It seems that classical prose and poetry were not the only norm for elaborate linguistic expression; instead, postclassical authors, including

theological and hagiological literature, were also a point of reference. Trends in quoting or alluding to literature may change due to the transition from the Roman to the Byzantine era.¹⁰²

The delimitation of high-register Greek in private correspondence, and the boundaries between low, standardised, and elaborate language will always be a topic open to discussion. The continuing publication of private letters will continue to bring to light more aspects of the manifold interaction between literary and non-literary production.

Notes

- 1 The interrelation of register with the notions of genre, sociolect, and style, also used broadly to describe the phenomenon of linguistic variety, is a much-discussed topic in the relevant literature. On the relation between genre and register, see [Subsection 12.1.2](#). For discussion on the delimitation of these notions, see indicatively Biber and Conrad (2009, 1–28), Ferguson (1994), and Willi (2010). On the register-based analysis of ancient Greek written sources, see Bentein (2013, 2015a, 2015b, 2016, 2019, 2021), all six studies with plenty of references to relevant previous bibliography, Clarysse (2010), Roumanis (2017), Stolk (2021), and Willi (2010, 2017); cf. also Sarri (2023). Luiselli's approach (1999) also takes into account the function of linguistic choices; cf. his remark: 'the ancients connected style with the function of the message which the writer wanted to convey, as well as with the audience at which the message was directed' (1999, 258).
- 2 Cf. Biber and Conrad (2009): 'the key difference [i.e. of the style perspective] from the register perspective is that the use of linguistic features is not functionally motivated; rather, style features reflect aesthetic preferences'.
- 3 In letter-writing, the mode variant is always the same, that is, written language.
- 4 The parameter of intentionality is close to what Luiselli (1999, esp. 190, 258) defines as 'psychological context' or 'incidental psychological motivations'. On the background influence of the correspondent's level of literacy and education on the register-based factors, see Benaissa (2012), Clarysse (2010), Evans (2012), Koroli (2019), Luiselli (2010), and Stolk (2021, esp. 305).
- 5 Cf. the long list including several aspects of elaborate style that is offered by Luiselli (1999, 214–53).
- 6 On Atticist purism and poeticism as means of stylistic elaboration, see Luiselli (1999, esp. 114–18, 189–213) and Roumanis (2017). On purism in antiquity, see also the Digital Encyclopedia of Atticism (<https://atticism.eu/>) and Tribulato, Favi, and Prauscello (2024).
- 7 Cf. Luiselli (1999), who throughout his study distinguishes between 'stylistic balance' and 'unbalanced performance': the former consists of the 'successful avoidance of lower-level words, forms, and syntactical constructions'

(1999, 234); the latter consists of the co-occurrence of high-level elements with standard or even low-level elements.

- 8 Cf. the phenomenon of hypercorrection, which is beyond the scope of the present chapter.
- 9 For the idea of conceiving the levels of linguistic and stylistic elaboration and the registers as a continuum rather than distinguishing individual categories, see Bentein (2013, 2015a, 2015b, 2016, esp. 20 with n. 32, 2021) and Stolk (2021). It should be noted that the concept of the register continuum can be applied to the entirety of ancient Greek written sources, or more narrowly, to the entire non-literary papyrological corpus, to a single genre, such as private letters, or to a small corpus of texts, such as archives. Even within a single text, one aspect of linguistic analysis may be at a high level, while another is at a low level; see the relevant observations by Bentein (2021), Halla-aho (2010), and Stolk (2021). Therefore, the placement of a certain text, archive, or genre on the register continuum is the aggregate of individual linguistic parameters.
- 10 The terms 'directive' and 'request(ing)' are used interchangeably to denote all kinds of directive speech acts.
- 11 On formulation of requests clearly pointing to the sender's intention, as well as the framing of direct requests, see Koroli (2016, 2020, 2021).
- 12 Compare also the term *captatio benevolentiae* denoting the linguistic strategies used by the writer of ancient letters and petitions in order to gain the favour of the addressee; cf. Koskeniemi (1956, esp. 64–154), Papathomas (2007, 2009), and Zilliacus (1949, 1953, 1967).
- 13 On the difference between register and genre perspective, see Biber and Conrad (2009). As they point out: 'In the genre perspective, the focus is on the linguistic characteristics that are used to structure complete texts, while in both register perspective and the style perspective, the focus is on the pervasive linguistic characteristics' (2009, 15); 'The genre perspective often focuses on the rhetorical organization of texts from variety ... Genre markers are the distinctive expressions and devices that are used to structure a text from a particular genre' (2009, 17, 50).
- 14 All dates are CE.
- 15 Transl. by the authors of the present chapter.
- 16 'By Castor and Pollux, the graces have been kind to him, particularly when he sings, and tries to show his good taste! He's like the proverbial donkey treating himself to a solo on the harp'; transl. by MacLeod (1961, 461).
- 17 According to Cribiore (2001, 237) the word could be part of a proverb, hence a nickname; cf. BL XIII 49.
- 18 Transl. by E. Constantinides (1969, 103); on the word, see Constantinides' note to l. 41 (p. 105).
- 19 'and she sent a boar of vast strength, a ruthless fighter'; transl. by Campbell (1992, 145, 147).
- 20 Transl. by J. de M. Johnson, V. Martin, and A. S. Hunt (edition, p. 385).
- 21 There are only two more attestations: P.Kron. 4 (= P.Mil.Vogl. III 156 = SB VI 9479a).6 (Tebtynis, Arsinoite nome; 135); P.Kron. 5 (= P.Mil.Vogl. III 157 = SB VI 9479 b).4 (Tebtynis, Arsinoite nome; 135).

- 22 'If you have put away or reduced a malignant disposition, and reviling, or impertinence, or foul language, or recklessness, or negligence; ... then you can keep festival day after day'; transl. by Oldfather (1928, 329, 331).
- 23 Transl. by White (1986, 103). In his introduction (1986, 102), White reconstructs the situational context for both BGU II 423 and 632.
- 24 'It is righteous to worship the hand of God'; transl. by the authors of the present chapter.
- 25 Transl. by the authors of the present chapter.
- 26 'It's a case, you know, of a friend's return to friend. For he who asks readily and confidently shows that he believes that all which friends possess is held in common—for giving to friends'; transl. by Benner and Fobes (1949, 53); on the topic of friendship in Alciphron's epistles, see Thoma (2022).
- 27 Transl. by the authors of the present chapter. On enriched closing formulae including the present instance, see, among others, Nachtergaele (2023, 244–47 and *passim*).
- 28 On repetitions like this one, see Bentein (2023a), in which a discussion of the present instance is included (see p. 192), and Bentein (2023b, esp. 458–62), in which the present passage is likewise discussed.
- 29 Transl. by the editor, P. J. Parsons, p. 158.
- 30 See the remarks of the editor, P. J. Parsons, p. 156.
- 31 'Since the world began it has never been heard of that anyone opened the eyes of someone born blind'; transl. by Rainbow Missions. (n.d.)
- 32 Transl. by Chapa (1998, 88); for an alternative translation, see Bagnall and Cribiore (2006, 277).
- 33 On the content and context of this letter, with a focus on its sophisticated language with many literary parallels, see also the discussion offered by Chapa (1998, 87–91, no. 5); cf. Bagnall and Cribiore (2006, 277) and Thoma (2020, 149).
- 34 There are few attestations of the adverb ἀπροσδοκίτως; see P.Fay 19.3; 18 (2nd century) and AnalPap 23–24 (2011–2012, 165) (early 6th century); cf. Chapa (1998, no. 5, n. to ll. 3–4 and 4–5 [pp. 89–90]) with many literary references.
- 35 See Chapa (1998, no. 5, n. to l. 6 [p. 90]).
- 36 See Chapa (1998, no. 5, n. to ll. 8–9 and 11 [pp. 90–91]).
- 37 'Being neglectful of our body's repose for a while'; transl. by the authors of the present chapter.
- 38 'and we will wail aloud and lament bitterly and we will gnash our teeth, and nobody will have pity on us'; transl. by the authors of the present chapter.
- 39 'But they were there crying and wailing aloud and remained inert as far as the law is concerned'; transl. by the authors of the present chapter.
- 40 Transl. by Chapa (1998, 133). On the content and linguistic sophistication of this letter with many literary parallels, see Chapa (1998, 131–37, no. 10). On the apothegmatic and consultive tone of the letter, cf. Papatthomas and Tsitsianopoulou (2019, 131, 132, 2020, 601–3).
- 41 Cf. Naldini (1998, no. 34). The addressee is called 'brother' (see ll. 1 and 18); cf. also the remarks of the editor, E. H. Kase Jr. (p. 98).
- 42 On the wording ἀπόθου τὸ λυπηρόν, see also the discussion offered by Chapa (1998, no. 10, n. to ll. 11–12 [p. 137]).

- 43 Cf. the discussion of Ghedini (1923, no XXXI); Naldini (1998, no. 34 n. to ll. 14–15 [p. 168]); Chapa (1998, no. 10, n. to ll. 14–15 [p. 137]).
- 44 ‘God is not responsible for the human faults’; transl. by the authors of the present chapter.
- 45 ‘They should ... have mercy on human faults; transl. by the authors of the present chapter.
- 46 ‘He reproached no one of the next of kin for the human faults’; transl. by the authors of the present chapter. On παῖσμα, cf. Naldini (1998, n. to l. 13 [p. 168]), as well as the detailed discussion offered by Chapa (1998, n. to ll. 12–13 [pp. 135–36]).
- 47 Transl. by Matthews (2006, 23).
- 48 ‘Honour and glory of the priests’; transl. by the authors of the present chapter.
- 49 ‘Father Zosima, honour of the priests, glory of those who live in solitude’; transl. by the authors of the present chapter.
- 50 Some of the high-register linguistic elements of this letter were discussed by Luiselli (1999, 61, 237, 239). For a discussion of the language in Theophanes’ archive, including unusual lexical choices and focusing on five private letters—namely P. Herm. 2, 4, 5, and 6, as well as P. Ryl. IV 624—see Bentein (2019).
- 51 Transl. by the authors of the present chapter; on this closing formula, see Bruggisser (1989) and Nachtergaele (2023, 239 n. 3).
- 52 Cf. though CPR XXXV 89 fragm. b (= SPP V 100).2 (253–68; see HGV); SB VI 9218 (= P.Lond. III 878 verso (p. 42)).16 (unknown provenance; after 319/320?).
- 53 ‘Will we see you again? Will we embrace our pride, and will it be granted to what remains of our lives?’; transl. by the authors of the present chapter.
- 54 ‘Health, joy, prosperity according to God, may you enjoy all this for us and for the Church of which you are the common pride’; transl. by the authors of the present chapter.
- 55 Transl. by the authors of the present chapter.
- 56 Cf. Naldini (1998, no. 85). Similarly to (13) and (17), this letter belongs to Apa Joannes’ archive; cf. BL X 85.
- 57 ‘For great is the contest of the soul and the peril of everlasting torture awaiting those who transgress the commandment of God’; transl. by Westerholm (2007).
- 58 ‘Because we fear struggling for the benefit of many souls’; transl. by the authors of the present chapter.
- 59 ‘but you feel that you have then before you the struggle for your life and for your entire existence’; transl. by Harmon (1921, 433).
- 60 ‘Until then, he was in distress while lamenting for the soul salvation’; transl. by the authors of the present chapter.
- 61 Perhaps with the exception of SB V 7655.5–7 (Hermopolite nome; first half [?] of 6th century): ὅλα τὰ πράγματά μου ἐπὶ ὑμῶν | εἰς ὑμᾶς, ἐπεὶ πεπληροφόρημαι | ὅτι φιλεῖτέ ἐμὲ ὁλοφύως.
- 62 ‘to show all our concern and solicitude to our Lord?’; transl. by the authors of the present chapter.
- 63 Transl. by Winter (1933, 168); the authors of the present chapter changed ‘bishop’ to ‘protector’ on the basis of BL X 101.
- 64 Cf. Ghedini (1923, no. XXIII); Naldini (1998, no. 51). Similarly to (12) and (17), this letter belongs to Apa Joannes’ archive; see BL X 85.
- 65 On this wording, see Ghedini (1923, no. XXIII, n. to l. 4 [p. 169]).

- 66 'Happy is the one who has a seed in Sion', transl. by Silva (2007); on this phrase, cf. the remark of the editor, H. Idris Bell (p. 242).
- 67 'It is beneficial for them ... to take a slow long walk after asleep'; transl. by the authors of the present chapter.
- 68 'taking night walks'; transl. by the authors of the present chapter. On this phrase, cf. Ghedini (1923, n. to l. 11 [pp. 170–71]; Naldini (1998, n. to l. 11 [p. 227])).
- 69 Cf. Naldini (1998, no. 62). On the discussion concerning the Christian content of the letter with parallels and bibliography, see Blumell (2012, 33 with n. 33).
- 70 Transl. by B. P. Grenfell and A. S. Hunt (see edition, p. 187).
- 71 Transl. by Winter (1933, 167–68); for a thorough analysis of the content, see Choat (2000), who considers the letter as 'one of the most overtly Christian fourth-century letters', the phraseology of which is 'reminiscent or directly reflective of both the New and Old Testament' (2000, 158).
- 72 'Because those who are unanimous with God having fairly acquired heavenly commonwealth do not leave each other on earth singing and talking?'; transl. by the authors of the present chapter.
- 73 'Because the heavenly commonwealth is separated from every kind of faint-heartedness'; transl. by the authors of the present chapter.
- 74 'Everything that he sees towards the heavenly and incorporeal state'; transl. by the authors of the present chapter.
- 75 'that he might create in himself one new man of the two, making peace'; transl. by Rainbow Missions (n.d.).
- 76 'and put on the new man, who in the likeness of God has been created in righteousness and holiness of truth'; transl. by Rainbow Missions (n.d.).
- 77 'and having convinced himself in this way that he can create a new man, unsettling the solstices he said once again that he had assigned it to the wind'; transl. by the authors of the present chapter.
- 78 'and those who do lawlessness shall not escape the judgment of the Lord'; transl. by Atkinson (2007).
- 79 'they will escape God's judgement that is going to come upon'; transl. by the authors of the present chapter.
- 80 'and the Virgin commands us to get as far away from sin as possible'; transl. by the authors of the present chapter.
- 81 'The narrative of foolish persons is an offense, and their laughter is in wantonness of sin'; transl. by Wright (2007).
- 82 'Avoid people; sit in your cell and cry for your sins and do not desire human speech'; transl. by the authors of the present chapter.
- 83 'By means of the blood of the purification of sins, the atonement, once in the year he will purify it for their generations'; transl. by Perkins (2007).
- 84 Cf. the remarks and bibliography offered for this instance.
- 85 Transl. by the editor, H. Idris Bell; see edition, p. 104.
- 86 'which (sc. the written gospels) the Devil's plot did not touch'; transl. by the authors of the present chapter.
- 87 'And it should not be said that the Devil plots against the living and he wants to scatter the churches'; transl. by the authors of the present chapter.
- 88 'The Devil ferociously plots against us casting a malignant look on us'; transl. by the authors of the present chapter.

- 89 'Immortal evil due to the Devil's cunning'; transl. by the authors of the present chapter.
- 90 'I pray for your health for many years, most sweet father; may the God of peace preserve you for a great length of time. {Addressed} To my lord the beloved father Papnuthius'; transl. by the editor, H. Idris Bell; see p. 104; on this closing formula, see Nachtergaele (2023, 252, 255 with n. 69, and 257 with n. 80).
- 91 'Now the God of peace be with you all'; transl. by Rainbow Missions (n.d.).
- 92 'and the God of peace will be with you'; transl. by Rainbow Missions (n.d.).
- 93 'and the God of peace will be with all of you'; transl. by the authors of the present chapter.
- 94 Cf. Naldini (1998, no. 83). Similarly to (12) and (13), this letter belongs to Apa Joannes' archive; see BL X 85.
- 95 Cf. the introduction to the papyrus offered by the editor, B. R. Rees (p. 15).
- 96 Transl. by the editor, Brinley Roderick Rees (see p. 16).
- 97 'Ambrosius, true man of God'; transl. by the authors of the present chapter. On this phrase, cf. Naldini (1998, no. 83, n. to l. 18 [p. 329]).
- 98 'It is therefore good to be a fellow-labourer with brothers'; transl. by the authors of the present chapter.
- 99 Cf. the case of P.David 14; see Luiselli (1999, 136, 160, 235–37, 263); Koroli (2019).
- 100 However, misspellings should not always be considered as markers of low-level Greek, since they occur in very demanding texts; such is the case with the fragmentary literary autograph, dated from the later Roman times, edited in P.Köln VI 245 by Maryline G. Parca.
- 101 There are also ambiguous cases; cf. Blumell (2012).
- 102 BGU IV 1080 offers an interesting instance of combining the two literary traditions; see Papathomas (2021).

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- All abbreviations of papyrological editions follow the online-version of the Checklist of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets: J. F. Oates, R. S. Bagnall, S. J. Clackson, Alexandra A. O'Brien, J. D. Sosin, T. G. Wilfong, and K. A. Worp, *Checklist of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets*, <https://papyri.info/docs/checklist>.
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CHAPTER 13

Everyday occupations in Roman and Late Antique Egypt

‘Metadata’ as data for the study of linguistic variation

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Abstract

Within the Everyday Writing (EVWRIT) project, occupational designations have primarily been studied as a form of ‘metadata’ to explain linguistic variation. In this contribution, we argue that these terms also merit analysis as a subject of ‘variationist’ study in their own right. We begin by providing an overview of the occupational designations found in the Everyday Writing corpus, categorising them into five broader social groups and highlighting patterns in their contexts of occurrence and word formation. In the second part of our contribution, we explore three key areas of historical sociolinguistic inquiry related to occupational references: synchronic variation and change,

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gender differentiation, and the role of occupations in personal identification.

13.1 Introduction

While the value of papyrus documents for the study of economic and social history, as well as for the study of law, and administrative, religious, and cultural history, has been duly recognised (e.g. Ruffing 2020, 112, among many others), much less attention has been paid to the value of these sources for our knowledge of communication practices.¹ Within the Everyday Writing project,² a European-funded project that has been running at Ghent University (2018–2024), a team of researchers has been studying the communicative choices that people made in their written communication, and how the choice for one or the other feature connects to the context of writing.

Methodologically speaking, our approach, which we have come to call ‘historical socio-semiotics’ (Bentein and Amory 2023), consists of

- exhaustively annotating documentary sources for certain semiotic domains, such as materiality, layout, orthography, syntax, and multilingualism;
- annotating the same sources with socio-pragmatic (‘metadata’) information, as far as it is retrievable, such as the social characteristics and communicative goals of the interactants; and
- maximally connecting these two poles to each other, to find out more about the (ever shifting) social indexical value of communicative features (for the concept of indexicality, see Bentein 2019).

For these steps, new digital tools have been developed that greatly facilitate the project’s goals.

In this contribution, we would like to venture beyond this by now established methodology, and argue that our metadata information, too, which, to some extent at least, has been pushed into an auxiliary role, is worth studying in its own right from a ‘variationist’ perspective (cf. Bentein 2018 on lineage expressions). In this way, we intend to turn ‘metadata’ into ‘data’ in its own right, and broaden our conception of these notions. The metadata area that we will specifically be focusing on is that of ancient ‘occupations’ (also ‘professions’, ‘functions’), which we have annotated consistently in the Everyday Writing corpus as part

of the social characteristics of the relevant communicative participants, be they *initiators*, *intermediaries*, *legal representatives*, *receivers*, *witnesses*, *scribes*, or *signatories*.³ In our database, each of these occupations is in turn connected to a number of larger occupational classes, to which we will return later in this chapter ([Section 13.3](#)).⁴

Occupational designations have been studied extensively in previous research. Loisa Casarico (1983), Hans-Joachim Drexhage (1991a, 1991b, 2001, 2002), Kai Ruffing (2002), and Johannes Diethart (2005a, 2005b), among others, have made important lexicographical contributions on the manifold -πώλης and -πράτης compounds that are found in Hellenistic, Roman, and Byzantine papyri (including literary and epigraphical corpora in their investigations), and that testify to the high degree of specialisation of trade- (and craft-) related occupations,⁵ while Ewa Wipszycka (1965) and Emanuela Battaglia (1989) have analysed the professions appearing in the textile and bakery industries respectively. The most comprehensive study that has been carried out so far is Kai Ruffing's, which exhaustively lists and discusses occupational designations for craftsmen and tradesmen in the Roman and Late Antique period, based on papyrological and epigraphical sources (Ruffing 2008).

Other scholars have studied occupations terms in the context of the broader themes of self-identification and self-representation (in Egypt and more broadly the ancient world), to which several edited volumes have been dedicated (e.g. Guicharrousse et al. 2019; Nowak, Latter, and Urbanik 2017). Yet another strand of research has studied occupational titles in an attempt to better understand larger socio-economic factors, such as the occupational structure of Egyptian villages (e.g. Langellotti 2017 for Tebtynis and Philadelphia), regional diversification between villages, and the connection with government (e.g. Roman government and taxation). Additionally, such scholarship has explored the socio-economic profile of certain (groups of) occupations through an 'onomastic' approach (see Langellotti 2017, 170), by connecting occupational titles to co-occurring textual elements such as names (Egyptian, Greco-Egyptian, common Greek, Macedonian; e.g. Hanson 1992; Langellotti 2017) and formal titles (president, secretary, etc.), as well as family relations (household types).

The goals of this chapter are twofold: first, we intend to provide an overview of the Greek occupational designations that we came across in the Everyday Writing corpus—a corpus of 4,686 letters, petitions,

and contracts from the Roman and Late Antique period—and to briefly discuss, on the basis of broader occupational classes, some of the main trends, focusing in particular on context of occurrence and word formation ([Section 13.3](#)); second, we want to highlight a number of aspects that are relevant for the variationist study of occupations, such as synchronic variation and change, gender differentiation, and the dynamics of personal identification ([Section 13.4](#)). Before doing so, however, we want to discuss briefly contexts of occurrence for occupational terms in the papyrological corpus ([Section 13.2](#)). We conclude our contribution with some suggestions for further research ([Section 13.5](#)).

13.2 Occupations and their contexts of occurrence

Occupational designations can be found in a variety of documents, serving a number of different purposes. A good starting point for our discussion is a 2017 chapter by Micaela Langellotti, which discusses occupations and naming trends in the villages of Tebtynis and Philadelphia during the first century CE (Langellotti 2017). In that chapter, Langellotti not only surveys the different types of documents in which occupations can be found, but also makes a broad distinction between documents where occupations are included as a form of personal identification (what she refers to as ‘socio-economic identifiers’), and those documents where the inclusion of an occupational reference is tightly connected to the purposes of the genre in question (Langellotti 2017, 154–55).⁶

Even though overlaps seem to exist between these two functions in some documents, we believe it is worth recognising the varying degrees to which occupational references either provide ‘absolute’ social identity information or rather form part of ‘relational’ social identity information (Bentein 2019, 145), that is, whether inclusion of an occupational reference serves to provide information about a person’s role and their relationship to other participants in a specific communicative context (= relational), or rather to provide more stable information about a person’s social characteristics (= absolute).⁷ Particularly in the former case, occupational references tend to be part of a longer identificational chain, which consists not only of a person’s name, but also their filiation, origins, and domicile (Gascou 1994, 50–51). The order of these elements tends to be relatively fixed.

As various scholars have pointed out, occupational designations are most often found in administrative documents such as lists, registers, and accounts, where they are included for taxation and other administrative purposes. As these documents are not included in the Everyday Writing corpus, we will not dwell on them much here. There are other text types, however, that are part of our corpus where there does seem to be an intimate relation between the type of transaction that is being made and the inclusion of an occupational reference. In work and apprenticeship contracts, for example, the profession is mentioned because it constitutes a basic element of the contract between the parties. A typical example is a work contract concerning flageolet players preserved in P.Fam.Tebt. 54 (219/223 CE) = TM 10761: Αὐρηλίῳ [Ο]ννώφρι [αὐ]λητῇ τὴν ἐργασίαν | παρὰ [Α]ὐρηλίου Φιλοσα[ρά] πιδος Λυσιμάχου Ἀντινο[έως] (ll. 1–2) ‘to Aurelius Onnophris, flageolet player by trade, from Aurelius Philosarapis, son of Lysimachos, citizen of Antinoopolis’ (transl. van Groningen).

Another text type where the occupational reference seems to be tightly connected to the type of economic transaction that is made are orders for delivery of food and other items, which form a valuable source for the study of the economic activities and status of the individuals. For example, P.Oxy. XVII 2139 (II/III CE) = TM 27203 preserves the order to a poulterer: Θώνι ὀρνειθᾶ. | δὸς εἰς παράστα- σιν | στρατηγοῦ ὀρνειθ(ας) (l. ὀρνιθ(ας)) δ | δραχμῶν δέκα (ll. 1–4) ‘to Thonis poulterer. Provide for the visit of the strategos 4 fowls at ten drachmae’ (transl. Hunt). Similar in nature is P.Oxy. VIII 1133 (396–397 CE) = TM 21750, a receipt for the price of some fruit sold by a grower to a dealer: Αὐρήλιος Ἰωάννης Σαρμάτου πωμαρίτης ἀφ’ Ἡρακλέος | πόλεως κατ[α]γινόμενος νῦν ἐ[π’] ἐποικίου Νύσου (l. Νήσου) Λιμενίου | ἀπὸ πρινπιλαρίων (l. πριμιπιλαρίων) Αὐ[ρηλίου] Ἀρτεμιδώρου Καλόπου | ἀπὸ τῆς Ἀρσενοειτον (l. Ἀρσινόειτῶν) πόλ[εως] κατ[α]γινόμενον (l. καταγινόμενον) ἐν τῇ λαμπρᾷ | καὶ λαμπροτάτῃ Ὀξύρυγχ[εϊτῶν] π[ό]λει ὀπωροπόλῃ (l. ὀπωροπώλῃ) χαίρειν (ll. 3–7) ‘Aurelius John son of Sarmates, fruit-gardener of Herakleopolis, now living at the village of Nesus Limenius, ex-primipilarius, to Aurelius Artemidorus, son of Calopus, of Arsinoiton polis, living at the illustrious and most illustrious city of Oxyrhynchus, fruit-dealer, greeting’ (transl. Hunt).

In the aforementioned types of documents, the occupational designations are related to the economic activities and transactions

described. When it comes to the use of occupational titles for the purposes of personal identification, we can turn to petitions, where petitioners mention not only their names but also their occupations and their provenance, as a way of identification. As Benjamin Kelly notes, 'In a society in which men used only a single name and a patronymic and many people in a particular village or town had similar names, the precise designation of occupation and domicile would contribute to a person's identification' (Kelly 2011, 153). Most of these documents start with the name of the official addressed and are followed by the name of the sender, their domicile, and sometimes their occupation (Kelly 2011, 47).⁸ For example, in P.Eirene I 5 (I CE) = TM 79304, a petition submitted by a builder, we read: *παρὰ Ζωίλου τοῦ Θ[έωνος οἰκοδόμου* (l. 2) 'from Zoilos, son of Theon, builder'. The occupation of the petitioner is also mentioned in the narration of their story if it is related to the complaint submitted to the authorities. Since female petitioners are fewer than male ones, we do not find many female occupations attested in petitions (Kelly 2011, 229–42).

Personal identification also plays a role in private contracts, like lease and sale contracts (Langellotti 2017, 155). P.Oxy. VII 1038 (568 CE) = TM 20333 records a lease of a ground floor room of a house and constitutes an illustrative example of formal identification in everyday economic transactions: *Αὐρήλιος | Στέφανος ἄρτοκ(όπος) υἱὸς Ἡρακλάμμωνο(ς) | μητρ(ὸς) Νόννας ἀπὸ τῆς αὐτῆς | πόλεως χαίρειν* (ll. 13–16) 'Aurelius Stephanus, baker, son of Heraclammon and Nonna, of the same city greeting' (transl. Hunt). Professions could constitute part of an individual's identity, particularly in cases of local communities in which most of the people were recognised by their job.

While in Roman times most divorce contracts do not mention the parties' occupations, in Late Antique Egypt it is common practice that divorce settlements and other private legal documents (for example, agreements, settlements of disputes) include information about the professions of the parties as a way of identification and to make these texts appear more formal. To judge from the majority of such documents preserved, we can assume that the mention of an individual's occupation was not compulsory. However, various separation agreements record the husband's job or both spouses' jobs. In some of these cases, the husband and his wife practise the same profession and both contribute to the domestic economy in an almost equal way, cf. P.Nekr. 34 (305–306 CE) = TM 22632: *Αὐρήλιος Σούλις νεκροτάφος ἀπὸ*

το[πα]ρχίας Κύσε[ως] | Σενψάις (l. Σενψάιτι) θυγατρὸς (l. θυγατρί) Ψάιτος ἐκ μητρὸς Τεοῦς (l. Τεοῦτος) νεκροταφίς[σα] | ἀπὸ τῆς αὐτῆς χαίρειν (ll. 1–3): ‘Aurelius Soulis, nekrotaphos from the toparchy of Kysis, to Senpsais daughter of Psais, her mother Teous, nekrotaphissa, from the same toparchy, greetings’ (transl. Bagnall).²

As can be seen, occupational designations mostly occur in formal text types, where the need for identification (of whatever type) is the greatest. Intriguingly, in informal text types such as private and business letters, we also come across details about the economic activities and everyday occupations practised by the correspondents, a matter which we will discuss at greater length in [Subsection 13.4.3](#).

13.3 Occupations in the Everyday Writing corpus

Previous, lexicographical studies have mostly listed occupations on the basis of morphological endings: Loisa Casarico, for example, first published a ‘repertorio di nomi di mestieri’, focusing specifically on occupations ending in -πώλης and -πράτης (Casarico 1983), which has been updated multiple times by Hans-Joachim Drexhage, Johannes Diethart, and Kai Ruffing, who also took into account newer editions of papyrological sources, as well as other types of corpora, such as literary texts and inscriptions (see [Section 13.1](#) for relevant studies). Similar work has been done for other types of morphological formations, such as occupations ending in -ᾶς (see Drexhage 2004b, who takes into account literary, papyrological, and epigraphical sources).

There have been other approaches to collecting occupational designations as well, which are less morphologically oriented: Hans-Joachim Drexhage, for example, has published a ‘preliminary’ list of all occupations found in literary sources (Drexhage 2004a), which he first organises alphabetically but then regroups in ten thematically organised categories.¹⁰ One can also mention the work of Micaela Langellotti (2017, 171–80), which lists in an appendix all occupations found in two archives (the Nemesion and Kronion archives), as well as in three census lists from Philadelphia (P.Lond. II 257–59), also specifying the number of occurrences and the document type, among others (for more general discussion of professions, see e.g. Bagnall 1993, 68–99; Lewis 1983, 134–55).

In what follows, we present the ‘everyday’ occupations that we retrieved in the Everyday Writing corpus on the basis of some larger

occupational classes. By ‘everyday’ occupations, we mean here those occupations that do not belong to the military, official, or religious spheres. We recognise the following classes:

- *agricultural workers*: occupations related to agriculture, including the capture and care of animals (e.g. farmers, hunters, fishermen);
- *landowners*: separated from the category of agricultural workers to refer to villagers and urban residents owning land without necessarily also working on that land;
- *craftsmen and tradesmen*: occupations related to the production and processing of specific materials such as foodstuff, construction, or textiles (e.g. weavers, carpenters, builders);
- *liberal professions*: occupations that provide services on the basis of intellectual skills achieved by at least some amount of schooling (e.g. bankers, managers, notaries, teachers, lawyers);
- *other service providers*: occupations that provide services other than those provided by liberal professions, in other words, occupations that are not based on a specific set of intellectual skills (e.g. watchmen, doorkeepers);
- *actors, musicians and athletes*: occupations that provide entertainment.

In what follows, we briefly discuss each of these occupational groups, with the exception of landowners, which are a relatively homogeneous group.¹¹ We focus in particular on the different types of occupations that we find in each of our broader categories, the social contexts in which these occupations can be found, and whether any morphological patterns can be discerned.

13.3.1 Agricultural workers

Given that agriculture was Egypt’s largest economic sector, it should not come as a surprise that agricultural occupations are particularly well attested in our corpus. Farmers form, as noted by Langelotti (2017, 150), the most popular occupation, with some distinction between different types of farmers,¹² such as δημόσιος γεωργός (public farmer), ἐναπόγραφος γεωργός (tied tenant), and μισθωτής (tenant farmer). Besides farmers, we find various occupations that are related to the growing and tending of plants and trees, such as ἀμπελουργός

(vine-dresser), κηπουρός (gardener), πωμαρίτης (fruit-gardener), and θεριστής (mower).

Under agricultural workers, we also include occupations that relate to the hunting of animals, such as ἀγρευτής and κυνηγός, both meaning ‘hunter’, and ἀλιεύς (fisherman). Occupations that relate to the tending of animals include βουκόλος (herdsman), χοιροβοσκός (swineherd), μελισσοουργός (beekeeper), ποιμήν (shepherd), and ὀρνεοτρόφος (poultry farmer). Our corpus also contains some references to agricultural workers taking a leading role, such as πιττακιάρχης (main leaser of public land) and φροντιστής κηπουρός (superintendent of the garden).

References to agricultural occupations mostly occur in contracts in the Everyday Writing corpus, in particular lease contracts, which are, of course, predominantly linked to farmers. Contracts of sale, loan, and surety also play a role, though less so. The same can be said of letters and petitions. In all text types, agricultural workers predominantly have the role of ‘initiator’, that is, they undertake the communicative act (such as engaging in a lease).

In terms of word formation, compounding with the lexical stems -ουργος, -τροφος, -βοσκος is noticeable in a variety of occupational terms, where the second term typically denotes the person undertaking an action based on the underlying verbal stem, and the first term the object of that action (so ὀρνεοτρόφος is the person who feeds/nourishes [τρέφω] poultry [ὄρνις] etc.).¹³ Agent nouns in -της that are derived from underlying verbs constitute another common type of formation (θεριστής is the person who mows [θερίζω], ἀγρευτής is the person who hunts [ἀγρεύω], etc.). Less common are agent nouns in -εως based on underlying nouns (ἀλιεύς is the person who works on the sea [ἄλς]), or in -ας and -ην (as with ποιμήν and κραμπιτᾶς; κραμπιτᾶς is further discussed in [Subsection 13.3.6](#)).

13.3.2 Craftsmen and tradesmen

As Langellotti notes (2017, 151), Egypt’s economy was not limited to farming and pastoralism, a wide variety of crafts and trades being attested too, particularly in an urban environment.¹⁴ These can be connected to the production and distribution of goods. Three areas that are particularly relevant in this regard, both in terms of production and distribution, are food, construction, and textiles (Bagnall 1993, 78).¹⁵

Various occupations are attested in the Everyday Writing corpus that are related to the securing and processing of food. Different types of bakers can be distinguished, such as ἀρτοκόπος (baker), βουκ(κ)ᾶς (confectioner), καθαρουργός (baker of fine bread), κλιβανεύς/κριβανεύς (baker), μάγκιψ (baker), and παστιλλᾶς (confectioner); similarly, various types of butchers can be distinguished, such as χοιρομάγειρος (pork butcher), χοιροσκόπτης (pork butcher), and αἰγ(ι)οθύτης (goat butcher). In the area of construction, our corpus mostly contains references to builders, carpenters, and stonemasons,¹⁶ including occupations such as ἀλαβαστρωνίτης (alabaster stonemason), (ἱερο)τέκτων ((temple) carpenter), λαοτόμος (stonemason), λαοξόος (stonemason), οἰκοδόμος (builder), πλινθευτής (brickmaker), and μυλοκόπος (millstone cutter).¹⁷ When it comes to the third area of production, the textile industry, a broad range of occupations in our corpus is related to various stages of textile production, such as βαφεύς (dyer), γέρδιος (weaver), γναφεύς (carder), καυνακοπλόκος (furrier), κογχιστής (dyer), κτηνιστής (wool-carder), λινούφος (weaver), ποικιλτής (embroider, pattern-weaver), στιπποκογχιστής (purple dyer), στιππουργός (linen fabrics weaver), ταπητάριος (carpet weaver), ταρσικάριος (weaver of Tarsus cloth), and ῥάπτης (tailor).

Other materials-based crafts that are not included under food, construction, and textiles, and of which relevant occupations are included in our corpus, include *leatherworking*, *metalworking*, *pottery*, *woodworking*, and *glassworking* (see Bagnall 1993, 84–85). Metalworking-related occupations in particular are well attested in our corpus, including material-related (rather than product-related; Bagnall 1993, 84)¹⁸ occupational references such as ἀργυροκόπος (silversmith), χαλκεύς (bronzesmith), χαλκοτύπος (coppersmith), χρυσοχόος (goldsmith), μολυβουργός (leadworker), and σιδηροχαλκεύς (ironsmith). Other occupations include καλικάριος (= καλιγάριος?) (bootmaker), σκυτεύς (shoemaker), κεραμεύς (potter), κεραμοπλάστης (potter), κουφοκεραμεύς (potter of wine jars), and ὑαλουργός (glassworker). Bagnall (1993, 85) notes a fundamental difference between these industries and the textile industry, in the sense that

the cities of Middle and Upper Egypt best known from the papyri all had flourishing textile industries ... at least some of which produced on a substantial scale for export. No other industry can be shown on

present evidence to have such a role; the remaining industries seem to have served local needs.

As for the distribution of goods, Bagnall notes that, to a large extent, 'production and marketing were united in the same establishments' (Bagnall 1993, 87), craftsmen also selling their own products. That being said, in the cities many things that were not produced there, especially related to food and drink, were also sold. Here one notes a high degree of specialisation: 'poultry is sold by one merchant ... fish by another, meat by the appropriate butchers. Vegetables are sold by one vender, fruit by another. Various sellers carried lentils and beans of various sorts. Merchants in oil, wine, beer, and condiments complete the normal range, though others can be found' (Bagnall 1993, 87). Apart from sellers of foodstuffs, there were also other types of merchants, like those connected to the textile industry, or animal dealers. Relevant occupational terms from our corpus include ἀνθυλλοπράτισσα (seller of flowers), ἐλαιοπώλης (male seller of oil) and ἐλαιοπώλισσα (female seller of oil), ἐλαιοπράτης (male seller of oil) and ἐλαιοπράτισσα (female seller of oil), ἐριοπώλης (seller of wool), ἱματιοπράτης (cloth merchant), κυμινοπώλης (cumin seller), λαχανευτής (greengrocer), λαχανοπώλης (greengrocer), λαχανοπράτης (greengrocer), λινέμπορος (flax merchant), ὀθονιακός (linen merchant), οἰνέμπορος (wine merchant), οἶνοπράτης (wine merchant), ὀρβιοπώλης (vetch-seller), ὀρنيθᾶς (poulterer), ὄπωροπώλης (fruit-dealer), φαρμακοπώλης (pharmacist), φοινικοπώλης (date-seller), πορφυροπώλης (dealer in purple), and ταριχοπράτισσα (female pickle seller). General terms that refer to merchants include ἔμπορος (merchant), κάπηλος (shopkeeper), and πραγματευτής (merchant).

Similarly to agricultural workers, craftsmen and tradesmen occur predominantly in contracts in the Everyday Writing corpus: lease contracts are the dominant type with this occupational class, too. Contracts of sale and loan are well attested, too, as are contracts of apprenticeship, which we typically find for textile workers.¹⁹ Compared to agricultural workers, craftsmen and tradesmen appear more often as receivers in letters, which may be related to higher degrees of literacy and/or a higher need to communicate information, make requests, etc. They can be found as initiators of petitions, too, making various sorts of complaints. In the documents that we have, reference is sometimes made to craftsmen and tradesmen functioning as headmen

(presidents) of their guilds;²⁰ this is particularly noticeable in P.Cair. Masp. III 67283 (547 CE) = TM 18420, a petition from the inhabitants of Aphroditto to the empress Theodora against the intrigues of the pagarch of Antaiopolis, which is signed by, among others, the κεφαλαιωτής τῶν τεκτόνων (headman of carpenters), the κεφαλαιωτής τῶν καυνακοπλόκων (headman of furriers), and the κεφαλαιωτής τῶν πακτονοποιῶν (headman of shipwrights). In other documents, we find references to a πρωταυράριος (head of the guilds of the goldsmiths) and an ἐργαστηριάρχης (foreman of a workshop).

As with agricultural workers, occupation terms for craftsmen and tradesmen are often formed by compounding a noun with a verbal lexical stem, with the noun forming the object of the verbal action. Best studied are -πωλης (πωλέω, sell) and -πρατης (πράττω, transact) compounds, but a variety of other types can be mentioned too, including compounds in -γραφος (γράφω, write), -δομος (δομάω/δέμω, construct), -θυτης (θύω, offer), -κοπος (κόπτω, cut), -ξοος (ξέω, carve), -ουργος (ἔργω, do work), -πηγος (πήγνυμι, fix in), -πλαστης (πλάσσω, form), -πλοκος (πλέκω, knit), -ποιος (ποιέω, produce), -τομος (τέμνω, cut), -τυπος (τυπόω, stamp), and -χοος (χέω, smelt) (e.g. χρυσοχόος, the person who melts or casts [χέω] gold [χρυσός]). There are some compounds that are formed on the basis of two nominal stems, as with ἱεροτέκτων (temple-carpenter), λινέμπορος (flax merchant), οἰνέμπορος (wine merchant), κουφοκεραμεύς (potter of wine jars), and σιδηροχαλκεύς (ironsmith). One can note that in these cases the first part of the compound word typically provides a subtype of the general category specified by the second part (e.g. κουφοκεραμεύς, the potter [κεραμεύς] that makes wine jars [κουφον]). Reference can also be made to agent nouns in -της and -εως: the former tend to have a verbal base (ποικιλτής 'embroiderer' from ποικίλλω 'embroider') and the latter a nominal base (e.g. κεραμεύς 'potter' from κέραμος 'potter's clay, pottery'), though the distinction is not absolute (e.g. γναφεύς 'carder' from κνάπτω 'card or comb wool', βαφεύς 'dyer' from βάπτω 'dip', 'dye'). One can also note a limited number of agent nouns in -ας (ὀρνιθᾶς, poulterer; βουκκᾶς, confectioner), a suffix that became popular in Late Antiquity to denote the maker or seller of something. Finally, mention can be made of formations in -αριος and -ιακος to denote the person handling certain types of materials (as with ὀθονιακός, linen merchant; ταπητάριος, carpet weaver; and ταρσικάριος, weaver of Tarsus cloth).²¹

13.3.3 Liberal professions

Besides production and distribution, a good deal of the (urban) working population was involved in providing services of different kinds. In the Everyday Writing database, we separate 'liberal professions' from other types of services (including entertainment), based on the view that the former require at least some degree of learning.²²

One such group of literate workers is related to the administration, whether the imperial administration and city government, or the management of urban landowners' estates (Bagnall 1993, 91–92). One can think of various types of managers and secretaries such as the ἀντιγεοῦχος (landlord's agent), διοικητής (administrator), ἐπικτηνίτης (junior manager), ἐπιμελητής (steward), ἐπιστάτης (supervisor), ἐπίτροπος (steward/administrator), μειζότερος (person in charge of the household's supplies), οἰκονόμος (general administrator), παραλήμπτης (estate manager), πραγματεύς (estate manager), προεστώς (superintendent of estate), προνοητής (manager of an estate), σκρινιάριος (secretary, associated with official/administrative offices), and φροντιστής (manager). It is unclear what degree of learning each of these occupations needed, an issue which we will go no further into here.

A second major group of liberal professions is related to 'operations of documentation, recordkeeping, education and the law' (Bagnall 1993, 91), including various types of scribes and notaries: attested in the Everyday Writing corpus are occupations such as γραμματεύς (secretary, clerk), νομικός (lawyer, notary), νομογράφος (notary), νοτάριος (notary), σκρίβας (secretary), σημειογράφος (shorthand writer), συμβολαιογράφος (notary), συναλλαγματογράφος (notary), ταβελλίον (tabellio), ταβουλάριος (official clerk), and ταχυγράφος (shorthand writer). To the same group belong different types of teachers, such as γραμματικός (school teacher), γραμματοδιδάσκαλος (teacher of letters), διδάσκαλος (teacher); and lawyers and public speakers, referred to as δικολόγος (pleader, advocate), νομικάριος (lawyer), συνήγορος (advocate), σχολαστικός (lawyer), and ῥήτωρ (rhetorician). Under liberal professions, one can also include a number of other professions, such as doctors (ἰατρός), veterinarians (ἵπποιατρός), architects (ἀρχιτέκτων), and engineers (μηχανάριος). Another group that may be mentioned here, though it seems to have affinities both with our 'craftsmen/tradesmen' (see [Subsection 13.3.2](#)) and 'other service providers' (see

[Subsection 13.3.4](#)), is related to banking and the collecting and lending of money: this includes occupations such as *τραπεζίτης* (banker), and the somewhat less common *ἀργυροπράτης* (moneylender).²³

Similarly to our previous two occupational classes, liberal professions are well attested in contracts, particularly lease contracts, and in second instance contracts of loan and sale. In many of the cases, however, liberal professions are related to the role of scribe, rather than that of initiator, receiver, or witness, which is understandable, given the importance of the subgroup of liberal professions related to recordkeeping, documentation, and the law. Another major difference in terms of textual distribution is the very frequent appearance of liberal professions in letters, which is also unsurprising given the key importance of epistolary communication for this occupational class, in particular managers of various sorts, both as initiator and receiver. Petitions, too, are attested for this class, though less so than contracts and letters.

Morphologically speaking, there are some noticeable differences between our liberal professions and previously discussed occupational classes, in particular the lesser importance of compounding, which can be related to the fact that liberal professions often do not have the same type of concrete object as our other occupational classes. One can nevertheless note the use of *-λογος*, *-νομος*, *-πρατης*, *-τροπος*, and particularly *-γραφος*. Derivational word formation processes have much greater importance, in particular the use of *-της* as a suffix for agent nouns, which is common for liberal professions related to administration. As observed above, such agent nouns are typically formed on a verbal base, though not always (e.g. *ἐπικτηνίτης*, formed with the preposition *ἐπί* and *κτῆνος*, pl. 'beasts', similarly *τραπεζίτης*, from the nominal base *τράπεζα* 'bank'). Other common suffixes for agent nouns in this occupational class are *-ος*, *-εως*, *-ων* and *-ωρ*. As with craftsmen and tradesmen, we encounter endings in *-αριος* (e.g. *μηχανάριος*), as well as in *-ικος* (e.g. *γραμματικός*).²⁴

13.3.4 Other service providers

When it comes to other types of services (that is, services that require a lesser degree of education), Bagnall notes that 'probably the largest group of service workers was that in transportation' (Bagnall 1993, 88), the first place going to Nile shipping (transport of grain taxes and

exports). Some transportation-related occupations that are attested in our corpus include κυβερνήτης (skipper), ναύκληρος (captain, commander), ναύτης (sailor), ναυκληροκυβερνήτης (pilot of a ναυκλήριον), πορθμεύς (ferryman, boatman), and πολυκωπίτης (skipper of a ship with many oars). Besides river transportation, there was also transportation using animals, including 'the transportation of tax wheat to the ports, the transportation of food to the metropolis, and a good deal of personal travel' (Bagnall 1993, 89). Occupations that are attested in our corpus include καμηλάτης (camel-driver), ὄνηλάτης (donkey-driver), and ζευγηλάτης (driver of a yoke of oxen). Some occupations relate to specific types of transport, such as παρεμβάλλουσα (olive-carrier),²⁵ ὕδροπάροχος (water supplier), and ὄνθομετάφορος (dung transporter).

Bagnall recognises a number of other types of service workers, too, such as those who provided personal care services, including barbers and hairdressers, bath attendants, prostitutes, undertakers, and wet-nurses, with doctors and veterinarians at the upper end of the scale.²⁶ As noted in [Subsection 13.3.3](#), we have included doctors and veterinarians under our 'liberal professions'; there is some evidence for other occupations related to personal care in our corpus, though. Relevant occupations include κουρεύς (barber), βαλανεύς (bath-man), ἐνταφιαστής (undertaker, embalmer), νεκροτάφος (corpse transporter), πανδοχεύς (inn-keeper), πλυσιμάριος (laundryman), and τροφός (wet-nurse). Assistants and agents could be mentioned here, too, though they could alternatively be grouped under our 'liberal professions'; this includes such occupations as βοηθός (assistant), ὑπουργός (assistant, servant), συνεσταμένος (agent), and στιπποχειριστής (agent of tow-merchants).

Another group of other service providers includes the security personnel of public and private establishments, including watchmen, guards, doorkeepers, and the like (Bagnall 1993, 90). There is limited evidence of such occupations in our corpus: relevant occupations include ὀνοφύλαξ (ass-keeper) and σύμμαχος (armed guard).

In terms of written documentation, other service providers are mostly attested in contracts in the Everyday Writing corpus, in particular contracts of lease, loan, and sale, parallel to what we noted for our other occupational classes. They are attested in other types of contracts, too, such as contracts of work and surety. They mainly appear as contracting parties in these texts. Other service providers also appear

as initiators and receivers in epistolary communication, mostly to discuss business-related affairs. They are found in a limited number of petitions.

When it comes to word formation, compounding plays a less prominent role for other service providers than it does for agricultural workers and craftsmen/tradesmen, which forms a parallel to our liberal professions. One can note, however, (complex) compounds in -ελατης (from ἐλαύνω, to drive away, with καμηλάτης as a short form of καμηλ-ελάτης), -παροχος (from παρέχω, to provide, supply), -μεταφορος (from μεταφέρω, to transfer, transport), -ταφος (from θάπτω, to bury), and -φυλαξ (from φυλάσσω, to guard, protect), with the second part of the compound form denoting the person undertaking an action, of which the first part of the compound forms the object. Besides these compounds, the dominant word formation pattern is the use of the derivational suffixes -της, -ος, and -ευς. As observed before, -της forms tend to have a verbal base (e.g. κυβερνήτης as the person who steers, from κυβερνάω), and -ευς forms a nominal base (e.g. πορθμεύς as the person crossing the πορθμός 'narrow sea, strait'), but some exceptions can be noted (e.g. ναύτης, which is based on ναῦς 'ship'). -ος forms, too, tend to be derived from a verbal base, in the -ο grade (e.g. τροφός from τρέφω 'I nourish'). One can also note the limited occurrence of the adjectival suffix -αριος, and of participial forms to denote occupations (such as παρεμβάλλουσα, συνεσταμένος).²⁷

13.3.5 Actors, musicians, athletes

In his overview of urban professions, Bagnall briefly mentions what he calls 'entertainers', the best-known group of which is connected to chariot-racing, including charioteers, chariot-builders, trainers, veterinarians, and grooms. In our corpus, too, ἡνίοχος (charioteer) is attested, as is σταβλίτης (horse-trainer). Reference is also made to wrestlers (παγκρατιαστής); besides the generic ἀθλητής (combatant in the games), we also find references to people who have been victorious in specific contexts, such as the ἱερονίκης (conquerer in the sacred games), ὀλυμπιονίκης (conquerer in the Olympic games), and καπιτωλιονίκης (conquerer in the Capitolia). Other occupations situated in the athletic sphere are ἀλείπτης (trainer), ξυστάρχης (president of an athletic association), and ἀγωνοδίκης (umpire, judge of a game).

Besides athletes, actors and musicians (including dancers) form a second major category of entertainers (see Bagnall 1993, 92). The occupational references that we find are mostly instrument-based, including αὐλητής (flute player) and πρωταύλης (chief flute player). People using their verbal skills for entertainment include the βιολόγος (actor), Ὀμηριστής (rhapsode), and παντόμιμος (pantomimic actor).

The textual distribution of actors, musicians, and athletes is more or less evenly split between contracts, petitions, and letters, contracts being slightly more often attested, in particular contracts of work, which can be connected to the nature of this occupational class, which needs to engage itself. Athletes are also found on various occasions in our corpus requesting their rights through petitions and letters.

In terms of word formation, apart from various types of compounds in -αρχης (from ἄρχω, to rule), -νικης (from νικάω, to conquer), -λογος (from λέγω, to speak), and -οχος (from ἔχω, to have, hold), the dominant word formation pattern for this occupational group are agent nouns in -της, derived both from verbal and nominal bases (e.g. σταβλίτης from στάβλον 'posting station', but ἀλείπτης from ἀλείφω 'to anoint, prepare').

13.3.6 Some uncertain occupations

Before discussing how occupational designations can be studied from a variationist point of view, it is worth briefly discussing a number of occupational designations the meaning of which is to a greater or lesser extent uncertain. These include κραμπιτᾶς, βουκκᾶς, μάγκιψ, and μεθλίτης.

κραμπιτᾶς

Κραμπιτᾶς (κραμβιτᾶς) is a very rare term which appears in a papyrus document and three Late Antique inscriptions. In the divorce contract P.Cair. Masp. II 67153 (568 CE) = TM 18907, the husband is designated as κραμπιτᾶς: † Αὐρήλιος Μη[νᾶς υ]ῖος Ὁρουωγχί(ο)υ, ἐ[κ μη]τρὸς Τσίας κραμπιτᾶς, | [ἀπ]ὸ τῆς Ἀντι(νοέων) πόλε(ως) (ll. 4–5) 'Aurelius Menas son of Horouonchis, his mother being Tsia, *krampitas*, from the city of Antinoopolis'.²⁸ There is no other papyrological attestation of this occupation, and as a result we cannot be sure about the economic activities involved. However, we should consider that the word

κράμβη/κραμβίον,²⁹ which denotes cabbage, is very common in papyri from the Hellenistic and Roman period;³⁰ hence, one can think of a meaning ‘cabbage seller’;³¹ with κραμπιτᾶς perhaps being a reduced form of κραμβιτάριος (as suggested by Ruffing 2008, 610). Κραμπιτᾶς/κραμβιτᾶς appears to be formed with the stem of the noun κράμβη and the suffix -ᾶς, which is very common as ending of various occupations in Byzantine period, cf. πλακουντᾶς (maker of cakes), ταπιτᾶς/ταπητᾶς (carpet weaver), ἀρτυματᾶς (dealer in condiments).³²

Three Late Antique inscriptions give testimony to this everyday occupation in the Greek world, cf. IG IV².3 1465 (Corinth, VI CE) 1–3: †μνημῖον | Ἰωάννου | κραμβιτᾶ † (ll. 1–3) ‘tomb of Ioannes the cabbage seller’; VIII.3 563.1–2 (Corinth, 267–668 CE): Ἰωάννου | κραμβιτᾶ. † (ll. 1–2) ‘(tomb) of Ioannes the cabbage seller’; ArchEph (1929) 151 (Fthiotides Thebes, V CE?): † ἐνθα κατά|κτε οὗ τῆς εὐλαβοῦς | μνήμης Πέτρος ἀν|αγνώστης {ἀναγνώστης} καὶ ἡ σύν|βιος αὐτοῦ Ἡρίνη {Εἰρήνη} ἔχον {ἔχων} τὴν μέθοδον {μέθοδον} κραν|βιτᾶς {κραμβιτᾶς} † (l. 1–7) ‘there lie Peter the reader of discreet memory and his wife Eirene whose profession was cabbage seller’.

βουκ(κ)ᾶς

Βουκ(κ)ᾶς appears in Stud.Pal. XX 148 (VII CE) = TM 36582: Γεωργίῳ υἱῷ Ἡλείᾳ βουκκᾶ | ἀφ’ Ἡρακλεουσπόλεως χ(αίρειν) (ll. 4–5) and probably in the list P.Bad. II 31 (IV CE) = TM 33128 (l. 21).³³ The suffix -ᾶς, as also noted above, designated hypocoristics in the classical period and turned out to be very common in Modern Greek. Among other things, the suffix denotes the maker or seller of something (Palmer 1945, 49–50). Βουκ(κ)ᾶς could be derived from βουκ(κ)ίον/βουκία ‘biscuit’ (cf. Lampe and Liddell 1961 s.v.), which stems from Latin *bucca* (cf. the diminutive *bucella* ‘small loaf’) and designates the maker of biscuits, thus confectioner or baker.³⁴

μάγκιψ

In the divorce contract P.Flor. I 93 (569 CE) = TM 23587 and its duplicate P.Lond. V 1713 = TM 19730 the occupational designation μάγκιψ is added for the male party: ἐκ μὲν τοῦ ἐνὸς μέρους Αὐρήλιος | Θεόδωρος υἱὸς Γεωργίου ἐκ μητρὸς Νόγγας μίσθιος | μάγκιψ ὁρμώμενος ἀπὸ ταύτ[ης] τῆς καλλ[ι]τέ[λε]ως Ἀντινοέω(ν) (ll. 9–11) ‘On the one

part Aurelius Theodoros, son of Georgios, from the mother Nonna, hired baker, hailing from the fair city of Antinoopolis' (transl. in APIS). The term is a Latin borrowing and originates from Latin *manceps*. In Greek authors, μάγκιψ is described as a kind of *praepositus pistorum*, cf. Socr. Sch. *HE* 5.18.3: Ἦσαν ἐξ ἀρχαίου κατὰ τὴν μεγίστην Ῥώμην οἴκοι παμμεγέθεις, ἐν οἷς ὁ τῇ πόλει χορηγούμενος ἄρτος ἐγίνετο, οἱ τε προϊστάμενοι τούτων, οἱ μάγκιπες τῇ Ῥωμαίων γλώσση καλοῦνται, προϊόντος τοῦ χρόνου ληστήρια τοὺς οἴκους πεποιήντο 'there were buildings of immense magnitude, erected in ancient Rome in former times, in which bread was made for distribution among the people. Those who had the charge of these edifices, who were called Mancipes in the Latin language, in process of time converted them into receptacles for thieves' (transl. Zenos). Greek renderings include μάγκιψ, μάγγιψ, μάγκυψ, and μάγκηψ.

Manceps derives from the word *mancipio*, and its first meaning is an acquirer or purchaser of a thing by the form of conveyance. Smith (1859, 726) mentions that they were those 'who bid at the public lettings of the censors for the purpose of farming any part of the public property'. *LSJ Suppl.* defines μάγκιψ as contractor, while in *LBG manceps* denotes the baker. Among various meanings, the word was gradually used to denote a person who purchases or hires a thing at a public auction. In some cases, *manceps* was considered as a manager of a public bakery, cf. Codex Theodosianus 14.16.2. If we accept it as a synonym of ἀρτοκόπος, as suggested by Battaglia (1989, 190) and Ruffing (2008, 655–56), it would mean the baker of common bread.³⁵ Christian texts of the Byzantine period associate the occupation of *manceps* with bakery, cf. for example Cyril, *Vita Sabae* p. 89, 21–22: αὐτῶν δὲ τὸν φοῦρνον ὑποκαιόντων ὑπομνησθεῖς ὁ μάγκιψ καὶ ταραχθεὶς περὶ τῶν ἱματίων μεγάλης φλογὸς γενομένης καὶ μηδενὸς εἰσελθεῖν τολμῶντος μεγάλου ὄντος τοῦ φοῦρνου 'As they were heating the oven, the baker remembered his clothes and was distressed about them, since the fire was now intense and no one dared to enter the oven, which was large' (transl. Price); John Lydus, *De Mensibus* 4.43: Οἱ δὲ μάγγιπες, οἷονεὶ τεχνῖται τοῦ ἀνδραποδώδους ἄρτου, ἔπεμπον τοῖς ἐν λόγῳ Ῥωμυλίας ἀννῶνας 'And the bakers, being the makers of servile [i.e. coarse] bread, would send "Romulian provisions" to those of high repute' (transl. Hooker).³⁶ The term also appears in inscriptions from Roman and early Byzantine Asia Minor (cf. MAMA III 242, 492; see also Ruffing 2008, 656). The female μαγκίπισσα, which is not attested

in the papyri, appears in Origenes *Hexapla*, I Reg. VIII 13 (cf. Battaglia 1989, 189) and in Byzantine texts from the twelfth century.³⁷

μεθλίτης

Μεθλίτης is another uncommon occupation attested in papyri from the fifth to the seventh century CE: SB XII 11003 (IV/V CE) = TM 32610: μεθλίτε (l. μεθλίται) λί(τρα) α (l. 7); SB XXIV 16288 (600 CE) = TM 41325: Αὐρήλιοι{ς} | Φοιβάμμων υἱὸς Μακαρίου καὶ ἕτερος Φοιβάμμων | ὁ καὶ Πεβᾶς υἱὸς Σαμβᾶ μεθλίται ἀπὸ τῆς αὐτῆς πόλεως (ll. 6–8) ‘From Aurelii Phoibammon, son of Makarios, and the other Phoibammon alias Pebas, son of Sambas, sheep farmers from the same city’. Although there exist several attestations of this occupation, the term is not clear and we cannot be sure about its etymology. We come across the variants μεθ(ε)λίτης (cf. SPP III 12, TM 37528) and μεθλιτάριος (cf. SB I 4858, TM 114238). It is possible that the noun denotes ‘sheep farmer’ or ‘sheep slaughterer’, on the basis of the entry μέθλην·τὸν ἄρνᾶ in Hesychius’ dictionary (cf. Hesychius M 555, ed. Latte).³⁸ The term could be associated with the verb μεθέλκω (‘draw to the side’) or μεθαίρῃω (‘catch in turn’).

13.4 A historical sociolinguistic approach to occupation terms

Ancient historians tend to refer to ethnicity as a key factor of social identity (class), distinguishing for Roman Egypt, for instance, between Roman citizens, the citizens of the Greek cities of Egypt, and Egyptians (see e.g. Vondorp 2012, 262–65). At the same time, scholarship has recognised the need to provide a more comprehensive account of identity,³⁹ which also recognises other social factors such as gender, age, social status, and profession.⁴⁰ Clarysse and Thompson, for example, have stressed the key importance of occupational class for ancient identity in their study of Ptolemaic tax registers:

Group membership offered more than the need to pay certain taxes. It was through their membership of an [occupational group] that most in Egypt found a livelihood, their partners, their neighbours and friends, support in life as in death. The [occupational group] formed a basic

social unit in the multifarious lives of the people; it played a significant communal role and for its members provided a key focus of identity.⁴¹

In line with sociolinguistic studies that emphasise the key role of occupation for social class and status,⁴² historical sociolinguistic scholarship, too, has started to draw more attention to occupations, and how linguistic variables such as features of clause combining are related to them (see e.g. Bentein 2015, 2017).

In what follows, we want to approach the matter from an alternative point of view, and look at occupation terms as a ‘variant field’ itself, one that is sensitive to linguistic variation, instead of using occupation as a metadata category to which other (linguistic) variables can be related. As space is limited here, we want to briefly touch upon three issues which we consider particularly relevant and intriguing: (i) the extent to which there is synchronic and diachronic change in occupation terms ([Subsection 13.4.1](#)); (ii) the extent to which there was gender differentiation in occupational references ([Subsection 13.4.2](#)); and (iii) the factors that motivate employment of an occupational reference in informal letter writing ([Subsection 13.4.3](#)).

13.4.1 Synchronic variation and diachronic change

In [Section 13.3](#) we have seen that, particularly within the occupational class of ‘craftsmen and tradesmen’, a large number of occupations existed, some of which seem to (partially) overlap, at least to the modern eye: we can mention again, for example, the many different types of bakers that we find in our corpus, including ἀρτοκόπος, βουκ(κ)ᾱς, καθαρουργός, κλιβανεύς/κριβανεύς, μάγκιψ, and παστιλλᾱς. This high number of craftsmen and tradesmen has generally been taken as an indicator of ‘occupational specialisation’, which in turn is interpreted as a reflection of a developed economy (see in particular Ruffing 2002, 2008). Against this view, other scholars have suggested that the occupational terms that we have may not necessarily reflect a high degree of specialisation, but that we may in fact be dealing with synonyms.⁴³ To verify whether we are, indeed, dealing with terms that are roughly semantically equivalent but carry different sociolinguistic indexicalities (high- vs low-register variants, regional variants, etc.), one would need to engage in in-depth lexicographical study. At least for our bakers, there does, in fact seem to be some degree of specialisation (e.g. in

terms of product/baking technique), but for other professions this may be less the case: one can contrast, for example, *λαοτόμος* and *λαοζόος*, both meaning 'stonemason', though being formed with a different suffix (-τομος, from *τέμνω*, to cut, vs -ζοος, from *ξέω* to carve); similarly, one can contrast *κεραμεύς* and *κεραμοπλάστης*, both meaning 'potter', though again being formed differently (-ευσ vs -πλάστης).⁴⁴

The best-known case of such variation is undoubtedly the variation between -πωλης and -πρατης compounds.⁴⁵ Although in the Hellenistic and Roman period most occupations denoting the sellers of food and other items are formed with -πωλης (*κρεοπώλης*, meat-seller, *ἐριπώλης*, wool-seller, etc.), from the fourth century CE onwards a second set of occupational titles appears with linguistic variants formed with the compound -πρατης. Relevant examples include oil-sellers (*ἐλαιοπώλης* vs *ἐλαιοπράτης*) and wine-sellers (*οἶνοπώλης* vs *οἶνοπράτης*). The attestations of the terms demonstrate that during the fourth century they were used as synonyms, though in a later stage -πρατης gradually replaced -πωλης (Diethart 2005a, 2005b; Drexhage 1991a, 1991b). One can compare, for example, text-internal references to occupations in Stud.Pal. VIII 758 (IV–V CE) = TM 33684, a receipt from the Hermopolite nome ἱκατέβαλ(ε) Φῖβ ἐλαιοπράτ(ης) μέρ(ος) ἐνοικ(ίου) (l. 1) 'Phibis oil-seller paid a part of the rent' and SB X 10728 (318 CE) = TM 17431, a contract of sale from Oxyrynchus: [- - - ᾶ] πηλιώτου Διοσκόρου ἐλαιοπώλου (l. 11) 'on the east property of Dioscorus, oil-merchant' (transl. Coles).⁴⁶ One should note that the term οἶνέμπορος, which was supposed to denote the wine merchant who travelled, was also used as a synonym to the aforementioned terms from the first to the fifth century CE, adding further complexity (see the discussion of Drexhage 1991b).

Besides oil- and wine-sellers, there are some other relevant examples. The word ἱματιοπώλης 'clothes-dealer' is much more common in the Hellenistic and Roman period and has some Late Antique attestations, while ἱματιοπράτης is only attested after the third century CE. Similarly, *λαχανοπώλης* (greengrocer) is a common term in papyrus documents from the Roman and Byzantine period, while *λαχανοπράτης* appears only after the fourth century CE. At the same time, one also finds the term *λαχανευτής*, which is much more restricted, with only four examples in the papyrological corpus, three of which date from Late Antiquity. Another interesting case is *ταριχοπώλης* (dealer in salt fish), which has some attestations in the Hellenistic, Roman, and

Late Antique periods, while *ταριχοπράτης* does not appear in papyrus documents. Curiously, there is an attestation of the female occupation *ταριχοπράτισσα* (P.Coll.Youtie II 92 [569 CE] = TM 20901), but no occurrence of the term *ταριχοπώλισσα*. It is to such female occupations that we turn next.

13.4.2 Gender differentiation

An important testimony about everyday occupations in Roman Egypt originates from a semi-literary papyrus. P.Tebt. II 278 col. I (first century CE) = TM 63088 includes a pair of acrostics (see [Figure 13.1](#)). The first one is a list of various traders or artificers, each beginning with a different letter of the alphabet: ‘Baker, dyer, fuller, spear-maker, oilman, painter, cobbler, breastplate-maker, doctor, locksmith, mason, millstone-maker, shipwright, scraper-maker, armourer, tablet-maker, ..., engraver, glassworker, ..., goldsmith, ...’ (transl. Grenfell and Hunt)

Raffaella Cribiore has identified the papyrus as a school exercise and has suggested that the text could be a list written by a teacher to be copied by students in order that they build vocabulary and practice their signs or letters (Cribiore 1996, 197). A point of interest is the fact that we only meet masculine occupations, some of which (such as *δοροζύς* ‘spear-maker’) do not have any other attestation in papyri (see Rowlandson 1998, 307 n. 240).⁴⁷ Such a detail in a school exercise reinforces our impression that female occupational titles were not very

Col. i.	
Ἀ[ρ]τ[ο]κόπος	ναυπη[γ]ός
βαφεύς	ξύστροποις
γύ[αφ]εύς	15 ὀπλοποις
δοροζύς	πινακοποις
5 ἐλ[εο]νργός	[ρ]
ζωγράφος	[σ]
ἡπητής	τορ[ε]υτή[ς]
θωρακοποις	20 ὑαλουργός
ιατρός	φιλς
10 κλειτοποις	χρυσοχ[ιδος]
λάξος	ψ[ι]ς
μυλοκόπος	ως

Figure 13.1: Acrostic list of traders (P.Tebt. II 278 col. I)

Source: Grenfell and Hunt 1907, 34. Image is in the public domain.

established due to the male dominance in most of the everyday jobs in antiquity. That being said, the papyrological and epigraphical evidence has demonstrated that women in Egypt practised various everyday occupations,⁴⁸ and there is, in fact, limited evidence for the formation of specific female variants of occupations terms, though in other cases the male term was used with reference to women. Hans-Joachim Drexhage's research about female occupations in Ptolemaic Egypt is an important contribution to this study (Drexhage 1992).

The best-known case of the development of such female forms is, again, with the suffixes -πωλης and -πρατης. As already mentioned, from the fourth century onwards ἐλαιοπράτης (oil-dealer) is very often attested in papyri and in most of the cases it is used as a synonym of ἐλαιοπώλης (oil-seller). Two very interesting papyri from fourth-century Panopolis should be considered. P.Panop. 11 (320 CE) = TM 16157 records the lease of a house belonging to a woman called Aurelia Theodora. The lessee is a certain Sophia who addresses Theodora as an ἐλαιοπώλισσα (oil-seller). Aurelia Theodora also appears in P.Panop. 24 (c. 323–326 CE) = TM 16195, a petition addressed to the prefect about an economic affair, which is dated a few years after P.Panop. 11. In the second line of the document, she presents herself as an ἐλαιοπράτισσα. If we take into consideration that the compound -πρατης/-πρατισσα is widespread during Late Antiquity, it is not strange that Theodora chooses this term to identify herself in an official document such as a petition. Theodora appears to be a woman of a high economic and social status who owned a considerable amount of property as implied by several other documents.⁴⁹ Besides ἐλαιοπώλισσα, another potential term designating a female oil-seller is ἐλαιόπωλ(ις), which was suggested by the editor of P.Cair.Masp. III 67287 (538 CE) = TM 36522 (col. IV, l. 23). As there is only one, abbreviated example from the papyri, usage of this term remains uncertain.

We see a comparable development with regard to the occupation of gravedigger, νεκροτάφος. A female gravedigger is referred to as νεκροτάφισσα in the divorce contract P.Nekr. 34 (305–306 CE) = TM 22632: Αὐρήλιος Σούλις νεκροτάφος ἀπὸ το[πα]ρχίας Κύσε[ως] | Σενψαίς (l. Σενψαίτι) θυγατρὸς (l. θυγατρὶ) Ψαίτος ἐκ μητρὸς Τεοῦς (l. Τεοῦτος) νεκροταφίσ[σα] | ἀπὸ τῆς αὐτῆς χαίρειν (ll. 1–3) 'Aurelius Soulis, nekrotaphos from the toparchy of Kusi, to Senpsais daughter of Psais, her mother Teous, nekrotaphissa from the same (toparchy), greetings' (transl. Bagnall). Another instance of the same form has been

reconstructed in the fragmentary opening of another divorce contract, P.Nekr. 24 (299–300 CE) = TM 22585, νεκρο[σταφίσσα ἀπὸ τῆς αὐτῆς χαίρειν] (ll. 2) ‘nekrotaphissa from the same city, greetings’. The term is common for the female gravedigger along with νεκροτάφη, which is attested in documents of the same period, such as P.Nekr. 40 (308 CE) = TM 22631: Ταπαοῦς Πια[οὔτ]ο[ς] νεκροτάφη Μωθ[εῖ]|τῶν π[ό-λεως] (ll. 1–2) ‘Tapaous daughter of Piaous, nekrotaphe of the city of the Mothites’ (transl. Bagnall). LSJ also mentions a female formation in -ις, namely νεκροταφίς, which has no attestations in the papyrological corpus.

Gender-related morphological variation is also attested for teachers. Male teachers in papyri are denoted with the terms διδάσκαλος or διδέσκαλος from the first century CE onwards. Although the noun was the same in both masculine and feminine forms,⁵⁰ women teachers in papyrus documents are more often designated as δέσκαλος or δεσκά-λη.⁵¹ For example, in P.Mich. II 123 r, 21 (45 CE) = TM 11967, which constitutes a financial register (*anagraphe*) of all the documents drawn up day by day in the record-office (*grapheion*) of Tebtynis, we read about a female δέσκαλος: [Σα]ραπιάς δεσκαλος ἀργ(υρίου) (δραχμαὶ) δ (l. 9) ‘Sarapias, teacher: 4 silver drachmai’. In P.Mil. Vogl. II 76 (II CE) = TM 15188, a letter addressed from Diogenis to Kronion, a female teacher is referred to in the salutations, ἀσπάζου | πάντας τοὺς ἐμοὺς | καὶ Ἰσιδώραν καὶ ὑπαγέτωι (l. ὑπαγέτω) εἰς δέσκαλον (l. 15 with BL XII 127) ‘salute all my relatives and Isidora, and let her go to a woman teacher’ (transl. Bagnall and Cribiore). It appears that a female teacher is more appropriate for a female student. Another example is BGU I 332 (II/III CE) = TM 28252, a letter addressed from Sarapias to her children. In ll. 8–10, we again read about a teacher in the salutations: ἀσπάζεται ἡμᾶς (l. ὑμᾶς) Κυρίλλα | καὶ ἡ θυγάτηρ Ἑρμίας Ἑρμίας, Ἑρ[μ]ανοῦβις ἡ τροφός, Ἀθηναίς ἡ δέσκα|λος ‘Kyrilla greets you, and the daughter of Hermias, Hermias, Hermanoubis the nurse, Athenais the teacher’ (transl. Bagnall and Cribiore). In the apprenticeship contract SB XVIII 13305 (271–272 CE) = TM 14738, Aurelia Libouke who is going to teach a young girl the art of weaving is called δέσκαλος: παραδωσιν (l. παραδώσει) αὐτὴν ἡ δεσ|καλος (l. διδάσ|καλος) μεμαθη-κυῖαν τὴν τέχ|νην (ll. 25–27) ‘the teacher shall return her after she has learned the craft’. In addition, P.Oxy. XXXI 2595 (III CE) = TM 30434 includes salutations to a female teacher without mentioning her name. The editor translates the term δέσκαλος as ‘governess’, and suggests

the correct reading διδάσκαλος (in the accusative case): ἀσπάζον τὸν ἐπιστάτην | καὶ Σαραπάμμωνα τὸν ἀδελφὸν καὶ τὴν | δεσκαλον (l. διδάσκαλον) καὶ τοὺς ἐν οἴκῳ πάντας (ll. 8–10) ‘Give my best wishes to the overseer and your brother Sarapammon and the governess and the whole household’ (transl. Parsons). Although the writer does not mention the woman’s name and identifies her with her occupation, she appears to be a part of the family.

P.Mich. VIII 464 (99 CE) = TM 17238 testifies to the type δεσκάλη instead of δέσκαλος already discussed for a female teacher. Apollonius writes to her brother (and probably husband) Iulius Terentianus, explaining how she is ruling the household and taking care of his children in his absence: καὶ μὴ λυποῦ περὶ τῶν | [τ]έκνων· κ[αλ]ῶ[ς] | διὰκινται (l. διάκεινται) καὶ εἰς | [δ]εσκάλην (l. διδάσκαλον) [π]αρεδρεύουσι (ll. 8–10) ‘And do not worry about the children; they are in good health, and they are kept busy with a teacher’ (transl. Youtie and Winter). The type δεσκάλη instead of the common δέσκαλος points to an attempt to find the appropriate female occupational term.⁵² Raffaella Cribiore remarks that the term διδάσκαλος was modulated to διδέσκαλος and then to δέσκαλος without reduplication (Cribiore 1996, 23; Jannaris 1897, 191). The examples discussed cannot, unfortunately, explain why women teachers were designated with a shorter form of the occupational term compared to men. However, as shown by Kapsomenakis, the use of this female occupational term may have had a long tradition since it was also attested in the beginning of the twentieth century in Asia Minor (Kapsomenakis 1938, 121–22).

To conclude this brief discussion, it is worth mentioning the use of participles as an alternative way of forming female agent nouns. Earlier in this subsection, we discussed the development of forms in -πωλίσσα, -πρατίσσα, as well as -πωλις as female forms of the standard male endings -πωλης and -πρατης. It is worth noting that one also finds participial forms besides nouns with these endings: so, for example, in PSI XII 1239 (430 CE) = TM 17407, a contract of sale, we meet the participle ἐλαιοπωλοῦσαν to refer to a female oil-seller who is a neighbour of the property that is to be sold. Perhaps people preferred to use such participial forms because of the infrequency of suffixes denoting female occupations.⁵³ The same phenomenon can be observed with reference to female landowners: reference to these rich women is often made through the use of ἡ γεοῦχος ‘the landowner’ (a male occupational term with a female article), though in other cases we find the use

of the participle (ἡ γεουχοῦσα), as in the opening of SB VI 9561 (590 CE) = TM 19101, a contract of lease from the archive of Flavia Anastasia: Φλαουία Ἀναστασία τῇ ἐνδο[ξο]τά[τῃ] | ἰλλουσ[τρία] θυγατρὶ τοῦ τῆς ἐν[δό]ξου | μνή[μ]ης Μ . . α. Εὐδαίμονος γεου[χ]ούση | ἐνταῦθα τῇ λαμπρᾷ Ὁξυρυγχιτῶν | πόλει[ι] (ll. 7–11) ‘to Flavia Anastasia, the very glorious and illustrious, daughter of ... Eudaimôn, of glorious memory, who is here a landowner in the brilliant city of Oxyrhynchus.’ Given that for male occupations, too, we find variation between nominal and participial forms (e.g. γεοῦχος vs γεουχῶν, γεωργός vs γεωργῶν), more research is needed to understand the factors motivating the use of participles for occupational designations.

13.4.3 *The dynamics of personal identification in private letter writing*

As we have seen throughout this chapter, occupational terms particularly appear in formal documents in the Everyday Writing corpus, such as official letters, petitions, and contracts, to provide stable information about a person’s identity, and/or to specify their role in a specific communicative context. Occupational references are less expected in an informal context, though that does not mean they are entirely unattested: one place where we find such references is the external address of letters,⁵⁴ where occupations constitute a basic element of the receiver’s identification which ensures that the letter will be delivered to the right person.⁵⁵ So, for example, in P.Oxy. XXXI 2595 (III CE) = TM 30434, the opening reads Ὁριγένης Σερήνωι τῷ ἀδελφῷ | χαίρειν ‘Horigenes to Serenus his brother, greetings’, but the more impersonal external address ἀπόδος Σερήνω Χ ἀργυροκόπῳ ‘deliver to Serenus the silversmith’; the same can be seen in P.Lund. II 5 (500 CE) = TM 41035, which has as its opening [κυ]ρίῳ μου ἀδελφῷ (l. ἀδελφῷ) Λεόντιῳ (l. Λεοντίῳ) Χρυσάρῃς | ἡ θυγάτηρ (l. θυγάτηρ) Ἀμβροσίου χαίρειν (ll. 1–2) ‘to my lord brother Leontios, Chrysaris, the daughter of Ambrosius, greeting’, but on the verso side contains an explicit reference to the addressee’s occupation, ἀπόδος Λεοντίῳ (l. Λεοντίῳ) κυμινᾷ παρ(ᾷ) | Χρυσάρῃτος θυγατρὶς Ἀμβροσίου ‘deliver to Leontios the cumin seller from Chrysaris daughter of Ambrosios’ (transl. APIS). Apart from a reference to the addressee’s occupation, the external address may also contain rather short instructions for the delivery to the letter carrier, so-called σημασία,⁵⁶ or simply a geographical

reference, as in P.Oxy. XVII 2150 (III CE) = TM 30673, ἀπ(όδο)ς εἰς τὴν οἰκ(ίαν) Σαρμάτ(ου) πρυτανεύσ(αντος) π(α)ρὰ Διδύμου ‘deliver to the house of Sarmates, ex-prytanis, from Didymus’ (transl. Hunt) or P.Oxy. VIII 1155 (104 CE) = TM 21760, ἀπόδος ἰς (l. εἰς) τὸ Ἴσῳ Ἀπίωνι | παστοφόρῳ | παρὰ Θεονᾶτος ‘Deliver to Apion, pastophorus, at the Iseum, from Theonas’ (transl. Hunt).

Interestingly, both locations and people with specific occupations can serve as reference points for delivery of the letter to a third party (on which, see further Llewelyn 1994). For example, P.Oxy. II 300 (I CE) = TM 25673, is a letter from Indike to her relative Thaisous. The address on the back, however, reads εἰς τὸ γυμνάσι(ον) Θέωνι Νικοβούλ(ου) | ἐλεοχρειστη (l. ἐλαιοχρίστη) ‘to the gymnasium, for Theon son of Nikoboulos, *elaiochristes*’.⁵⁷ The editors assume that Theon was the husband of Thaisous. Another such example is P.Oxy. XLII 3065 (III CE) = TM 30332, a letter from Areios to his parents, Agrippina and Cornelius: the address on the back specifies that delivery is to be made to a myrrh-seller (whose name has not been preserved), who will then deliver the letter to Areios’ mother: ἀπόδοξ ... ρσα μυροπώλη ἵνα ἀπ[οδῶ Ἀ]γριπίνῃ | π(α)ρὰ Ἀρείου νιόυ ‘deliver to ... the myrrh-seller, so that he can deliver it to Agrippina my mother from her son Arius’ (transl. Parsons).⁵⁸

In contrast to the external address, the opening greetings of private letters typically do not contain any occupational references, but rather kinship terms, as well as honorific and philophroneic epithets, specifying the relationship of the sender of the addressee. Some informal letters nevertheless contain such references: for example, the opening greeting of P.Oxy. XLVIII 3406 (IV CE) = TM 33716, not only explicitly states the occupation of the addressee, Papnuthis, but also that of the sender, Klematia: π(α)ρὰ Κληματίης γεούχου | Παπνουτίου προνοητῇ Σαδάλου χαίρειν (ll. 1–2) ‘from Klematia, landlady, to Papnuthis, caretaker at Sadalu, greetings’ (transl. Chambers). Perhaps this is due to practical reasons, such as mode of dictation, type of delivery, or the urgency with which the request was made. Alternatively, the inclusion of an occupational reference may have had communicative purposes,⁵⁹ such as underlining the hierarchical relationship between the communicative participants and/or increasing the formality of the document, by mimicking, to some extent at least, the opening of formal texts.⁶⁰

Our corpus also contains letters with multiple addressees where an occupation is mentioned for only one of the addressees, as for example

BGU IV 1082 (IV CE) = TM 33057: κυρίῳ μου ἀδελφῷ Ἀπφυγχίῳ | καὶ Διδύμῳ (l. Διδύμῳ) ταπιταρίου (l. ταπιταρίῳ) | Πετύσις Παπτηβε (ll. 1–3): ‘to my lord brother Apphynchios and Didymos the carpet weaver from Petusis son of Paptebe’. In such cases, the inclusion of an occupational reference may have acted as a slightly less formal way of identifying addressees than the inclusion of a patronymic, which was even more standard in formal documents than the use of an occupational reference. Identification may also have been a motivating factor for the inclusion of the sender’s occupation in the external address, as a way of immediately signalling to the addressee who the sender is. One can contrast, for example, the opening greeting of P.Herm.3 (317–323 CE) = TM 21122, τῷ κυρίῳ μου πασσόφῳ (l. πανσόφῳ) Ἀμβροσίῳ | Ἀνατόλιος (vac.) χαίρειν (ll. 1–2) ‘to my lord, all-wise Ambrosius, Anatolius, greetings’ with its address on the verso, [τῷ] πασσόφῳ (l. πανσόφῳ) Ἀμβροσίῳ (vac.) Ἀνατόλιος ἀρχιπροφήτης ‘to the all-wise Ambrosius, Anatolius, chief prophet’ (transl. Rees).⁶¹ Some external addresses contain both the occupation of the sender and the addressee,⁶² which, one could hypothesise, serve slightly different purposes, that is, identification of the addressee vis-à-vis the letter carrier, and identification of the sender vis-à-vis the addressee. As an example, we can refer to P.Oxy. LIX 3989 (II CE) = TM 27845, Πλουτάρχῳ ἱερεῖ φίλῳ ((x)) <παρὰ> Λυκαρίωνος γυμνασιάρχῃ(σαντος) Ὁξύρ(υγχιτῶν) ‘To Plutarchus, priest, friend, from (?) Lycarion ex-gymnasiarch of the Oxyrhynchites’ (transl. Ioannidou), which, besides the occupational references, also contains the philophronetic term φίλῳ.⁶³

To conclude this brief discussion of personal identification in private letter writing, it is worth noting that attestations of occupations as identifying signs are also found even without the name of the person.⁶⁴ For example, in P.Tebt. II 424 (276–300 CE) = TM 31368, Sarapammon writes to Piperas announcing that he has sent him a letter through the baker without naming him: Σαραπάμμων Πιπεράτι. | ἔπεμψά σοι ἐπιστολὴν διὰ τοῦ ἀρτοκόπου (ll. 1–3) ‘Sarapammon to Piperas. I sent you a letter by the baker’. A parallel is found in external addresses, when a woman is identified by her husband’s job, without the husband being explicitly named. An illustrative example is P.Tebt. II 414 (II CE) = TM 28427, in which Thenpetsokis gives various directions to her sister Thenapunchis. The external address on the verso reads Ἀπό[δο]ς Θεναπύνχι | τῇ γυναικὶ τοῦ κεραμέως ‘deliver to Thenapunchis, the wife of the potter’ (transl. Grenfell and Hunt). In small villages such as

Tebtynis, women were frequently identified by their husband's occupation and social status. Because most craftsmen and traders were well known locally, a man's profession could serve as a key identifier for both himself and his family, as well as a practical detail aiding the letter carrier in locating the intended recipient.⁶⁵

13.5 Conclusion

One of the main goals of the Everyday Writing project has been to connect, as much as possible, communicative features (including linguistic, material, and palaeographical features) to the socio-pragmatic characteristics of documents, or, in other words, to connect 'data' to 'metadata'. In this chapter, we have argued that metadata information, too, can be analysed as data in its own right for the study of linguistic variation. We have outlined the large number of 'everyday' occupations that can be found in the Everyday Writing corpus, which we have categorised in five larger social groups—namely agricultural workers; craftsmen and tradesmen; liberal professions; other service providers; and actors, musicians, and athletes—drawing attention to some patterns that can be found in our corpus in terms of word formation and context of occurrence. We also noted the existence of some 'uncertain' occupations.

In the second part of this chapter, we have briefly discussed three areas of study which we consider particularly relevant for the historical sociolinguistic study of occupational references, namely (i) the development of occupational references that are (roughly) synonymous and their variation over time, (ii) the extent to which a separate set of female occupational terms developed over time, and (iii) the motivating factors for the inclusion of occupational references in private letters. Evidently, there is much more to be said about occupational terms; for example, it would be worth exploring the degree to which alternative spellings existed for the same term,⁶⁶ the register-sensitivity of particular morphological formations (such as endings in -ας),⁶⁷ the degree to which occupational terms have been subject to metalinguistic observations, etc.⁶⁸ Likewise, it would be worth extending the same methodology to other subject areas that are traditionally categorised under the heading of 'metadata', such as the labels that are found in documentary sources to refer to different text types (e.g. the different

Greek words used to refer to ‘letter’ or ‘petition’). This, and much more, remains to be explored in future research.

Notes

- 1 Klaas Bentein’s and Marianna Thoma’s work was undertaken in the context of the ERC Starting Grant project EVWRIT (Everyday Writing in Graeco-Roman and Late Antique Egypt (I–VIII CE). A Socio-Semiotic Study of Communicative Variation), a project that has received funding from the European Research Council under the Horizon 2020 research and innovation programme (Grant agreement no. 756487). For more information, see www.ev writ.ugent.be.
- 2 For the project, and the annotation work that was done in it, see Bentein (2024) and Bentein and Amory (2019).
- 3 There are other relevant communicative roles, too, which have not been annotated, such as people sending and receiving salutations in private letters.
- 4 Of course, a single person may have been involved in more than one occupation.
- 5 Gibbs (2012, 85–86) differentiates between two types of specialisation: specialisation related to the final product (craftsmen/tradesmen concentrating their efforts on specific products) vs specialisation in the process of production (workers specialising according to their method of production). Gibbs notes that both appear to have existed in Roman Egypt, though he considers the latter more common, particularly in the fields of textile production and metalworking.
- 6 In the record-office archive of Tebtynis, Langellotti showed that most occupations were attested in affidavits (χειρογραφίαι), applications for state concessions (ἀναφώρια), associations’ rules (νόμοι), and accounts.
- 7 Occupational designations tend to be thought of in absolute terms, though more and more attention is paid to other aspects in recent scholarship. Mairs (2013, 165), for example, mentions the concept of ‘situational identity’ in her discussion of ethnicity, which recognises that ‘there are times and places when it may be important for an individual to emphasize one particular aspect of his or her identity and others when it may not.’ Veisse (2013, 88) notes in her study on the expression of identity in Ptolemaic petitions that reference to the petitioners’ ‘socio-professional category’ occurs in 54 per cent of the documents in her corpus as a way of specifying one’s identity; she wonders whether the inclusion of such a reference might be explained by the contents of the petition.
- 8 See also Kelly (2011, 155 table 4.1), which presents the main occupational categories for petitioners, and the number of petitions from people of each category. On the references to occupations in Ptolemaic petitions, see Veisse (2013, 3, 7).
- 9 The term ‘nekrotaphos’ has the meaning of ‘grave digger, undertaker’.
- 10 The same type of approach is followed in Ruffing (2008), which focuses specifically on occupational designations for craftsmen and tradesmen in the Roman and Late Antique period, which are exhaustively collected for Greek papyri and inscriptions. He presents an alphabetic list of all such occupational designations

- (part II, listing over 800 such designations), and simultaneously divides these into a number of categories and subcategories (part I, ch. 3).
- 11 Bagnall (1993) differentiates between different types of urban landowners; for villagers, too, differentiations can be made.
 - 12 These different types of farmers are related to different types of land tenure, which we will not go further into here. On land ownership and tenure in Roman Egypt see, for example, Rowlandson (1996).
 - 13 βουκόλος can be placed here, too, though -κόλος is somewhat less recognisable as a verbal stem (cf. Latin colo).
 - 14 See Alston (1998, 183–84), who notes that c. 28 per cent of the male population of Oxyrhynchus and 27 per cent of the male population of Panopolis were registered tradesmen (Alston focuses on Roman Egypt). Fikhman (1979) estimates that at least 90 different crafts were attested in Oxyrhynchus.
 - 15 For more fine-grained subcategorisations of craftsmen and tradesmen as an occupational group, see for example Drexhage (2004a, 62–65), Ruffing (2008, 103–215), and Sodini (1979).
 - 16 Shipbuilding may be considered a separate area of construction; relevant occupations in our corpus include ναυπηγός (shipbuilder) and πακτωνοποιός (boat-maker).
 - 17 Some occupations related to decoration are also attested, such as ζωγράφος (painter).
 - 18 Gibbs (2012, 45) mentions the existence of product-related metalworking specialists such as nailsmiths and locksmiths.
 - 19 Lewis (1983, 135) lists some of the occupations for which apprenticeships are documented in the papyri, but goes on to note that ‘any trade or skill was presumably learnt through an apprenticeship’. On lists of apprenticeship contracts, see also Bergamasco (1995, 162–67) and Bradley (1985, 316).
 - 20 On which, see for example Gibbs (2012, 41). Coles, Maehler, and Parsons (1987, 230–32) provide in an appendix to P.Oxy. LIV, a list of the guilds of Oxyrhynchus that registered prices with the city authorities in the fourth century CE, arriving at a total number of 33 (!) guilds.
 - 21 See for example Palmer (1945, 48–49) on noun formations in -αριος, who notes that this suffix was a Latinism, and Palmer (1945, 34) for the adjectival suffix -ιακος.
 - 22 Lewis (1983, 151) speaks of ‘the practitioners of the learned professions’, though noting that ‘the only ones who appear with any frequency in the papyri are the physicians’.
 - 23 Lewis (1983, 147) notes that ‘bankers were generally men of wealth and high social standing’.
 - 24 On the use of the adjectival suffix -ικος, see for example Palmer (1945, 35–37).
 - 25 The term derives from παρεμβάλλω and is related to a process in the manufacture of oil including transport of olives.
 - 26 Bagnall 1993, 90, where he notes that such service workers ‘were probably not numerous, except for domestic servants and bath attendants’.
 - 27 The use of participial forms for occupational designations, mainly female, is further discussed under [Subsection 13.4.2](#).
 - 28 Cf. P.Cair.Masp. II 67253 (568 CE) = TM 18946.
 - 29 On κράμβη and κραμβίον, see *LSJ* s.v. ‘κράμβη’.

- 30 See, for example, the letter SB VI 9017, 16 = TM 25243 (I/II CE): ἐκομισάμην | παρὰ Ἀρίμματος δεσ|μὴν κράμβης (ll. 5–7).
- 31 Robert (1966, 770) has suggested the meaning ‘vegetarian’; see Ruffing (2008, 610) for further discussion.
- 32 On this ending in the nouns denoting professions, see Drexhage (2004b), Gignac (1981, 18–19), and Palmer (1945, 49–50). On the trading of cabbage, see Drexhage (1990).
- 33 Cf. also P. Oxy. II 397 (I CE) = TM 25687.
- 34 See the discussion in Diethart (1984). Ruffing (2008, 461–62) also mentions the term βουκελλατᾶς (deriving from *bucella*), which appears to be synonym to βουκ(κ)ᾶς.
- 35 See also *Etymologicum Parvum* M 10: Μάγκιτες: Ῥωμαιστὶ οἱ τεχνῖται τοῦ ἄρτου.
- 36 Cf. *Scholia Anonyma Recentiora in Aristophanes Nubes* 640a: ἀλφιταμοιβοῦ] μάγγιπος Cant.2Ho, μάγκιπος (Ca2), ψωμοπωλίδος M9 (m²), ἄρτοποιοῦ lb, ἄλφιτομέτρου Lb.
- 37 Cf. Kriaras μάγκιψ ο· μάγκιπας. Φούρναρης: Εἰάν ἦμουν παραζυμωτής ἢ δουλευτής μαγκίπου (Προδρ. III 165). [< λατ. manceps. Ο τ., καθὼς και τ. μάντζιπας, σήμ. ιδιωμ. Η λ. τον 4. αι. (Kahane, GR II 508)].
- 38 See Sijpesteijn (1972, 50); S. Tost, SPP III.2 21 A, n. to ll. 1–2 (p. 33); Koroli, SPP III 674.2, n. to l. 2 (forthcoming).
- 39 For example, Mairs (2013, 164): ‘important though the ethnic question is ... there is a sense in which it has tended to impede a more holistic consideration of personal and corporate identities’.
- 40 Mairs (2013, 166) discusses some of the different ways in which these different components of identity may be related to each other (‘nested’, ‘cross-cutting’, and ‘separate’).
- 41 Clarysse and Thompson (2006 vol. 2, 205). We borrow the quote a little paraphrased from Mairs (2013, 172).
- 42 See for example Ash (2002, 419) for the importance of occupational class in modern-day sociolinguistics.
- 43 See Rathbone (2010, 366), who notes that the multiplicity of occupational terms in Late Antiquity may be more a matter of ‘exuberant linguistic usage’ than ‘continuing high specialisation’.
- 44 Drexhage (2004b, 39) mentions the variation between πλακουντᾶς, πλακουντᾶριος, and πλακουντοποιός, all meaning ‘maker of cakes’, ‘pastry-cook’.
- 45 See [Section 13.1](#) for relevant studies. Casarico (1983, 24) lists relevant cases of variation, and notes that such variation mostly exists with the products that are most commonly sold, and are therefore best attested.
- 46 Similarly, compare P.Bad. II 26 V inv. 213 (295–296 CE) = TM 19324: π(αρὰ) Σιλβανοῦ Ἀριάμμωνος οἶνοπ(ώλου) (l. 5) and P. Louvre III 215 (IV CE) = TM 978758: [. .] ὀνίφ οἶνοπρ(άτη) (ταλαντ-) (μυρι-) γ (l. 9).
- 47 In addition, the papyrus gives evidence of non typical forms of some occupations, such as the case of κλειτοποῖς instead of κλειδοποῖς, which also appears, for example, in the lease contract P.Strasb. VI 600 (VII CE) = TM 16811: ἐκ μητρὸς . . . [. . .] κλειτοποῖου (l. κλειδοποῖου) (l. 7).
- 48 On women’s occupations in classical Athens, see, for example, Herfst (1922, 40–48); in Roman society, see Pomeroy (1994, 201) and Treggiari (1976); in

- Hellenistic Egypt, see Worp (2011); in Roman Egypt, see Sebillotte Cuchet (2016) and Thoma (2018, 115–82, 2026).
- 49 See P.Panop. 12 (337 CE) = TM 16158; P.Panop. 23 (after 314 CE) = TM 16194.
 - 50 See already Aeschylus, PV 109–11: *ναρθηκοπλήρωτον δὲ θηρώμαι πυρὸς/πυγὴν κλοπαίαν, ἥ διδάσκαλος τέχνης/πάσης βροτοῖς πέφινε καὶ μέγας πόρος* ‘I hunted out and stored in fennel stalk the stolen source of fire that has proved a teacher to mortals in every art and a means to mighty ends’ (transl. Weir Smyth).
 - 51 There is the exception of SB XIV 11532 (early IV CE) = TM 32935: *Κυρίαν τὴν διδάσκαλον* (l. 5).
 - 52 Cf. *παρθένος/παρθένη*.
 - 53 There does not seem to be any non-literary evidence for a verbal formation of the type *ἐλαιοπράττω*.
 - 54 Attestations of occupations as identifying signs are also found in the body of letters. For example, in P.Oxy. XXXVI 2789 (III CE) = TM 30388, Kleopatra asks her father Epaphroditos to measure out five artabas of barley specifically to Moros the builder (*Μώρω τῷ οἰκοδόμῳ*, l. 4).
 - 55 Different types of address on the verso may suggest different modes of delivery; contrast, for example, the external address of P.Giss.Apoll. 1 (115–117 CE) = TM 19423 (*Ἀπολλωνίῳ στρατηγῷ Ἀπολ[λωνοπολίτου]*) with that of P.Flor. III 332 (113–120 CE) = TM 19372 (*Ἀπολλωνίῳ Χ υἱῷ*), both letters from Eudaimonis to her son Apollonios (the famous strategos).
 - 56 For letters from the EVWRIT corpus with *σημασία*, see for example P.Laur. I 20 (III CE) = TM 31506; P.Meyer. 20 (III CE) = TM 31286; P.Oxy. XIV 1678 (III CE) = TM 31786; P.Oxy. XIV 1773 (III CE) = TM 31815. In one case, the instructions have survived independently from the actual letter that was to be delivered: P.Oxy. XXXIV 2719 (III CE) = TM 30394 contains 15 lines with very elaborate instructions for the delivery of letters to Rufus.
 - 57 The *elaiochristes* is a municipal official responsible for the supply of oil.
 - 58 For other relevant examples, see P.Oxy. XLIII 3094 (217–218 CE) = TM 15973; SB XXII 15359 = P.Oxy. descr. I 182 = P.Oxy. descr. 11 (mid-IV CE) = TM 33346.
 - 59 See further Bentein (2023, 437–38), who also mentions the introduction of terms denoting descent and origins in the openings of private letters.
 - 60 Though in the case of formal documents the position of the receiver and initiator would be reversed, an order that was adopted more and more in informal documents, too.
 - 61 One can compare this to the use of kinship terms in the opening vs the external address of private letters: in P.Oxy. XII 1586 (200–225 CE) = TM 31768, for example, the opening profiles Herais’ role as sister (*Ἀρποκρατίων Ἡραΐδι τῇ | ἀδελφῇ χαίρειν* ‘Harpokration to Herais his sister greetings’), whereas the external address profiles Harpokration’s role as brother (*Αὐρηλία [Ἡραΐδι] π(αρά) ἀδελ(φού) Ἀρποκρατίωνος* ‘to Aurelia Herais from her brother Harpokration’).
 - 62 Compare, again, addresses with kinship terms for both the sender and the addressee.
 - 63 Other examples with double occupational references in the external address include P.Oxy. LVI 3854 (III CE) = TM 31654 and P.Oxy. VI 933 (III CE) = TM 31322.

- 64 Diethart (2006, 230–32) discusses the use of occupational designations as personal names and aliases in the papyri.
- 65 Compare the external address of P.Oxy. XXXIII 2680 (II–III CE) = TM 26930, which contains only the name of the husband, without his occupation: ἀπὸ Ἀρσινόης Σαραπιάδι γυναικὶ Πολυκράτ(ου)ς ‘from Arsinoe to Sarapias the wife of Polykrates’.
- 66 Compare Drexhage (2004a, 43) for the existence of ‘Schreibvarianten’.
- 67 Compare Drexhage (2004b) on formations in -ᾱς.
- 68 Phrynichus, for example, notes in his *Ecloga* (176) that one should use ὀπωρώνης ‘fruiterer’ instead of ὀπωροπώλης (Diethart 2005b, 193).

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CHAPTER 14

A pragmatic and discourse analysis of the particle οὐν/οὐν in documentary papyri

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Abstract

The most common usage of the Greek particle οὐν/οὐν is to create coherence within a large portion of discourse and convey inferential meaning. This chapter addresses its usage in documentary papyri of the Roman and Byzantine periods, aiming at providing a preliminary general exploration of the contextual usage of this particle and approaching it through pragmatic and discourse analysis approaches. It focuses on the linguistic elements that surround this particle and identifies different patterns that frequently occur within the corpus of documentary papyri. By using the PapyGreek treebank corpus and Trismegistos, statistics for these patterns are added in order to draw observations on the co-occurrence of the particle and other linguistic elements that precede it. By means of examples, the chapter discusses a selection of these patterns, their context of use, and their linguistic function. It analyses the position of some οὐν/οὐν utterances, which for instance typify a request, a warning, or a piece of advice, looking at

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their sequential placement within the discourse. It therefore addresses the question of how inferences are constructed and conveyed. Finally, focusing on some cases of negative οὐν/*oun* utterances, the chapter discusses some aspects of their meaning and functions by using a cognitive linguistic approach.

14.1 Introduction

Recent research has highlighted the productivity of addressing documentary papyri by means of linguistic approaches, showing different possibilities of treating data extracted from these type of sources (among others, Bentein and Janse 2020; Dahlgren, Leiwo, and Vierros 2024; Evans and Obbink 2010; Leiwo, Halla-aho, and Vierros 2012).¹ These include sociolinguistic, variational linguistic, semiotic, and pragmatic approaches, aiming, among other goals, at shedding light on how speakers communicate with each other and attempt to construct and convey meanings via and beyond words. All of these approaches tend to provide functional explanations for linguistic phenomena, which are seen as the product of communicative interactions, to which these sources bear witness. In other words, they seek to demonstrate that documentary papyri allow us to investigate not only micro but also macro linguistic patterns related to different aspects of ancient everyday-life communication.

While micro-level analyses traditionally focus on the phonological, morphological, or syntactic features of a language, macro-level analyses address, among other things, linguistic phenomena that typify features of communication, such as cohesion and coherence, discourse organisation, and discourse segmentation. Macro-level analyses are, in turn, connected to the use of specific linguistic devices, such as particles, that are usually neglected within sentence-based approaches. On the contrary, particles are central in investigations that are carried out within the larger domain of discourse, and have recently become the object of historical linguistic investigation as well (cf., among others, Kroon 1995 for Latin, and Bonifazi, Drummer, and de Kreij 2016 for Ancient Greek).

Dealing with particles in historical as well as contemporary spoken corpora requires not only working on a large portion of discourse, but also taking into consideration both the context and the particle's surrounding elements. Particles generally show high context-sensitivity,

occupy specific positions within the clause, and have the tendency to co-occur in combination with each other or with other linguistic elements (Bonifazi, Drummer, and de Kreij 2016, I.4.1–I.4.2; Couper-Kuhlen and Selting 2018, 497). In this respect, they interact with other elements of the discourse in order to convey meaning. Before stating the aims of the present investigation, the notion of discourse should be clarified.

Discourse-based analyses, of both modern and ancient languages, share a notion of discourse broadly understood as the domain of language use (Du Bois 2003, 11), and conceived as a process rather than as an object (Widdowson 1979, 71). As pointed out by Bakker and Wakker (2009, xi)—who rely on previous notions of discourse articulated by Brown and Yule (1983), Hoey (1991), and Kroon (1995)—it is more appropriate to refer to discourse rather than to text, also when dealing with historical data: ‘By *text* we refer to a static object, the product of speech or writing, detached from its situational context, whereas by discourse we refer to the dynamic process of speech and writing in its situational context’.

These issues form the starting point of the present chapter. It deals with Greek documentary papyri, aiming to explain linguistic usages found in them, and to make the findings available for cross-linguistic comparison with both ancient and modern languages. In this respect, it explores the usage of linguistic devices that link units of discourse and convey inferences. The analysis is restricted to the usage of the particle οὐν/οὐν (‘so, therefore’).

This investigation leaves aside the terminological discussion related to the use of the different labels that could be adopted with respect to οὐν/οὐν (e.g. particle, discourse marker, connector).² I choose here to use the term *particle* in line with the traditional label within previous studies in this field (cf., among others, Denniston 1934) and the label adopted by Bonifazi, Drummen, and de Kreij (2016, I.3).

Following these introductory remarks, [Section 14.2](#) briefly describes the meaning and use of the Ancient Greek (henceforth AG) particle οὐν/οὐν (‘so, therefore’), states the research questions, and points out some relevant features of documentary papyri for drawing linguistic analyses. [Section 14.3](#) explains the methodology adopted for the data collection and the data analysis; it also adds statistics of some patterns consisting of οὐν/οὐν and its preceding linguistic element. [Section 14.4](#) presents instances of the patterns that the present analysis focuses

on, adding pertinent information about the text to which they belong (e.g. topic, position within the discourse). In order to restrict the range of analysis, all instances considered in the investigation are from letters. [Section 14.5](#) provides a discussion of the single instances that are representative of their corresponding pattern, considering in particular their sequential placement, pragmatic dependencies, and cognitive issues related to the use of negated οὐν/οὐν utterances. [Section 14.6](#) draws some conclusions.

14.2 The Ancient Greek particle οὐν/οὐν and the context of the present analysis

The present section is divided into two subsections. [Subsection 14.2.1](#) presents the general meaning and usage of the particle οὐν/οὐν in AG, and gives a brief overview of the previous research on it. [Subsection 14.2.2](#) introduces aims and research questions in more detail and points out the relevance of documentary papyri for the analysis, in line with the overall theme of the whole volume.

14.2.1 οὐν/οὐν in AG and in previous studies

Denniston's book (1954) is generally considered the reference works for the study of particles in AG. According to this study (1954, 415–17), the usage of οὐν/οὐν can be roughly summarised in three points. The first one concerns the use of the particle in Homer in which it occurs in a temporal clause, after ἐπεὶ/*epei* and ὥς/*hōs*. The second regards the use of οὐν/οὐν in lyric poetry, in which it follows other particles such as γάρ/*gár*, οὐτε/*oúte*, μέν/*mén*, and δέ/*dé*. The final one represents the most common usage of this particle, which is found from the classical period onwards (i.e. from the fifth century BCE onwards): οὐν/οὐν has a connective function and is used to convey inferential or progressive meaning. In AG, this particle usually occupies the second position; that is to say, another linguistic element belonging to the οὐν/οὐν utterance precedes the particle.

In a more recent study (Bonifazi, Drummen, and de Kreij 2016), which extensively deals with particles in AG, the usage of οὐν/οὐν in tragedy and historiography is addressed. Accordingly, by using οὐν/οὐν, a speaker presents an utterance as an inference or a conclusion (Bonifazi, Drummen, and de Kreij 2016, III.2 §81) or clearly marks an

inferential link to the preceding part of the discourse (Bonifazi, Drummen, and de Kreij 2016, III.4 §43 for the usage in tragedy; IV.5 §93 for the usage in historiography). In the same corpus, οὖν/οὐν is otherwise used together with the particle μέν/*mén* either to connect different acts,³ or to mark a correction of a preceding element (Bonifazi, Drummen, and de Kreij 2016, III.2 §82).

Numerous further studies have addressed the particle οὖν/οὐν in AG (for a list of these studies from the Renaissance until 2015, cf. Bonifazi, Drummen, and de Kreij 2016, V s.v.). Although dealing with different corpora, including Homer, classical authors, Atticist literature, and the New Testament, they all point out a basic usage of οὖν/οὐν, consisting of conveying an inference, signalling a link to what was stated in the preceding part of the discourse, and marking the continuation of the narrated events.

More recent studies, in particular several publications by Bentein, have specifically treated the particles οὖν/οὐν in Greek documentary papyri. Within this brief overview of οὖν/οὐν in Greek, three of them should be mentioned. The first (Bentein 2016a) is an investigation of the particles οὖν/οὐν and γάρ/*gár* in documentary papyri. It addresses questions related to the frequency of these particles, similarities and differences in both function and syntax, and diachronic developments that may have influenced their use in documentary papyri in the period from the first–fourth century CE. Here, Bentein adopts the framework of the ‘discourse marker theory’ and considers οὖν/οὐν as an inferential particle according to the functional categorisation of discourse markers provided by Fraser (2009). The second (Bentein 2016b) is an investigation on inferential expressions in Greek petitions on papyrus of the first–fourth century CE: it is carried out within the frameworks of historical sociolinguistics and focuses on the social meaning conveyed by particles or entire expressions under investigation. The analysis accounts for 38 occurrences of the particle οὖν/οὐν in a corpus of petitions, pointing out that in the majority of cases, the occurrence of οὖν/οὐν after a request verb is found in petitions to high officials (Bentein 2016b, 38–39). The third (Bentein 2021), an investigation addressing the particles οὖν/οὐν and γάρ/*gár* in documentary papyri, examines their semantic development in the postclassical stages of Greek and the degree of speaker involvement that they convey.

14.2.2 Research questions and sources

It is well known that one of the primary function of particles is to segment and structure the discourse (Bonifazi, Drummen, and de Kreij 2016, I.3.2; Fraser 1999, 934). Within the general aim of exploring communication processes in ancient languages, my investigation focuses on discourse organisation and segmentation. To restrict the wide focus of my analysis, some types of utterances introduced by the particle *οὐν/οὐν* will be considered. I have decided to address this particle for two main reasons: first, it provides us with a wide range of uses distributed over a high number of occurrences in documentary papyri (4,330 occurrences according to Trismegistos);⁴ second, according to previous studies on Classical Greek and the Greek of documentary papyri, it is mainly used to convey an inference. The latter point allows me to hypothesise that the occurrence of *οὐν/οὐν* might be consistently related to the link between the information conveyed by these utterances and previous information stated in the discourse. Therefore, a research question addresses the position of *οὐν/οὐν* utterances in the discourse.

Moreover, my interest is drawn to the linguistic elements which surround *οὐν/οὐν* for two reasons: first, Denniston's observation that *οὐν/οὐν* could be defined as 'an ancillary strengthening particle' and can occur in close association with other particles, negatives, and relatives (1954, 418); second, the general tendency of particles across languages to occur together with other elements. In this respect, my investigation provides a statistics of the most recurring patterns, including *οὐν/οὐν* and the word occurring before. Therefore, I address the question of whether the linguistic elements that are directly found before *οὐν/οὐν* have pragmatic meaning and contribute to fulfilling specific functions.⁵

In comparison to literary sources, documentary papyri present several advantages for carrying out pragmatic and discourse analyses for different reasons. These sources are strongly oriented toward everyday communication purposes and do not adhere to literary conventions. They are free from textual transmission, bearing witness to language usages that belong directly to the period that they are dated back to.

In numerous cases, documentary papyri provide us with entire units of discourse that follows a determined structure in terms of the type of discourse that they represent. Private letters, for instance, were usually

divided into an opening part containing information about sender and addressee, a central part (i.e. the body of the letter), containing different types of information, and a closing part with additional reminders and the final greetings (cf., among others, Bentein 2016a, 7; White 1988, 96–97). Official, business, and private letters are different types of letters that are conventionally identified within the field of papyrology (Palme 2011), and from these types, three main communicative purposes emerge (Bentein 2016a, 6): (i) to convey information; (ii) to make requests; and (iii) to enhance/maintain personal contact. Moreover, sending items or asking for confirmation of an item's reception usually belongs to the main topic of letters.⁶ For these reasons, by addressing both the body and final reminders added to the closing part, we have the possibility to investigate explicit vs implicit implicatures, the linguistic devices used for marking pragmatic dependencies, and some aspects of the cognitive processes involved in this type of communication.

14.3 Data and statistics

The present section is divided into two subsections. It first clarifies the methodology regarding the data analysis, explaining how data has been extracted and collected as well as which parameters have been taken into account for the data analysis ([Subsection 14.3.1](#)). Then, it gives statistics for the occurrences of οὖν/οὐν in documentary papyri of the Roman and Byzantine periods with respect to some specific patterns ([Subsection 14.3.2](#)).

14.3.1 Methodology for the data analysis

Documentary papyrology offers the possibility of treating the data by using different digital databanks, such as the Duke Databank of Documentary Papyri (DDbDP), a platform that provides us with different types of information, Trismegistos (Depauw and Gheldof 2014), and linguistically annotated corpora, such as the PapyGreek treebank corpus (Vierros and Henriksson 2021; henceforth mentioned as PapyGreek). Using PapyGreek and Trismegistos, I carried out a data analysis divided into four steps.

As pointed out in [Section 14.2](#), we have 4,330 occurrences of the particle οὖν/οὐν in documentary papyri. In order to manage the high

Table 14.1: Recurring patterns with οὖν/οὖν

Pattern	Preceding word	Particle οὖν/οὖν, second position
1	request verb	οὖν/οὖν
2	adverbs εὖ/εὖ or καλῶς/ <i>kalôs</i>	οὖν/οὖν
3	other adverbs	οὖν/οὖν
4	negative marker	οὖν/οὖν
5	verb ‘to write’	οὖν/οὖν
6	imperative	οὖν/οὖν
7	other particle	οὖν/οὖν
8	subordinating conjunction	οὖν/οὖν

number of occurrences over the whole corpus of documentary papyri, I addressed the οὖν/οὖν occurrences that are available through Papy-Greek as a first step. The total number of οὖν/οὖν occurrences given here is 263, with 216 selecting ‘letter’ as document type.⁷ Since Papy-Greek builds up a corpus of linguistically annotated texts that are taken from the DDbDP (which is also the source of the texts included in Trismegistos), this initial search allowed me to conduct a preliminary examination of occurrences in letters and to gain an overview of the most recurring patterns. In this regard, I checked the word found right before οὖν/οὖν and I was able to identify the following recurring patterns (each occurring more than five times), which are summarised in [Table 14.1](#) and briefly described hereafter.

Pattern 1 includes a request verb in a finite form, usually in the first person singular indicative active or in the participial form ἐρωτηθεῖς/*erōtētheis* or δεηθεῖς/*deētheis* (ask-PTCP.AOR.NOM.M.SG.PASS), which typify crystallised forms functioning as a directive and correspond to the English ‘please’ (di Bartolo 2021, 23, 31–34, 38–39; Leiwo 2010, 108–11).⁸ Pattern 2 provides instances of οὖν/οὖν preceded either by the adverb εὖ/εὖ or καλῶς/*kalôs* (meaning ‘good, well’), which together with a second-person subjunctive form of the verb ‘to do’ builds a formulaic expression.⁹ This is a common strategy in letters for encoding a request: εὖ or καλῶς οὖν ποιήσης/εὖ or *kalôs oûn poiēsēs* (i.e. ‘you would make me a favour’). Pattern 3 indicates an adverb (different to εὖ/εὖ and καλῶς/*kalôs*; e.g. λοιπόν/*loipón* ‘for the rest, then, well’) and then οὖν/οὖν.¹⁰ Pattern 4 consists of the subjective negative marker μή/*mē* and the particle οὖν/οὖν. In numerous cases, this pattern is part

of a formulaic expression, such as $\mu\eta\ \sigma\upsilon\nu\ \acute{\alpha}\mu\epsilon\lambda\acute{\eta}\sigma\eta\varsigma/m\grave{\epsilon}\ \sigma\upsilon\nu\ \acute{\alpha}\mu\epsilon\lambda\acute{\epsilon}\sigma\epsilon\iota\varsigma$ ('so, do not forget') or $\mu\eta\ \sigma\upsilon\nu\ \acute{\alpha}\lambda\lambda\omega\varsigma\ \pi\omicron\iota\eta\sigma\eta\varsigma/m\grave{\epsilon}\ \sigma\upsilon\nu\ \acute{\alpha}\lambda\lambda\omicron\varsigma\ \pi\omicron\iota\epsilon\sigma\epsilon\iota\varsigma$ ('so, do not act in a different way'). Pattern 5 includes a finite form of the verb 'to write' and $\sigma\upsilon\nu/\sigma\upsilon\nu$. Pattern 6 indicates a verb in the imperative form before $\sigma\upsilon\nu/\sigma\upsilon\nu$. Pattern 7 includes another particle, such as $\mu\acute{\epsilon}\nu/m\acute{\epsilon}\nu$ or $\delta\acute{\epsilon}/\delta\acute{\epsilon}$ before $\sigma\upsilon\nu/\sigma\upsilon\nu$. Since both $\mu\acute{\epsilon}\nu/m\acute{\epsilon}\nu$ or $\delta\acute{\epsilon}/\delta\acute{\epsilon}$ are second-position particles, another word should precede them. This can be a word encoding the subject or a conjunction. Pattern 8 attests to a conjunction before $\sigma\upsilon\nu/\sigma\upsilon\nu$. In this case we are dealing with subordinating conjunctions, as classified in AG reference grammars (cf., for instance, van Emde Boas et al. 2019, 494–95), such as $\acute{\iota}\nu\alpha/h\acute{\iota}\nu\alpha$, $\acute{\omicron}\pi\omega\varsigma/h\acute{\omicron}\pi\omicron\varsigma$, $\acute{\omega}\sigma\tau\epsilon/h\acute{\omicron}\sigma\tau\epsilon$, $\acute{\omega}\varsigma/h\acute{\omicron}\varsigma$, $\acute{\omega}\sigma\pi\epsilon\rho/h\acute{\omicron}\sigma\pi\epsilon\rho$, $\acute{\epsilon}\pi\epsilon\acute{\iota}/\acute{\epsilon}\pi\epsilon\acute{\iota}$, $\acute{\epsilon}\pi\epsilon\iota\delta\acute{\eta}/\acute{\epsilon}\pi\epsilon\iota\delta\acute{\eta}$, $\acute{\epsilon}\iota/\acute{\epsilon}\iota$, $\acute{\epsilon}\acute{\alpha}\nu/\acute{\epsilon}\acute{\alpha}\nu$.

This initial analysis using PapyGreek, which also provides information related to the number of sentences in each text, allowed me to make usage-based observations on the position in which the $\sigma\upsilon\nu/\sigma\upsilon\nu$ utterances usually occur, as well as on their pragmatic and discourse functions, ultimately leading to the formulation of my research questions.

As a second step, I double-checked the occurrence of $\sigma\upsilon\nu/\sigma\upsilon\nu$ in some recurring patterns, such as 2–5, by means of comparison with instances of $\sigma\upsilon\nu/\sigma\upsilon\nu$ presented in a previous work by Bentein (2016a), which addresses 355 instances of this particle.

As a third step, I turned back to the analysis of the occurrences provided by Trismegistos. I further restricted the total number of occurrences, selecting the ones from the Roman and Byzantine periods (first–eighth century CE), which resulted in 2,544 in total.¹¹ I considered all occurrences from these two periods without restricting the annotation of the pattern to a specific text type. I focused on the Roman and Byzantine period because papyrus texts from this period are more numerous and wider in terms of variation than those from the Ptolemaic period.¹²

My fourth step included the annotation of the word found right before the particle $\sigma\upsilon\nu/\sigma\upsilon\nu$ in the Trismegistos corpus (i.e. the annotation of the 2,544 occurrences). For reasons of space, my analysis focuses only on those instances corresponding to some of the patterns mentioned in [Table 14.1](#), as I will clarify in [Subsection 14.3.2](#). The punctual pragmatic and discourse analysis considers examples from letters only.

14.3.2 Some clarifications related to the patterns and their statistics

My analysis addresses the uses of *oûv/oûn* in some specific patterns and in main-clause structures in particular. Accordingly, I will focus on patterns 1, 2, and 4. For reasons of space, I will only mention and discuss an example of pattern 3 in order to account for the fact that the combination of *oûv/oûn* with different adverbs can implicate the creation of new complex meanings. I leave aside the analysis of patterns 5 and 6, since it should include TAM features of the different forms of the verb ‘to write’, on the one hand, and tense and aspect of the imperatives and their semantics on the other. I will not address patterns 7 and 8, because their analysis would include the consideration of syntactic dependencies affecting the relation between main and subordinate clauses. Moreover, the following practical and theoretical reasons can be added. Regarding pattern 7, an analysis of each example is necessary in order to establish whether we are dealing with a main or a subordinate clause structure; patterns 7 and 8 could account for instances of clauses that do not occur in biclausal constructions of the type main and subordinate clause. All these aspects would exceed the scope of the present chapter.¹³

[Table 14.2](#) presents statistics for the patterns considered in the analysis and gives a percentage of the attestations out of the total number of occurrences of *oûv/oûn* from the Roman and Byzantine periods. Although occurrences over different centuries are presented, the analysis does not aim at providing observations about the diachrony of *oûv/oûn*.

Table 14.2: Statistics for patterns 1–4

Pattern type	Number of occurrences out of 2,544	Percentage
1	141	5.5
2	86	3.4
3	142	5.6
4	184	7.2

Statistics for pattern 1 include four occurrences in which the request verb directly follows οὖν/οὐν (P. Oxy. I 113, 6; PSI VIII 943, 11; P. Lond. XI 214, 18; P. Strasb. Gr. V 401 bis, 13).

One might wonder why four of the eight patterns account for only 20 per cent of the realisations. This could be explained by the different intrinsic features of the eight patterns: apart from pattern 5, patterns 6–8 include a wider range of realisations (i.e. any types of imperative forms, particles, and subordinating conjunctions) and therefore account for a higher number of occurrences. Moreover, I do not consider cases in which a verb other than the types that I have considered precedes οὖν/οὐν. Finally, cases that cannot be detected due to a textual gap in the immediate proximity of the particle are not considered.

14.4 Instances and discussion

This section is divided into three subsections that present some examples of patterns 1–4. Each pattern does not correspond to a subsection, since instances of οὖν/οὐν can be found more than once within the same text illustrating different patterns. Here, I will give information related to the length of the letter and its content. Examples include either the body of the letter, a summary of the topic of the letter, or a report of the previous part in translation.

14.4.1 *Instances of requests*

The following examples illustrate οὖν/οὐν utterances that build a request (i.e. patterns 1 and 2).

Example (1) is from a private letter from the Tiberianus archive consisting of 21 lines. The passage below illustrates the whole body of the letter. Here, the sender (Apollinarios) asks for information, first regarding a sale (i.e. pattern 1, sentence five in PapyGreek) and then regarding a will after learning of the death of an acquaintance (i.e. pattern 6, sentence 7 in PapyGreek).

(1) P. Mich. VIII 475 ll. 6–16 (private letter, 2nd century CE)

τ[ὸ] πρ[ο]σκύνημά σ[ο]υ ποιῶ καθ' ἐκάστην ἡμέραν παρὰ τῷ κυρίῳ
 Σαράπιδι. ἔγραψάς μοι λέγων ὅτι Γάιος πέπρακέ τι. ἐρωτῶ σε οὖν,
 ἄδελφε, ἵνα μάθῃς τί πέπρακεν, καὶ ἀντίγραφόν μοι. καὶ περὶ Σέξ-
 του ἤκουσα ὅτι ἀπεγένετο. γνῶθι οὖν τίς αὐτοῦ κληρονόμος ἐστὶ
 καὶ πότε ἡ διαθήκη αὐτοῦ ἀνύγεται.¹⁴

tò *proskúnēmá* *sou* *poiō*
 ART.ACC.N.SG obeisance-ACC.N you-GEN.M.SG make-1SG.IND.PRS

kath' hekástēn hēméran parà tōi kuriōi
 PREP every-ACC.F day-ACC.F PREP ART.DAT.M.SG lord-DAT.M

Sarápidi. Égrapsás moi
 Sarapis-DAT.M write-2SG.IND.AOR me-DAT.M.SG

légōn hótí Gáios pépraké
 say-PTCP.PRS.NOM.M.SG COMP Gaius-NOM.M sell-3.SG.IND.PRF

ti erōtō se oûn,
 something-ACC ask-1SG.IND.PRS you-ACC.M.SG PTCL

ádelphe, hína máthēis tí
 brother-VOC.M COMP find.out-2SG.SBJV.AOR what-ACC

pépraken, kai antígrapsón moi. Kai perì
 sell-3.SG.IND.PRF and write-2SG.IMP.AOR me-DAT.M.SG and PREP

Séxtou êkousa hótí apegéneto
 Sextus-GEN.M hear-1SG.IND.AOR COMP pass.away-3SG.IND.AOR

Gnôthi oûn tíς autoû klêronómos
 learn-2SG.IMP.AOR PTCL who-NOM he-GEN.M.SG heir-NOM.M

estì kai póte hē diathékē autoû
 be-3SG.IND.PRS and when ART.NOM.F.SG will-NOM.F he-GEN.M.SG

anúgetai
 open-3SG.IND.PRS.MP

‘Every day, I make obeisance for you in the presence of our lord Sarapis. You wrote me, saying that Gaius has sold something. I therefore ask you, brother, to find out what he has sold, and write to me. And about Sextus, I heard that he passed away. So learn who his heir is and when the will is to be opened.’ (editor’s translation with some slight changes)

Example (2) is part of a letter consisting of 12 lines. Right after the first clause of the body of the letter, the sender asks the addressee to respond in order to give him information about the market situation in his district.

- (2) P. Oslo II 49 ll. 3–9 (private letter, 2nd century CE) whole letter's body

πρὸ πάντων ἡγῆμαι δι' ἐπιστολῆς σε ἀσπάσασθαι. παρακληθεὶς
οὖν, φίλτατε, γράψεις μοι περὶ τῆς παρὰ σοὶ ἀγορᾶς· ἡ γὰρ ἐν τῷ
Ὁξύρυνχῳίτῃ ἄλλοιά ἐστι περιέργων· ἐντολαὶ γὰρ καθ' ἡμέραν ἐκεῖ
ἔρχονται.

<i>prò</i>	<i>pántōn</i>	<i>hégēmai</i>	<i>di'</i>	<i>epistolēs</i>	
PREP	all-GEN.N	think-1SG.IND.PRF.MP	PREP	letter-GEN.F	
<i>se</i>	<i>aspásasthai.</i>	<i>paraklētheis</i>	<i>oún,</i>		
you-ACC.M.SG	greet-INF.AOR.MP	ask-PTCP.AOR.P.NOM.M.SG	PTCL		
<i>phíltate</i>	<i>grápseis</i>	<i>moi</i>	<i>perì</i>	<i>tēs</i>	<i>parà</i>
dearest-VOC.M	write-2SG.IND.FUT	me-DAT.M.SG	PREP	ART.GEN.F	PREP
<i>soi</i>	<i>agorās</i>	<i>hē</i>	<i>gàr</i>	<i>en</i>	<i>tôi</i>
me-DAT.M.SG	market-GEN.F	ART.NOM.F	PTCL	PREP	ART.DAT.M
<i>Oxurunkheítēi</i>	<i>alloiá</i>	<i>esti</i>			
Oxyrhynchos.district-DAT.M	less.favourable-NOM.F	be-3SG.IND.PRS			
<i>periérگون</i>	<i>entolai</i>	<i>gàr</i>	<i>kath'</i>	<i>hēméran</i>	
scrupulous.officials-GEN.M	ordinances-NOM.F	PTCL	PREP	day-ACC.F	
<i>ekeî</i>	<i>érkhontai.</i>				
there-ADV	arrive-3PL.IND.PRS.MP				

'Above all, I think it is necessary to greet you through a letter. So, please, dear, write me about the market in your district. For the one in the Oxyrhynchos district is otherwise less favourable, since ordinances from scrupulous officials arrive every day.'¹⁵

Example (3) is from a letter dealing with the transportation of a mummy from one city to another city and some related problems. The two οὖν/οὐν utterances that build two different requests are sentences 7 and 8, respectively (cf. PapyGreek). I report almost all of the previous part in translation:

Finding no boat available in the Arsinoïte nome I wrote to my lord Clematius the chief priest that he might send me a boat and so I might be able to carry the body down to Alexandria. [...] So on going up to the Arsinoïte nome they found the body not yet ready to be buried, and I have a delay of some days. They therefore determined on account of a pressing need to go to Toou. (editor's translation)

(3) P. Oxy. VII 1068 ll. 17–27 (private letter, 3rd century CE)

παρακαλῶ **οὖν**, κύριέ μου, ὑπάρξε αὐτοῖς καὶ τὰ τῆς σῆς σπουδῆς,
εἶνα μοι μαρτυρήσουσιν ἀνελθόντες, καὶ εἴ τι ἂν ἄλλο\ω/ σου χρίαν
σκῶσιν σιμίου χάριν ὅτι ἔπεμψας ἐπὶ τὸν ὄνον καὶ τατέσχον αὐτὸν
ἕως γένωμε πρὸς σέ. ἀξιώσω **οὖν**, κύριε μου, εἶνα δῶς αὐτοῖς γράμ-
ματα εἶνα μηδὶς ἐνοχλήσι αὐτοῖς καθ' ὁδόν, εἶνα δυνηθῶ κηδεύσας
τὸ σωματὶν ἐλθὶν πρὸς σέ.¹⁶

parakalō **oûn**, *kúrié* *mou*, *hupárxe*
urge-1SG.IND.PRS PTCL lord-VOC.M me-GEN.M.SG supply-INF.AOR

autoîs *kaì* *tà* *tês* *sês*
they-DAT.M and ART.ACC.N. ART.GEN.F POSS.GEN.F.SG

spoudês *heína* *moi* *marturêsousin*
good.will-GEN.F COMP me-DAT.M.SG testify-3PL.IND.FUT

anelthóntes *kaì* *eí* *ti* *àn*
return-PTCP.AOR.NOM.M.PL and if something-ACC MOD

állou *sou* *khrian* *skôsin*
other-GEN.N you-GEN.M.SG need-ACC.F have-3PL.SBJV.AOR

simíou *khárin* *hóti* *épempsas* *epì* *tòn*
Simias-GEN.M PREP for send-2SG.IND.AOR PREP ART.ACC.M.SG

ónon *kaì* *tatéskhon* *autòn* *héōs*
ass-ACC.M and keep-3PL.IND.AOR he-ACC.M until

génōme *pròs* *sé.* *axiôsō* **oûn**,
come-1SG.SBJV.AOR PREP you-ACC.M beg-1SG.IND.FUT PTCL

kúrie *mou*, *heína* *dōis* *autoîs*
lord-VOC.M me-GEN.M.SG COMP give-2SG.SBJV.AOR they-DAT.M.PL

grámmata *heína* *mēdis* *enokhlēsi*
letter-ACC.N COMP nobody-NOM.SG trouble-3SG.FUT.IND

autoîs *kath'* *hodón* *heína* *dunēthō*
they-DAT.M.PL PREP road-ACC.F COMP be.able-1SG.SBJV.AOR.PASS

<i>kēdeúsas</i>	<i>tò</i>	<i>sōmátin</i>	<i>elthîn</i>	<i>pròs</i>
bury-	ART.ACC.N.SG	body-ACC.N	come-INF.AOR	PREP
PTCP.AOR.				
NOM.M.SG				

sé.

you-ACC.M

‘So I urge you, my lord, to supply them with the marks of your good will, that on their return they may testify of it to me, and with anything else they may need from you for Simias’ sake (for you sent for the ass and they kept it), until I come to you. I beg you **then**, my lord, to give them a letter in order that no one may trouble them on the road, and so I may be able to bury the body and come to you.’ (editor’s translation)

Example (4) belongs to the body of a 21-line letter from a son to his mother. The last part is lost. However, one can observe that the preceding part consists of 12 lines. I report them in translation:

You know what the situation is in our house, and especially that I am in a foreign land. Get busy, therefore, and try to work every day for my salvation. For you know that I have no one with me, no sister, no brother, no son, no one but God alone.

(4) PSI X 1161 ll. 15–19 (private letter)

παρακαλῶ **οὖν**, κυρία μου μήτηρ, μνηθῆσῆνέ μου καὶ κὰν μιᾶς ἡμέρας, μή πως ἐπὶ ξένης ἀποθάνω μηδένα ἔχοντα.¹⁷

<i>parakalô</i>	<i>oûn,</i>	<i>kuría</i>	<i>mou</i>	<i>mētēr,</i>
beg-1SG.IND.PRS	PTCL	lady-VOC.F	me-GEN.M.SG	mother-VOC.F

<i>mnēthsêné</i>	<i>mou</i>	<i>kai</i>	<i>kàn</i>	<i>miâs</i>
remember-INF.AOR.PASS	me-GEN.M.SG	and	MOD	one-GEN.F

<i>hēméras,</i>	<i>mé</i>	<i>pōs</i>	<i>epì</i>	<i>xénēs</i>
day-GEN.F	NEG	how-ADV	PREP	foreign.land-GEN.F

<i>apothánō</i>	<i>mēdéna</i>	<i>ékhonta</i>
die-1SG.IND.PRS	nobody-ACC.SG	have-PTCP.PRS.ACC.M.SG

‘So, I beg you, lady mother, to remember me at least for one day, so that I may not die in a foreign land with no one.’

Example (5) presents an instance of pattern 2. Here, the request occurs almost at the beginning of the body of the letter (i.e. sentence 3 in PapyGreek). The sender is asking money to cover the wages of some workers.

(5) P. Oxy. XLVIII 3403 ll. 3–6 (private letter, 4th century CE)

πάλιν ἐνέμενας τῇ ἀμελίᾳ τῇ σῇ καὶ οὐκ ἔπεμψάς μοι φ[ά]σιν περὶ
ὧν σοι ἐνετιλάμεθα κ[αλ]ῶς οὖν ποιήσης πέμψαι μοι τ[ὰ ἀρ]γύρια.¹⁸

pálin *enémenas* *têi* *amelíai*
again-ADV persist-2SG.IND.IMPF ART.DAT.F.SG neglect-DAT.F

têi *sêi* *kai* *ouk* *épempasás* *moi*
ART.DAT.F.SG POSS.DAT.F and NEG send-2SG.IND.AOR me-DAT.M.SG

phásin *perì* *hôn* *soi* *enetilámetha*
word-ACC.F PREP REL.GEN.PL you-DAT.M.SG instruct-1PL.IND.AOR.M

kalôs *oûn* *poiésēis* *pémpsai* *moi*
well-ADV PTCL do-2SG.SBJV.AOR send-INF.AOR me-DAT.M.SG

tà *argúria*.
ART.ACC.N.PL money-ACC.N

‘You have again been persisting in your neglect and did not send me word about the matters about which I instructed you. Please, **therefore**, send me the money.’ (Bagnall and Cribiore 2006: 212)

14.4.2 Instances of warnings

The two examples in this subsection typify pattern 3: they illustrate a warning conveyed by the use of the adverb λοιπόν/*loipón*, which literally means ‘for the rest, further’, and can additionally mean ‘well, well then’ (cf. LSJ s.v.), and the particle οὖν/*oûn*.

Example (6) is from a private letter in which the sender gives the addressee advice concerning different matters. The text, whose last part is lost, consists of 14 lines. The first piece of advice is given below.

(6) SB XIV 12084 ll. 4–9 (private letter, 1st century CE)

γείνωσκε Πλουτᾶν ὡς ἐν μάχῃ μοι ἀναβεβηκέναι καὶ ἡρόκτα μου
ἀργυράφιον. λοιπὸν οὖν μηθὲν αὐτῷ διαπιστεύσης μηδὲ μὴν αὐτὸν
ἐπειδέξει.¹⁹

geínōske *Ploutân* *hōs* *en* *mákhēi*
 know-2SG.IMP.PRS Plautas-ACC.M COMP PREP fighting.mood-DAT.F
moi *anabebēkénai* *kaì* *ērκόta*
 me-DAT.M.SG come.up-INF.PRF and take.away-PTCP.PRF.ACC.M.SG
mou *arguráphion.* *loipòn* **οὖν** *mēthèn* *autōi*
 me-GEN.M.SG silver-ACC.N then-ADV PTCL NEG he-DAT.M
diapistéusēis *mēdè* *mèn* *autòn* *epeidéxēi.*
 trust-2SG.SBJV.AOR NEG PTCL he-ACC.M receive-2SG.IND.FUT.MP
 ‘Know that Plautas came up in a fighting mood and went off with
 some silver of mine. Well **then** don’t trust him and don’t receive him
 in any circumstances.’

Example (7) concerns a request for guarding land. The letter consists of 16 lines and a line with information about the addressee on the verso. The example presents the first part of the body of the letter.²⁰

(7) P. Princ. III 161 ll. 2–9 (private letter, 1st century CE)

οὐδέν μοι ἔγραψας περὶ ὧν σοι ἔγ[ρα]ψα. τὸ λοιπὸν οὖν [πέμψ]ον
 φύλακα εἰ ἔχ[εις] . . .]τον εἰς τὸ νεόφυτον πατρικὸν καὶ εἰ ἔχεις καὶ εἰς
 τὸν Ἀρεί[ο]ν.
oudén *moi* *égrapsas* *perì* *hôn*
 nothing-ACC.N me-DAT.M.SG write-2SG.IND.AOR PREP REL.GEN.N.PL
soi *égrapsa.* *tò* *loipòn* *oûn*
 YOU-DAT.M.SG write-1SG.IND.AOR ART.ACC.N.SG rest-ACC.N PTCL
pémpson *phúlaka* *ei* *ékheis* *eis*
 send-2SG.IMP.AOR guard-ACC.M if have-2SG.IND.PRS PREP
tò *neóphuton* *patrikòn* *kaì* *ei*
 ART.ACC.N.SG new.orchard-ACC.N of.the.father-ACC.N and if
ékheis *kaì* *eis* *tòn* *Areíou*
 have-2SG.IND.PRS and PREP ART.ACC.M.SG Areios-GEN.M
 ‘You have not written to me about the matter that for which I have
 written to you. Well **then**, send a guard to the new orchard on your
 father’s property, if you have one, and if you have another one, to
 Areios’ place.’

14.4.3 A reminder or a warning by using the negation

Reminders or warnings can also be codified by negated utterances. The examples in this section illustrate pattern 4 and specifically indicate the use of the particle οὐν/οὐν, preceded by the negation, in wide recurring collocations that build two different formulaic expressions. One is the formulaic expression μὴ οὐν ἀμελήσης/*mē oûn amelēsēs* (i.e. ‘so, do not forget’) shown in example (8). It is from a letter concerning the purchase of some wool; the prescript and opening greetings are lost. I report the beginning of the letter in translation (Bagnall and Cribiore 2006, 233; sentence one in PapyGreek): ‘I have taken the liberty of writing to your fraternity for purchase in advance, so that at my request you would purchase in advance a tremis’ worth of wool for me and a solidus’ worth for the lady Patricia who needs some’. The body of the letter continues with different details concerning the purchase of the wool and ends with the part reported in example (8) (sentences 4 and 5 in PapyGreek).

(8) SB XIV 11492 ll. 12–14 (private letter, 6th century CE)

θέλησον δὲ ζητήσῃ παρὰ τοῦ γραμματηφόρου σηκίδια ἕξ ἀδιαφό-
 ρως, μὴ οὐν ἀμελήσῃς τοῦ πέμψαι μοι τὴν ἀνταπόκρισιν.²¹

<i>thélēson</i>	<i>dè</i>	<i>zētēsei</i>	<i>parà</i>	<i>toû</i>	
will-2SG.IMP.AOR	PTCL	receive-INF.AOR	PREP	ART.GEN.M.SG	
<i>grammatēphōrou</i>	<i>sēkídia</i>	<i>hèx</i>	<i>adiaphōrōs</i>	<i>mē</i>	
letter.carrier-GEN.M	melon-ACC.N	six	free.of.charge-ADV	NEG	
<i>oûn</i>	<i>amelēsis</i>	<i>toû</i>	<i>pémψai</i>	<i>moi</i>	
PTCL	neglect-2SG.SBJV.AOR	ART.GEN.N.SG	send-INF.AOR	me-DAT.M.SG	
<i>tèn</i>	<i>antaapókrisin.</i>				
ART.ACC.F.SG	reply-ACC.F				

‘Please receive six melons from the letter carrier free of charge. Do not neglect to send me a reply.’ (Bagnall and Cribiore 2006, 233)

A different realisation is found in another formulaic expression (i.e. μὴ οὐν ἄλλως ποιήσης/*mē oûn állōs poiēsēs*, ‘so, do not act in a different way’) illustrated by example (9), from a letter belonging to the Komon archive. In this text, two οὐν/οὐν utterances are found (i.e. sentences 3 and 4, respectively, in PapyGreek): the utterance μὴ οὐν ἄλλως ποιή-

σης/*mè oûn állos poiésēis* is preceded by a request that also indicates the particle οὖν/*oûn*. This is the part of the body of the letter written right before: ‘You are not unacquainted with Nemesous, in regard to whom I have asked for help on other occasions’.

(9) P. Oxy. XXXVIII 2844 ll. 7–13 (private letter, 1st century CE)

καλῶς οὖν [π]οιήσις ἐπὶ ἀνῆλθεν εἰς τὴν μητρόπολιν <ποιεῖν>
τάχειον αὐτὴν κατελθεῖν δεῖα τὸ ἐργαστήριον αὐτῆς. μὴ οὖν ἄλλως
ποιήσῃ[ς].²²

<i>kalôs</i>	oûn	<i>poiésis</i>	<i>epì</i>	<i>anêlthen</i>	<i>eis</i>
well-ADV	PTCL	do-2SG.SBJV.AOR	PREP	go.up-3SG.IND.AOR	PREP
<i>tên</i>	<i>mêtrópolis</i>	<i>tákheion</i>	<i>autên</i>		
ART.ACC.F.SG	metropolis-ACC.F	quickly-ADV	she-ACC.F		
<i>kateltheîn</i>	<i>deià tò</i>	<i>ergastérion</i>	<i>autês.</i>		
come.down-INF.AOR	PREP ART.ACC.N.SG	workshop-ACC.N	she-GEN.F		
<i>mè</i>	oûn	<i>állos</i>	<i>poiésēis.</i>		
NEG	PTCL	differently-ADV	do-2SG.SBJV.AOR		

‘Please, **then**, since she (Nemesous) has gone up to the metropolis, get her to come down quickly (to her village) because of her workshop. **So**, do not act in a different way!’²³

Example (10) shows a further instance of the formulaic expression μὴ οὖν ἄλλως ποιήσης/*mè oûn állos poiésēis*. In this case, it is preceded by a part giving different information on the current SoA, which I report in translation: ‘Immediately upon receiving my letter come up instantly, for his highness the epistrategos has made several inquiries for you. He might even have proscribed you, had I not promised that you would be present today’.

(10) P. Tebt. 2 411 ll. 10–14 (private letter, 2nd century CE)

μὴ οὖν ἄλλως ποιήσης, μηδὲν μέντοι θορυβηθῆς, παραγενόμενος
γὰρ εἴση ὅ τι ποτέ ἐστιν.

<i>mè</i>	oûn	<i>állos</i>	<i>poiésēis,</i>	<i>mēdèn</i>	<i>méntoi</i>
NEG	PTCL	differently-ADV	do-2SG.SBJV.AOR	NEG	PTCL
<i>thorubēthêis,</i>	<i>paragenómenos</i>	<i>gàr</i>			
disturb-2SG.SBJV.AOR.PASS	come-PTCP.AOR.MP.NOM.M.SG	PTCL			

<i>eísēi</i>	<i>hó</i>	<i>ti</i>	<i>poté</i>	<i>estin.</i>
know-2SG.IND.FUT.PRF	REL.SG.ACC.N	what-ACC.N	PTCL	be-3SG.IND.PRS

‘So, do not act in a different way and do not be disturbed however, for when you come you will know what it means.’²⁴

14.5 Analysis and discussion

The present section delves into the pragmatic and discourse analysis of the *oûv/oûn* utterances and is divided into three subsections. Considering the different patterns’ realisations and the different uses of the particle *oûv/oûn* shown by the examples, we can distinguish at least three issues for analysis: the sequential placement of the *oûv/oûn* utterances ([Subsection 14.5.1](#)), the use of *oûv/oûn* for signalling inferences ([Subsection 14.5.2](#)), and elaboration on the SoA by using a negated utterance ([Subsection 14.5.3](#)). The analysis can be generalised to the patterns that they illustrate.

14.5.1 Sequential placement

Examples show specific features related to the sequential placement of the *oûv/oûn* utterances. They do not occur at the beginning of the body of the letter. The first reason is, of course, connected to the basic meaning of *oûv/oûn* (i.e. ‘so, then, therefore’), generally used to convey an inference from a specific situation. In other words, it is a type of utterance that needs co-text complementation. Accordingly, before the *oûv/oûn* utterances, we usually find several other utterances, for instance those of an assertive nature, used by the writer/speaker in order to describe the current SoA and give background information. Three cases among the presented instances—examples (2), (5), and (7)—illustrate a different situation, indicating the *oûv/oûn*-utterance as the second sentence of the body of the letter. However, some cues allow us to give an explanation for this sequential choice. In the case of example (2), the writer/speaker expresses an utterance introduced by a verb of thinking (i.e. *ἡγῆμαι/hégēmai* in the utterance *πρὸ πάντων ἡγῆμαι δι’ ἐπιστολῆς σε ἀσπásασθαι/prò pántōn hégēmai di’ epistolēs se aspásasthai*) in order to stress the importance of sending greetings to the addressee and staying in touch with him. In other words, it uses an utterance aimed at showing one of the communicative purposes

of the letter: to enhance/maintain personal contact (Bentein 2016a, 6). This could also be interpreted as a conventional usage within private letters or a kind of politeness strategy. The following utterance shows the other communicative purpose of the letter: asking for information with regard to a precise matter. Going forward sequentially, the writer/speaker elaborates on the request, providing the reader/hearer with further information not only by using the particle γάρ/gár (for this usage, cf. Bentein 2016a), but also by referring to the matter in question anaphorically (i.e. ἡ γὰρ ἐν τῷ Ὀξυρυνκхеΐτῃ/*hē gār en tōi Oxurunkheítēi*). In example (5), the use of the adverb πάλιν/pálin, meaning ‘again’, permits the assumption that this is not the first letter of the correspondence between sender and addressee concerning with this matter. In other words, the meaning conveyed by the utterance, which in this portion of discourse precedes the οὖν/οὐν-utterance, clearly indicates that this is not the first time that the writer/speaker addresses the reader/hearer with this request. The same can be observed regarding example (7), in which the utterance preceding the οὖν/οὐν utterance indicates that the letter is not the first one in the correspondence between sender and addressee.

Recent studies on conversational data have addressed the sequential placement of requests within the conversation (Walker 2013, 452–59). Although historical data lacks different types of interactional information, it shows some general features in the construction of a request that are found in modern languages. This is the case for the presence of a pre-request sequence. The part preceding the request in examples (1), (3), (4), (5), and (9) can be defined in these terms since it sketches the context of the request and highlights the contingencies that are related to its formulation (for modern languages cf., among others, Teleghani-Nikazm 2005: 159–60). In example (1), there is a sale and then the death of someone;²⁵ in example (3), the problems related to the transportation of a mummy; in example (4), the whole life situation of a son; in example (5), the negligence of the addressee in sending some money; in example (9), the fact that a person, whose presence is needed, went to a different place. The particle οὖν/οὐν used right after the request verb (examples (1)–(4)) or in the request formula εὖ or καλῶς οὖν ποιήσης/*eú or kalôs oûn poiēsēs* (i.e. ‘you would do me a favour’, examples (5) and (9)) makes the reader/hearer establish the link to previous information stated in the discourse or to shared knowledge between sender and addressee. Additionally, οὖν/οὐν, as

a particle, contributes to structure the whole discourse and signal relations that are not exclusively related to contiguous segments (cf., among others, Bentein 2016a, 13; Bonifazi, Drummen, and de Kreij 2016, I.4; Fraser 2006, 191).

In some cases, such as those typified by examples (3) and (4), a vocative follows the request verb and the particle *oũv/oũn*, contributing to the creation of an expression that additionally covers interpersonal and phatic functions (cf., among others, Bazzanella 1990; Brinton 2010, 286–87).

14.5.2 Signalling inferences

A further discourse pragmatic function fulfilled by the particle *oũv/oũn* is signalling inferences. As pointed out in [Subsection 14.2.1](#), this function of *oũv/oũn* is not novel within the studies on this particle. Here, I would like to stress the possibility of *oũv/oũn* utterances marking both a consequence in relation to what is said before and in relation to what the reader/hearer infers from the context.²⁶

This is the case of some *oũv/oũn* utterances. After describing the whole context, the writer/speaker states either a request, a piece of advice, a reminder or a warning related to the described SoA in a sequential form of the type: (i) ‘X happened (=description of current SoA). Therefore, I ask for Y (because of X)’ or (ii) ‘X happened. Therefore, I suggest you do Y (in order that X will not happen to you as well)’. With these schemata, one can describe the requests that occur in examples (3), (5), and (9), the advice in (6), the reminder in (8), and the warnings in (9) and (10). In other words, in structuring and segmenting the discourse, the particle *oũv/oũn* carries procedural meaning which creates conversational implicatures and invites the reader/hearer to draw specific inferences.

Considering again the case of the requests in example (5), the son is emphasising his sad situation of being alone in a foreign land, letting the mother infer that she is the only one who can help him. The writer/speaker invites the reader/hearer to do something in order to change the actual SoA. According to Bentein (2016a, 17–18), *oũv/oũn* can be interpreted as a marker of central information within the discourse.

Otherwise, in example (6), the writer/speaker conveys, first of all, new information by using an imperative form of the verb ‘to know’: it accounts for the fact that a person stole some money from him.

Therefore, he suggests that the reader/hearer should not receive this person by choosing an utterance introduced by λοιπὸν οὖν/*loipòn oûn*, implying that doing differently could result in the same situation.

Examples (6) and (7) show the adverb λοιπόν/*loipòn* right before οὖν/*oûn*. The adverb occupies an extra-clausal position,²⁷ since it does not have any syntactic relation with other elements in the clause. In this respect, it extends its scope both to the whole clause and to the previous part, behaving as a discourse marker. I would argue that in the two presented examples, it conveys a meaning corresponding to the English discourse marker ‘well’ and functions as a face-threat mitigator, according to one of the functions of ‘well’ identified by Jucker (1993, 444–45). In other words, it marks a problem on the interpersonal level and mitigates a confrontation of the reader/hearer with the situation stated right before: the fact that a known person has stolen some money (example (6)) and the fact that the reader/hearer did not answer to previous letters from the writer/speaker (example (7)).²⁸

14.5.3 Elaboration on the SoA by using negated utterances

Conversational implicatures and inferences can also be conveyed by means of negated utterances, and it is relevant to point out that pattern 4 is one of the most attested within documentary papyri. This can be, of course, related to the occurrence in fixed expressions in which the negative marker μή/*mê* precedes the particle οὖν/*oûn* (e.g. μὴ οὖν ἀμελήσης/*mê oûn amelēsēis* or μὴ οὖν ἄλλως ποιήσης/*mê oûn állos poiēsēis*). The present discussion does not cover all the different realisations of the pattern negative marker and particle οὖν/*oûn*; further investigations into the pragmatics of negation in AG are certainly needed.

Here, I explore pattern 4 in the formulaic expression μὴ οὖν ἄλλως ποιήσης/*mê oûn állos poiēsēis*, stressing the pragmatic role of the negation in the construction of this collocation. According to the general properties of negation, it is pragmatic and context-dependent in nature since it denies previously explicit assertions or implicit expectations that the speaker assumes the hearer to hold (cf., among others, Jordan 1998).

First, one can observe that the utterance μὴ οὖν ἄλλως ποιήσης/*mê oûn állos poiēsēis* pragmatically conveys a warning related to the SoA, which is previously delineated in the discourse. In this respect, the par-

ticle οὐν/οὐν links the negated utterance to the entire previous part. In addition, the use of the adverb ἄλλως/állōs, which literally means ‘in a different way’, allows the reader/hearer to make a link with previous information.

Further meanings are then conveyed by the presence of the negation which implicates a type of pragmatic dependency different from the one mentioned for the positive οὐν/οὐν utterances, since it forces the reader/hearer to elaborate on two different scenarios. In cognitive terms, the negative marker opens two alternative spaces rather than just one: the negative space described in the sentence and its positive alternative (Bonifazi 2023, 101–2; Dancygier, 69–70). Here, the combination of negative marker, particle, and the adverb ἄλλως/állōs makes the reader/hearer not only infer what should be done but also elaborate on the opposite scenario, in case they act in a different way. In other words, the reader/hearer cognitively processes both what will happen if they act according to the warning or the advice of the writer/speaker and what will happen if they act differently (ἄλλως/állōs), letting them then implicitly infer the consequences of it.

14.6 Conclusions

In this chapter, I have provided a general preliminary survey of the occurrences of the particle οὐν/οὐν in Greek documentary papyri and a pragmatic and discourse analysis of the usage of this particle. I have focused on the elements occurring before οὐν/οὐν, identifying eight different patterns that frequently occur in these sources. I have addressed four of these patterns, taking into consideration main-clause structures. In this respect, I have investigated the pragmatic and discourse relations between the οὐν/οὐν utterances and the preceding part of the discourse.

I have presented and discussed ten different examples from letters which pragmatically typify a request, a warning, a reminder, or a piece of advice. I have given information on the sequential placement of the οὐν/οὐν utterances, adding information provided by the PapyGreek treebank corpus, where possible, and contextualising the different occurrences.

In line with previous studies, it has emerged that the particle οὐν/οὐν is used to convey an inference and link an utterance to the previous part of the discourse. In this respect, it fulfils the prototypical

functions of discourse particles, extending its scope above the sentence level, locating the utterance within the discourse, indexing the utterance to the writer/speaker, reader/hearer, or both, and linking the utterance to prior and/or subsequent parts of the discourse.

My pragmatic and discourse analysis has considered three different issues related to the usage and function of the οὖν/οὐν utterances. In particular, the reasons for their specific sequential placement, the mechanism behind the expression of inferences signalled by οὖν/οὐν, and the pragmatic and cognitive function of οὖν/οὐν when preceded by the negative marker (in particular in the collocation μὴ οὖν ἄλλως ποιήσης/*mē oûn állos poiēsēis*) have been addressed.

Requests, constructed with οὖν/οὐν, have indicated in the majority of cases the presence of a pre-request sequence that describes the SoA and provides the reader/hearer with background information. Where a pre-request sequence is not found, some cues are used in the discourse to indicate shared background knowledge between writer/speaker and reader/hearer. In the case of requests, as well as of warnings and advice, it has been noted that οὖν/οὐν carries procedural meaning, allowing the reader/hearer to recognise explicit or implicit implicatures and draw specific inferences. In the co-occurrence of particle οὖν/οὐν and adverb λοιπόν/*loipón*, which builds the meaning 'well then', it has been observed that a face-mitigator component is added.

Finally, by combining a pragmatic and a cognitive approach, I have explained the use of οὖν/οὐν preceded by the Greek negative marker μὴ/*mē*, addressing the collocation μὴ οὖν ἄλλως ποιήσης/*mē oûn állos poiēsēis*. I have argued that the use of the negation and the adverb ἄλλως/*állos*, meaning 'differently', contributes to conveying a different meaning and highlighting different types of dependencies with respect to positive οὖν/οὐν utterances, since it additionally forces the reader/hearer to process positive as well as negative information and to elaborate on two different possible scenarios.

In line with the general aims of the volume, the chapter has highlighted the productivity of adopting linguistic approaches to investigate data from historical language stages, ultimately providing a framework of analysis that can be applied in future investigation. In addition, it has discussed data from documentary papyri, making it available for general linguistic analyses and cross-linguistic comparisons with modern languages.

Notes

- 1 The following projects should be mentioned: PapyGreek: Digital Grammar of Greek Documentary Papyri (PI: Marja Vierros), and EVWRIT: Everyday Writing in Graeco-Roman and Late Antique Egypt (I–VIII CE). A Socio-Semiotic Study of Communicative Variation (PI: Klaas Bentein).
- 2 For a discussion about the different terms used for indicating this linguistic category in modern languages, cf. Jucker and Ziv (1998).
- 3 For the definition of ‘act’, cf. Bonifazi, Drummen, and de Kreij (2016: II.2.1.1).
- 4 Trismegistos, ‘οὖν’, www.trismegistos.org/words/detail.php?lemma=οὖν&morph_type=particle, last accessed 27 July 2023.
- 5 Words that fulfill pragmatic function can also occur after οὖν/οὐν. This analysis is restricted to what occurs in the preceding position.
- 6 Thanks to joint research that I have been carrying out within the PaVeDa project (di Bartolo et al. 2023), I have observed that the verb ‘to send’ is one of the most frequently attested verb in documentary papyri. The verbs that have been checked within the PaVeDa project consist of the list of the 80 verbs drawn up for the ValPal project (Mulchuchov et al. 2015).
- 7 The query was performed using KTB by Yordanova and Norrish (<https://gitlab.com/polinayordanova/ktb-lite>; official release is forthcoming).
- 8 For a diachronic analysis of request verbs and politeness in documentary papyri, cf. di Bartolo (forthcoming).
- 9 I use the terms ‘formula’ and ‘formulaic’ in the very basic sense, as commonly used within the field of papyrology’ in order to refer to an established form or set of words.
- 10 Some of these adverbs exhibit functions typical of particles (or discourse markers), a point I will further argue in [Subsection 14.5.2](#). Here, I provide only morphosyntactic information, without considering the pragmatic functions that these adverbs can fulfill. This does not overlap with the category of pattern 7, which includes words that are traditionally categorised under ‘particles’ (Deniston 1954) and generally do not cover further functions at the sentence level.
- 11 Excel table generated via *word* search on 24 May 2023.
- 12 The majority of the documents from the Ptolemaic period belong to the Zenon Archive.
- 13 I am preparing further publications in which these aspects will be addressed.
- 14 ἀνύγεται/*anúgetai* corresponds to the CG form ἀνοίγεται/*anoigetai*.
- 15 Translations are mine if not otherwise noted.
- 16 ὑπάρξει/*hupárxe* corresponds to the CG form ὑπάρξαι/*hupárxai*.
- 17 μνησθήνέ/*mnēthsênē* corresponds to the CG form μνησθῆναι/*mnēsthēnai*.
- 18 ἐνέμενας/*enémēnas* corresponds to the CG form ἐνέμενεζ/*enémēnes*; ἀμελίαι/*amelíai* to ἀμελείαι/*ameleíai*; ἐνετιλάμεθα/*enetilámetha* to ἐνετειλάμεθα/*eneteilámetha*.
- 19 γείνωσκε/*geínōske* corresponds to the CG form γίγνωσκε/*gínōske*; ἐπειδέξει/*epeidéxi* to ἐπιδέξει/*epidéxi*.
- 20 Since τὸ λοιπὸν οὖν is followed by an imperative form (i.e. *pémpson*) and the object of *pémpson* is expressed (*phúlaka*), I consider τὸ λοιπὸν equivalent to *loipón* and, together with οὖν, covering specific pragmatic functions, as I will explain in [Subsection 14.5.2](#).

- 21 ζητήσῃ/*zētēsēi* corresponds to the CG form ζητήσαι/*zētēsai*; σικίδια/*sēkídia* to σικύδια/*sikúdia*; ἀμελήσις/*amelésis* to ἀμελήσης/*amelésēs*; ἀνταπόκρισιν/*antapókrisin* to ἀνταπόκρισιν/*antapókrisin*.
- 22 ποιήσις/*poiḗsis* corresponds to the CG form ποιήσεις/*poiéseis*; ἐπὶ/*epì* to ἐπεὶ/*epēi*; μητρόπολιν/*mētrópolis* to μητρόπολιν/*mētrópolis*; τάχειον/*tákheion* to τάχιον/*tákhion*; δεῖα/*deia* to διὰ/*dià*.
- 23 Editor's translation with a slight change regarding the formulaic expression *mé oún állos poiésēis*, which I consistently translate as 'so, do not act in a different way'.
- 24 Editor's translation with a slight change regarding the formulaic expression *mé oún állos poiésēis*, which I consistently translate as 'so, do not act in a different way'.
- 25 Note that the second request is encoded by an imperative form.
- 26 For a general distinction between explicatures and implicatures, cf. Carston (2006).
- 27 The adverb does not syntactically refer to a single linguistic element but extends its scope on the whole sentence. For an analysis of (τὸ/τὸ) λοιπόν/*loipón* as a word with non-propositional value, cf. Cavallin 1941.
- 28 Note that in example (7) the request after λοιπόν οὖν/*loipón oún* is conveyed by means of a bare imperative.

Abbreviations

AG	Ancient Greek
CG	Classical Greek
MOD	modal particle
MP	mediopassive
PTCL	particle
SoA	state of affairs
TAM	tense, aspect, and mood
VOC	vocative

Papyrus editions

Papyrus editions are cited according to Oates, John, William Willis et al. *Checklist of Editions of Greek, Latin, Demotic, and Coptic Papyri, Ostraca, and Tablets*, accessible at www.papyri.info/docs/checklist. Examples are glossed according to the Leipzig Glossing Rules.

Online resources

KTB	https://gitlab.com/polinayordanova/ktb-lite
LSJ	Liddell/Scott/Jones, <i>Greek-English Lexicon</i> , http://stephanus.tlg.uci.edu/ljsj/#eid=1&context=lsj
Papyri.info	https://papyri.info
PapyGreek	https://zenodo.org/record/7157692#.Y8GyKezP2rM
Trismegistos	www.trismegistos.org

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