*Developing a Historical Social-Semiotic Approach to Communication Practices in Antiquity*\*
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## 1. Setting the Stage

Recent studies in epigraphy and papyrology have on various occasions referred to two methodological "turns" (sometimes called "revolutions" or "paradigm shifts"),[1] both of which are considered to be materially oriented.[2] The first turn, also known as "the material turn," concerns a new interest in the production of written artifacts, both the raw materials of writing (the material substrate) and the act of writing itself. For this, the availability of digital images has been critical, especially in papyrology. Because of this availability, scholars are now able to study much greater quantities of documents, in much greater detail, and to illustrate their findings. For example, Roger Bagnall and Raffaella Cribiore have been able to exhaustively analyze the corpus of women's letters, taking into consideration not just handwriting, but also layout, document format, and writing material,[3] while more systematic accounts of these elements in ancient letters have been given by Antonia Sarri and Jean-Luc Fournet, among others.[4]

The second turn, which is known as "the spatial turn," concerns an interest in the archeological context, and the spatial context of writing. As Bagnall suggests,[5] this turn is more complicated than the first, because it concerns a two-way direction: papyrologists, for example, may ask what they can learn about their documents from an investigation of the archeological context, but vice versa, they can also ask what there is to learn about an archeological context from the documents that are found in it. An early example of this type of approach is the work of Peter van Minnen, who considered the relationship between papyri and the context in which they were found, focusing on Roman Karanis.[6] While some skepticism can be voiced about the relationship between movable objects such as papyri and their place of discovery,[7] this is less of a problem for inscriptions. A good example is the recent study by Polly Lohmann,[8] who not only situates Pompeian graffiti in different types of houses, but also enquires about how those texts were produced, who was behind them, and how they were integrated within domestic spaces. Rather than viewing graffiti as passive objects, Lohmann considers the texts as "actors" which can convey intention or evoke reactions.

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[1] For an overview, see Bagnall 2016.
[2] Roger Bagnall (2016, 80) refers to "materializing revolutions," noting that documentary disciplines have undergone other fundamental changes, too, especially in the areas of digitization and internationalization. Various edited volumes have appeared in recent years on the "materiality" of ancient documents. See, among others, Boschung and Bremmer 2015; Petrovic, Petrovic, and Thomas 2018; Hoogendijk and van Gompel 2019; Caputo and Lougoyava 2020 .
[3] Bagnall and Cribiore 2006, 2nd, online edition published in 2008 (https://www.fulcrum.org/concern/monographs/-79407z10h).
[4] Sarri 2018; Fournet 2007, 2009.
[5] Bagnall 2016, 82.
[6] van Minnen 1994.
[7] See Bagnall 2016, 83. For discussion of this problem with regard to the archive of Claudius Tiberianus, see Stephan and Verhoogt 2005.
[8] Lohmann 2017.

As Bagnall notes, work on the material and spatial aspects of ancient documents has enabled scholars to reconstruct the "ecosystem" of writing, or in other words, the social dimensions of writing in antiquity; that is, "who wrote; how they were educated in different types of writing competence; what materials they used when, where, and for what purposes; how they displayed their education, importance, and concern for their correspondents by the way they laid out, wrote, and marked up what they wrote."[9] Such concerns have been central to scholars working on the language of documentary sources, too, a field of research which is often not taken into consideration (consciously or unconsciously) by scholars working on the materiality of ancient documents.[10] Indeed, Bagnall's comment almost echoes the title of a paper that was foundational to modern-day sociolinguistics, Joshua Fishman's famous "Who Speaks What Language to Whom and When" (1965).[11] While in 2010 it was possible for Trevor Evans and Dirk Obbink to say of documentary papyri that "we are still dealing today with linguistic resources of extraordinary richness which have hardly begun to be explored,"[12] in recent years considerable progress has been made in areas such as language contact and multilingualism, the role of scribes, and linguistic register; perhaps sufficiently so to speak of a third, "linguistic" turn in the study of documentary texts.[13]

This volume, and the conference out of which it results, is based on the conviction that the studies mentioned above (whether embedded in a "material," "spatial," or "linguistic" turn) all have something in common: a central concern for the *dialogical* relationship between social agents and contexts of communication. With this, we mean that the context of writing may impose a certain framework on social agents, while at the same time social agents may go beyond these frameworks through creative acts of writing. Questions about the centrality of texts in society and their role in the shaping of "discourse" have received in-depth treatment by scholars such as Michel Foucault, Jürgen Habermas, Martin Nystrand, Norman Fairclough, and others. It is only fairly recently, however, that scholars have started looking at this question from a micro-perspective; that is, how the shape of written artifacts relates to their social context. This research branch is known as "social semiotics."[14] What makes this approach unique is that it takes a *systematic* approach to the question, by mapping the different ways in which writers can make meaning, but also by outlining the types of meaning that these writers can make.

Noticeably, social semiotics explicitly profiles itself as a study of modern-day communication, as indicated in the title of one of its main textbooks: *Multimodality: A Social Semiotic Approach to* Contemporary *communication*[15] (our emphasis). The main purpose of this volume is to analyze whether similar questions can be asked for antiquity, and whether similar, or at least related methods can be applied. In pursuing such a *historical* social-semiotic approach for the first time, we have intentionally taken a broad approach. While seeking to develop a more holistic and systematic

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[9] Bagnall 2016, 81–82.

[10] Lohmann (2017, 58), for example, explicitly states that she will not concern herself with philological/linguistic matters. A notable exception is Bagnall and Cribiore 2006, which makes many relevant linguistic observations, too.

[11] These questions can in turn be traced back to antiquity. See Leiwo 2020, 19 on Isidorus (ca. 560–636 CE).

[12] Evans and Obbink 2010, 2.

[13] In this area, too, various edited volumes have appeared in recent years: see, e.g., Leiwo, Halla-aho, and Vierros 2012; Cromwell and Grossman 2018; Bentein and Janse 2o2o.

[14] For further discussion, see § 2.

[15] Kress 2010.

approach to communication practices in antiquity, we did not ask that all contributors investigate the combination of linguistic, visual, and material characteristics, but rather gave them the freedom to focus on specific elements. Nor did we expect that they should apply a predetermined theoretical framework: rather, we suggested that they explore approaches that they considered tailored to the questions they were dealing with. As such, we conceive of historical social semiotics as an umbrella term, a "house with many rooms," as we further discuss below (§ 2.4).

In terms of subject matter, too, the volume covers a broad area, with not only Greek but also Latin and Syriac texts. Papyri are discussed in various contributions, but potsherds and inscriptions are also taken into account, as are paraliterary texts. Most contributions focus on the Roman and late antique period, but some go back to the Ptolemaic or even Archaic/Classical period. Egypt is the main place of interest, but some contributions look at other regions, such as the Latin West, Greece, or Syria. As such, it is our hope that the volume will give interested readers a taste of what historical social-semiotic questions can look like, and that it will function as a platform for follow-up studies on the same theme.

## 2. Social Semiotics: Some Key Concepts

2.1. Engaging with semiotics: A masochistic exercise?

Semiotics—the study of signs in the broadest sense—has had a bad press.[16] Engaging with this field is even considered by many a "masochistic exercise," because of semioticians' love of complex terms and opaque distinctions. In a sense, it should not come as a surprise that semiotics has a complicated way of describing things, since its objects of study are genuinely complicated: after all, semiotics as the study of signs covers a very broad area, including words, images, sounds, gestures, and objects—"anything which 'stands for' something else," as one scholar put it.[17]

In actual practice, semiotics has largely focused on language—the most extensive but also the most familiar semiotic system—to such an extent that the history of semiotics and linguistics are closely intertwined. While the insights gained by semiotics' founding fathers, Ferdinand de Saussure and Charles Sanders Peirce, such as the distinction between "language" and "parole" as levels of analysis, or between "symbols," "icons," and "indices" as types of signs, can be considered foundational, their work does promote an image of language as a decontextualized and dematerialized system. It was another linguist, Michael Halliday, who first proposed we view language as a "*social* semiotic system,"[18] using this term to argue against the separation between language and society, instead viewing language as a device used to express meaning in context.

Despite being a linguist, Halliday recognized that "there are many other modes of meaning, in any culture, which are outside the realm of language," and that these other "modes" are "all bearers of meaning in culture," which can be defined as a "set of semiotic systems, as a set of systems of meaning, all of which interrelate."[19] Because of its orientation towards context, and its recognition of text as a semantic (rather than a formal) unit, Halliday's framework, known as "Systemic Functional Linguistics," opened the door to approaches which did in fact take into account

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[16] See Bateman, Wildfeuer, and Hiippala 2017, 51.
[17] Chandler 2007, 2.
[18] See the title of Halliday's book, *Language as Social Semiotic* (1978).
[19] Halliday 1978, 4.

other semiotic systems. Particularly well known in this regard is the work of Gunther Kress and Theo van Leeuwen,[20] an approach which has come to be known as "Social Semiotics."

## 2.2. Meaning in context: Social semiotics

One of Halliday's key insights was that communication is not only multimodal (that is, involving multiple "modes" of meaning), but also polyfunctional. Halliday hypothesized that there are three kinds of "meaning" (so-called "metafunctions"),[21] which he refers to as "ideational," "textual," and "interpersonal."[22] Scholars working in the Systemic Functional tradition have analyzed the workings of these three functions in other types of communication, visual communication in particular.

One of the most important and influential studies undertaken in this regard is Kress and van Leeuwen's *Reading Images: The Grammar of Visual Design* (1996),[23] a book that intended to set out a "grammar" of the meaning-making possibilities available in visual-based communicative artifacts. The authors do so by splitting up meaning in terms of Halliday's three metafunctions, and by discussing the systems of choice available for each. Thus, for example, Kress and van Leeuwen distinguish between the systems of "information value," "salience," and "framing" for the textual metafunction. With regard to information value, they argue that content placed on the left-hand side of images tends to be "given," whereas new information tends to be placed on the right-hand side, similarly to what we know to be the case in language.

In their study of visual design and other types of communication, Kress and van Leeuwen introduced some fundamental concepts, three of which we would like to mention here. A first central concept is that of (semiotic) mode, which can be defined as "a socially shaped and culturally given semiotic resource for making meaning."[24] Examples of such modes include image, writing, layout, music, and speech, among others. A term that is closely related to mode, as can also be seen in Kress's definition, is that of semiotic resource, which, unlike "mode," can be used with various degrees of abstractness, referring to anything that carries meaning, as indicated in the following definition: "the actions and artifacts we use to communicate, whether they are produced physiologically … or by means of technologies—with pen, ink and paper; with computer hardware and software; with fabrics, scissors and sewing machines, etc."[25] Furthermore, van Leeuwen notes that the notion of a semiotic resource can be related to that of "sign" in traditional semiotic theory, but is preferable because it avoids the impression that what the sign stands for is pre-given. The third notion worth highlighting here is that of design: social semioticians adopt a rhetorical approach to communication, whereby they conceptualize the sender of a message as "rhetor." Document design can then be seen as "the translation of rhetorical intent into semiotic implementation."[26]

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[20] See, e.g., Kress and van Leeuwen 1996; van Leeuwen 2005; Kress 2010.
[21] Alternatively, more semiotically oriented labels are "presentational," "organizational," and "orientational." See Lemke 2002, 304–5.
[22] See Bentein (this volume) for further discussion.
[23] Second edition published in 2006.
[24] Kress 2010, 79.
[25] van Leeuwen 2005, 3.
[26] Kress 2010, 49.

## 2.3. Mapping meaning to form: Multimodality

While heavily focusing on situating communication in its social context, and mapping systems of choice in specific semiotic modes, Kress and van Leeuwen also paid attention to the relations between different semiotic modes, a branch of research that is now known as "multimodality." While subsequent scholarship in the area of multimodality has built on and advanced Kress and van Leeuwen's pioneering insights,[27] their approach was criticized by others,[28] because of the fluidity of fundamental concepts such as mode, the difficulty to empirically verify some of the claims that were made, and the extension of a conceptual framework that was designed for language to other areas of communication.[29]

Scholars such as Tuomo Hiippala and John Bateman have therefore elaborated a new approach that is less oriented towards social context and more towards the development of a descriptive model that can be used for the corpus-based study of multimodal artifacts. Known as the GeM (Genre and Multimodality) model, it distinguishes between various annotation layers, such as a layout layer, a rhetorical layer, or a navigation layer. At the same time, these scholars have attempted to refine and reconceptualize basic concepts such as "mode." Bateman, for example, conceptualizes semiotic modes as consisting of three strata.[30] The first stratum is the *material substrate*, which can be utilized by a certain group of users as a tool for making meaning. A material substrate carries *semiotic resources* of differing complexity (language, images, gestures, etc.), which form the second stratum. The third and last component is the stratum of *discourse semantics*, which guides the contextual interpretation of the semiotic resources, directing the reader towards the correct interpretation in a given context.[31]

## 2.4. Historical socio-semiotics: A house with many rooms

In proposing to extend social semiotics as a discipline to *historical* social semiotics, we are following a trend in linguistics research to extend the analysis of modern-day spoken and written language to the past. The best-known case of such an extension is arguably the development of historical sociolinguistics out of (variationist) sociolinguistics.[32] Sociolinguists initially showed little concern for texts from the past; William Labov, the founding father of sociolinguistics, famously characterizing historical linguistics as "the art of making the best use of bad data."[33] This restricted view was criticized by scholars such as Suzanne Romaine, who found that "a sociolinguistic theory which cannot handle written language is very restricted in scope and application, and cannot claim to be a theory of 'language'."[34] This then led to the extension of sociolinguistics to texts from the past under the heading of "historical sociolinguistics" (initially called "socio-historical linguistics"), a discipline which has come to maturity over the last thirty years.

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[27] See, e.g., Jewitt and Kress 2003; Lim 2004; Matthiessen 2007.
[28] See, e.g., Bateman 2008, 38–57.
[29] E.g., the extension of "information value" to visual language, as we saw above.
[30] See Bateman 2011.
[31] Bateman 2011, 21; Hiippala 2014, 115.
[32] Another field where such an extension can be witnessed is Politeness Theory, which has now come to be expanded to Historical Politeness Theory. See, e.g., Kádár and Culpeper 2010 and, with a focus on ancient languages, Kádár and Ridelagh 2019.
[33] Labov 1994, 11.
[34] Romaine 1982, 122.

While the application of "the tenets of contemporary sociolinguistic research to the interpretation of material from the past"[35] has been a central goal of historical sociolinguistics, methodologically the discipline is certainly not confined to the sort of variationist research that has played a central role in contemporary sociolinguistics. Historical sociolinguistics is a house with many rooms, so much so that a broad definition of the discipline as "the reconstruction of the history of a given language in its socio-cultural context"[36] is more adequate and inclusive. More broadly speaking, it also does not mean that historical sociolinguistics should restrict itself to the application of mainstream sociolinguistic methods and questions. Given the radically different nature of the source material, it is only logical that historical sociolinguistics should develop its own methods and questions. In fact, it has recently been argued that the data historical sociolinguists are working with are not necessarily bad as long as they are treated on their own terms; that is, when scholars design inquiries for which the data that we possess are suited.[37]

We consider the same to be true for historical social semiotics: approaching historical data with models that have been designed for contemporary communication will undoubtedly lead to new questions and methods. At the same time, approaching texts from a historical socio-semiotic perspective can be done through various frameworks, which may be more tailored to the specific questions that are asked. One approach that we would like to highlight in this context is Fournet's "paléographie signifiante."[38] In observing that "l'analyse matérielle d'un document peut être porteuse de sens,"[39] not only when it comes to text type, but also with regard to the socio-cultural context of writing, and the provenance of the document, Fournet has argued that paleography should go beyond the purely descriptive analysis of documents, and should pay much more attention to the interrelationship between material features and context. Ultimately, this is very much in line with what we are proposing here.

## 3. Outline of the Volume

Thematically, the volume is divided into three main parts. The first consists of contributions focusing on the visual and material characteristics of ancient documents, as well as their relationship with the context of writing. To open, Fournet (Ch. 1) discusses the importance and relevance of documentary paleography (in the broadest sense, including the study of scripts, writing supports, formats, and layouts), which, he argues, should go beyond a purely descriptive approach. Under the heading "paléographie signifiante," Fournet intends to capture aspects of social meaning such as the nature and purpose of the document, the context of its writing, the personality of the writer, and the conventions regulating its drafting. To illustrate this approach, he discusses the particular case of documentary formats/layouts in late antiquity: during this period, writers no longer exclusively wrote along the fibers, but also adopted the mode of transfibral writing. Fournet outlines the general trend from a diachronic point of view, while being simultaneously attentive to synchronic diversification in terms of regional provenance and text type.

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[35] Conde Silvestre and Hernández Campoy 2012, 1.
[36] Conde Silvestre and Hernández Campoy 2012.
[37] Stenroos 2018.
[38] As Fournet (this volume) notes, paleography should be understood in a broad sense, including the study of scripts, writing supports, formats, and layouts.
[39] Fournet 2007, 353.

With the same focus on the interrelationship between genre and visual/material characteristics, Marco Stroppa (Ch. 2) looks at one of the most recognizable external characteristics of documentary sources, their size, and asks whether this could be considered a semiotic resource; that is, whether very large and very small papyri were written for special purposes. He argues that in considering a document "large" or "small," one should not only consider its dimensions, but also the relationship between the format and the size of the letters. Documents that are large in this relative sense are often associated with power, such as festive or prefectural letters, and in such cases, writers could opt for a large size to impress the reader and give more strength to their words thanks to the document's format. In the second part of his contribution, Stroppa looks at documents that have a small size: fragments are the best-known type of small document, but there are also small documents that are completely preserved, such as notes, receipts, and orders. Stroppa focuses on one, informal type of small document—party invitations—suggesting they were so small because they were made for a private purpose and an individual use: they could easily be carried or hidden, and perhaps even served as a sort of entrance ticket.

Sofía Torallas Tovar (Ch. 3) aims to better understand how the choice for a specific writing material—the ostracon—influenced visual choices. Potsherds have previously been considered a low-cost solution or an opportunity medium, with little analysis being performed on their materiality. Nevertheless, about one third of the documents that come from Egypt have been written on pottery or stone ostraca, many of them showing signs of having been written by professional scribes. Torallas Tovar discusses the use of ostracon for several text types (tax receipts, lists and accounts, letters), and compares their format and layout with that of documents written on papyrus. She discusses to what extent material aspects of writing itself (posture, holding the document) and the substrate (throwing lines, etc.) may have had an impact.

Building on Fournet's approach, Yasmine Amory (Ch. 4) analyzes how writers could convey deference in late antique letters through a number of visual means—such as graphic style, letter size, the use of blank spaces, and the disposition of the text—in order to predispose the addressee to the request—developing as it were a "visual politeness theory." At the same time, senders could adapt these visual means with the aim of humbling themselves and enhancing their inferior position. Thus, Amory suggests that "a play of oppositions" was at work in late antique letters, to which both senders and addressees were sensitive, possibly under the influence of a graphic education, as is suggested by some exercises on wooden tablets and papyri.

Eleonora Conti (Ch. 5) focuses on the features that characterize fourth-century Greek official letters from the high chancery. She notes that these letters are often multilingual, in the sense that they combine a Greek body with a Latin date. Such documents, however, also have a number of characteristic visual features: the greeting formula, for example, is attached to the text and is written in a more rapid *ductus*, and the date is written partly at the bottom and partly in the left margin. Conti argues that such features not only guaranteed the authenticity of the document but also underlined its official nature; as such they played an instrumental role in signaling social identity and formality. Conti also provides an overview of the relevant papyrological documentation, from earlier and later periods, and offers a comparison with Latin specimens of official letters.

Latin documentary sources are also central to Antonella Ghignoli's contribution (Ch. 6), which focuses on the representation of a sequence of things in the form of a list. Ghignoli reflects

on the external features of lists in the rich documentation of documentary papyri from Roman and late antique Egypt, which can be used in the identification of lists (and the like) in fragmentary papyri. Relevant features include the arrangement of the text on a papyrus sheet, its alignment, the use of punctuation marks, the presence of graphic (Christian) symbols, a particular type of handwriting, titles, among others. Ghignoli uses these features as a basis for a comparative analysis of similar practices in documentary sources from the Roman West, the transmission of which is much poorer. Her analysis focuses on one specific, sixth-century Latin unpublished documentary papyrus.

The second part of the volume consists of contributions that explicitly relate visual and material features to the linguistic characteristics of texts. Klaas Bentein (Ch. 7) argues that in order to better understand the process of "textualization"—the coming into being of a non-literary text—a multi-modal approach is advisable. He argues for the central importance of the concept "framing" to understand communication practices in antiquity, suggesting we distinguish between "linguistic" and "typographic" framing, and relating framing features to three different levels ("micro," "meso," and "macro"). Focusing on women's letters from Roman Egypt, Bentein argues that based on linguistic and typographic framing practices, documents can be placed on a continuum that ranges from minimal to maximal discourse planning. Bentein concludes his contribution by situating textualization practices in their wider social context, exploring the relationship that seems to exist between framing and the letters' communicative functions. From this point of view, a certain type of textualization can be understood as a communicative strategy, rather than the result of (a lack of) education.

The same sort of multi-modal approach is advanced in Nicola Reggiani's (Ch. 8) chapter. Reggiani focuses on paraliterary texts, more particularly papyri with a medical content, which he considers particularly suitable for a socio-semiotic analysis. Reggiani looks into prescriptions as one of the better attested subcorpora: because each prescription conveys a single and unique message, there is ample use of what are called "paratextual" devices, such as *ekthesis*, *paragraphos*, *koronis*, and blank space, to divide prescriptions from each other. Reggiani also pays attention to the complementarity of these paratextual devices with formulaic markers such as ἄλλο and πρός. Such short expressions are sometimes represented in the form of a monogram, which could be viewed as the symbolic identifier of the starting point of a new recipe. Furthermore, these paratextual devices had a role to play at the text-structural level, which consisted of three distinct phases: "header," "pharmacological composition," and "practical instructions for preparation and administration." Reggiani notes that differences in layout features may have a connection with the context and the different audiences the prescriptions were meant for.

Jimmy Wolfe (Ch. 9) also considers inscriptions as "multimedial," communicative objects, but focuses on a different time and place: Roman Syria. He discusses how the choice of a script could be meaningful on its own, independent of lexical information. He argues that script could function as a visual form of communication, and that the choice of Greek vs. Syriac in this region could function as a communicative image that supplemented the lexical information, by engaging in and reaffirming certain generic, institutional, and societal expectations. Wolfe argues that the use of Syriac signaled belonging to a local, civic community. At the same time, certain visual features (such as the directionality of the script, carving techniques, and letter forms) suggest an awareness of and

accounting for the visual typologies of Greek monumental epigraphy. Wolfe discusses these multiple layers in terms of simultaneous communication in multiple "registers." As a second case study, Wolfe discusses the use of the acronyms ΧΜΓ and ΙΧΘΥΣ in Greek inscriptions: he argues that these could communicate multiple, discrete independent messages simultaneously. Like the use of a particular script, it could signal belonging to a certain community. At the same time, Wolfe argues against a priori connections between, for example, scripts and aspects of identity: rather, it is necessary to examine each inscription and its choice of script as a communicative act.

Next to documentary and paraliterary papyri, inscriptions are also attended to. Sarah Béthume (Ch. 10) discusses the multitude of (ortho)graphic variants one is faced with in archaic and classical inscriptions, and the difficulty inherent in determining their nature; in particular, whether they have a phonetic/phonological reality in spoken language. Béthume argues that current interpretations often lack sensitivity to the particular nature of the source material. In reconsidering the so-called "hypercorrect aspiration," Béthume argues that one should not see epigraphic texts as transcriptions of oral utterances, but as written utterances inscribed with their own communicative goals. Béthume bases her approach on Jean-Marie Klinkenberg and Stéphane Polis's "scripturology," which views writing as a semiotic system in its own right. She concludes that the phenomenon under analysis is better viewed as a "hyperarchaism" or "hyperdialecticism," which formed part of a local graphic standard.

The third part sees the volume close with two contributions that put language central: in these chapters, linguistic variation is studied in relation to the context of writing by means of a quantitative approach. Geert de Mol (Ch. 11) focuses on orthographic hypercorrection in non-literary papyri. More particularly, he investigates the rendering of the number eight as either ὀκτώ or ὀκτώι—contrary to what one would perhaps expect, the latter form is attested with some frequency in the papyrological corpus. De Mol closely investigates the social contexts in which these forms can be found (in terms of genre, personal preferences, the relationship between sender and addressee), in order to provide a clearer answer to the question whether we are in fact dealing with a case of "quantitative" or "qualitative" hypercorrection, as distinguished in modern-day sociolinguistic treatments. He concludes that the notion of quantitative hypercorrection best characterizes the phenomenon under investigation, even if it does not entirely accord with modern-day characterizations in terms of its social distribution.

A quantitative approach towards linguistic variation is also pursued by Mark Depauw (Ch. 12), who investigates the phenomenon of word splitting, a textual practice that has received little to no attention so far. Depauw starts from the observation that whereas in Egyptian and Demotic texts words are seldomly split, in Greek texts word splits do not seem to be so infrequent. Using the data made available through recently developed Trismegistos tools such as Trismegistos Words and Trismegistos Text Irregularities, he investigates which influence linguistic and extralinguistic factors such as word length, formality (private vs. official), and time period (Ptolemaic vs. Roman) have on word splitting practices in Greek papyri, letters in particular. Depauw concludes by relating word splitting to related practices, such as abbreviations and syllabification, noting the need for further research.

## 4. Ten Challenges for Future Research

Now that we have outlined the book's content, we would like to conclude the introduction by briefly sketching ten key challenges for future research in the field of historical social semiotics. Evidently, there are many more challenges to be mentioned; what we present here, then, are the concerns that emerged from our conference discussions and from the chapters published in this volume.

**1. Paying attention to the medium**. In both epigraphy and papyrology, attention has been paid to the different writing materials that were available, and the connection of those writing materials to certain communicative purposes, usually discussed in terms of text types or families of text types (e.g., the use of the codex for literary purposes, potsherds for shorter texts such as receipts, lead for curse tablets, etc.). There has been relatively little reflection beyond this, however. An important distinction that could move the discussion forward is that between "material" and "medium": in some cases, a material, if it is steadily used to fulfil some communicative purpose, can establish itself into a full-blown medium: the newspaper is an example of a medium that "evolved to support the fast-paced production and consumption of news by adopting a particular type of low-cost paper—newsprint."[40] In the case of antiquity, one could, for example, consider papyrus-based documents with a vertical format and perfibral writing direction as a specific type of medium.

A second point to consider in this regard is the relationship between material/medium and mode: whereas earlier scholarship conceived of these two concepts as independent from each other, modes "los[ing] their tie to a specific form of material realization"[41] and being conceived of in abstract ways, more recently it has been suggested that the two should be intimately related to each other. In Bateman's abovementioned GeM model,[42] it is explicitly acknowledged that different types of material substrates, such as the printed page, have different affordances: fonts may need to have a certain minimum size, for example. Other types of constraints associated with materiality are also taken into account, including production and consumption constraints. As Torallas Tovar shows in her chapter on Greek ostraca, referring to such affordances and constraints adds considerable detail to our understanding of writing practices in antiquity.

**2. Rethinking the visual dimension.** Scholars working in the areas of social semiotics and multimodality like to stress the fundamentally different nature of present-day communication: Bateman for example, explicitly situates the "ascendency of the multimodal document" in modern times, noting that what he calls "multimodal density" was fundamentally different in earlier periods.[43] Other scholars have been more careful with such claims: Anthony Baldry and Paul Thibault, for example, note that "there is, of course, no such thing as a monomodal page: there never has been and never will be."[44] At the same time, they recognize that some documents (present-day ones) are more obviously multimodal than others, because they combine traditional

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[40] Hiippala 2017, 278.
[41] Kress and van Leeuwen 2001, 22.
[42] Bateman 2008, 15–19.
[43] Bateman 2008, 2.
[44] Baldry and Thibault 2006, 58.

semiotic resources such as language and layout, with more modern ones such as color and photographs.

Such considerations urge us to attend to the role of elements that are considered visual in modern-day communication—such as images, diagrams, symbols—in documents from antiquity. While some research has been done on drawings accompanying (primarily Roman) inscriptions,[45] less work has been done on non-literary papyri, where sketches and drawings are perhaps infrequent but not completely absent.[46] Ildar Garipzanov has recently argued that the rise of what he calls "graphicacy" (referring to the use and understanding of graphic devices such as graphic symbols, geometric patterns, graphic images, diagrams, maps, etc. in various types of writing) should be situated long before the modern age.[47] The ongoing ERC project NOTAE (NOT A writtEn word but graphic symbols: An evidence-based reconstruction of another written world in pragmatic literacy from late antiquity to early medieval Europe; PI Antonella Ghignoli, "Sapienza" Rome University), which aims to investigate the presence of graphic symbols in documentary texts from late antiquity to the early Middle Ages, will certainly shed light on this understudied research field.[48]

More fundamentally perhaps, we should reconsider how visual communication was achieved in antiquity: already in the earliest periods of writing, non-sensical inscriptions, consisting of letters that do not form meaningful words can be found as a decorative element.[49] Similarly, in archaic sculpture, writing is not used to frame the image, as in modern times, but rather is included in the field of the sculpted image, thus forming part of the material and figurative form of the object on which it was inscribed.[50] Curse tablets were sometimes given the shape of the object that was cursed, such as a foot or a tongue, or their materiality and writing (punctured lead; scrambled, or backwards written letters) could otherwise support the desired effect.[51] In the field of papyrology, Fournet has suggested that aspects such as the orientation of the document and the writing direction gave an immediate suggestion of the type of communication that was involved. Such evidence suggests that while the ancients did not usually include images as we know them in their documents, the visual was far from neglected.

**3. Recognizing patterns**. With its focus on larger corpora and document structure, it should come as no surprise that the multimodal research carried out by Bateman and others has focused on the recognition of patterns across documents, conceptualized as "multimodal genres." When it comes to language, genres have traditionally been described as linear and staged. Thus, for example, the petition as a genre can be described in terms of four stages: an opening (*prescriptio*), a background

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[45] See, e.g., Langner 2001; Lohmann 2017, 243–328.

[46] See Horak 1992, and more recently Whitehouse 2007. For magical papyri, see, e.g., Martín Hernández 2012; Dijkstra 2015.

[47] Garipzanov 2015.

[48] See Ghignoli 2019 for an overview of the project. On the use of paratextual symbols and diacritic marks in Egyptian texts, from the pharaonic period until the Arabic period, see also Carlig et al. 2020.

[49] See, e.g., Snodgrass 2000, 29–30. In the sphere of magic, we also find mystical letters forming words that are not commonly known (*ephesia grammata*) and magical signs (*charakteres*).

[50] See Dietrich 2017, 315.

[51] See Eidinow 2019, 364–67.

to the request (*narratio*), the actual request (*preces* or *precatio*), and the closing.[52] Relying on a principle of linearity becomes problematic, however, when multimodal considerations are made. Genre therefore needs to be approached as a multi-stratal phenomenon, a task that scholars working with the GeM model have started to undertake; in fact, next to the different layers described above (§2.3), Bateman recognizes a fifth layer, the "genre layer," "a representation of the grouping of elements from other layers into generically recognizable configurations distinctive for particular genres or document types,"[53] though it is much less developed and more hypothetical than the other layers.

Preliminary suggestions have also addressed how similarities between genres can be represented. Two main modes of representation for modeling genres can be mentioned in this regard: one, referred to as "typological" (representing genre families in terms of networks of choices), and another, "topological" (representing genres in terms of a genre space where one genre may be closer to another on the basis of a number of dimensions of comparison), both of which remain to be further explored. For a long time, relationships between genres have only been noted in passing by scholars working in antiquity and have rarely been conceptualized in the just-mentioned modern sense.[54] Recent scholarship has started to fill this gap:[55] mention can be made, among others, of the "Grammateus"[56] project led by Paul Schubert at the University of Geneva, which aims to produce a comprehensive typology of Greek documentary papyri and to assess the relationship between them through the analysis of their "architecture"; that is, the material aspects, layout, and content.

**4. Acknowledging differences in writing competence**. Apart from studying larger patterns such as genres and registers, recent scholarship has made an effort to study the language of the individual (idiolects) in documentary papyri.[57] Such research has drawn attention to the existence of various linguistic competences: Evans, for example, divides writers in the Zenon archive into four groups, ranging from those with a clearly high education to those struggling with spelling and syntax.[58] In a similar vein, Amory has proposed we distinguish between different types of writers, based on the nature and quality of their handwriting.[59]

Questions about the interrelation between linguistic and graphic competence have rarely been asked: the general assumption seems to be that there should be a correspondence between the two competences, or, when such a correspondence is absent, that it can be related to the influence of a scribe taking down dictation. Bagnall and Cribiore have drawn attention, however, to some women's letters where the linguistic level is much higher than the graphic level, which are more

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[52] See, e.g., White 1972 and, more recently, Fournet 2019 with a focus on the evolution and changes of the late antique petition.
[53] Bateman 2008, 108.
[54] See, e.g., Guarducci 1969, 2:58 ,on the relationship between laws, decrees, and official letters in the domain of epigraphy.
[55] See, e.g., Schubert 2018a on the typology of warrants, whose format was influenced by the petition and, later on, by the changing format of private business notes.
[56] https://www.unige.ch/lettres/antic/unites/grec/enseignants/schubert/grammateus/.
[57] See, e.g., Evans 2010; Nachtergaele 2015; Leiwo 2017; Vierros 2020.
[58] Evans 2012.
[59] Amory, forthcoming.

difficult to explain.[60] Some of these questions are explored by Bentein in this volume in his discussion of "framing" as a multimodal principle.

Intimately related to the question of competence is the issue of schooling: while we have a fairly good knowledge of levels of schooling and the program, there is much less evidence for a graphic schooling, a topic further discussed by Amory in her contribution to this volume. Another question that deserves further reflection, but is even more difficult to answer, concerns reading competences: it stands to reason that people would not only have had different competences in producing written material, but also in engaging with it, depending on their exposure to such material.[61] Some research has been done on scribes guiding people through the use of blank spaces,[62] and on how barely literate people would still have been able to recognize text types,[63] but further research would be welcome.

**5. Accounting for diachronic change**. While diachronic change has been a central topic in linguistics, we have much less understanding of the development of the make-up of multimodal artifacts, both within and across genres. The development of the Greek letter genre, particularly in late antiquity,[64] and the interconnections that seem to exist between rhetorical structure, document format, writing direction, and language—a topic that is treated by Fournet in this volume—has been an exception to this general trend. While social semiotic studies acknowledge that change is a feature inherent to all semiotic systems, there is still relatively little knowledge about the effects of such change on multimodality: as noticed by Hiippala, there is little knowledge "where processes of change originate and what drives them forward."[65]

A number of concepts have been developed that may be beneficial for discussions of antiquity, too. For example, scholars have applied the principles of change developed by Halliday and Christian Matthiessen[66] for language as a semiotic system—called "logogenesis" (the level of the actual language use, the text), "ontogenesis" (the level of the language user and their development, the degree to which they have knowledge of the semiotic system), and "phylogenesis" (the level of human language in general)—and applied them to the study of artifact structure. From the perspective of phylogenesis, change could be seen as enabling the expansion of "meaning," in an adaptation to new discursive and non-discursive (physical/biological) environments.[67] So, for example, in the modern age the introduction of the screen as a material substrate could be seen as forming a new discursive environment, which stimulated the novel combination of semiotic resources.[68]

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[60] Bagnall and Cribiore 2006.

[61] Experienced readers, too, may have had different reading strategies depending on previous experience and reading goals.

[62] See Schubert 2018b.

[63] See, e.g., Kruschwitz and Campbell 2009 on the visual patterns associated with document types in Roman Pompei.

[64] For a broader discussion of the development of the characteristics of Greek letters in the Graeco-Roman period, see Sarri 2018.

[65] Hiippala 2016, 76.

[66] Halliday and Matthiessen 1999, 17–18.

[67] See Martin 1997, 9.

[68] See Hiippala 2016, 78.

**6. Engaging in cross-cultural comparison**. Research on multilingual inscriptions has brought to light interesting correspondences between documents from different cultural traditions. For example, it appears that writers sometimes consciously maintained linguistic symmetry, even if that meant departing from the linguistic norm in one language, while in some cases, this even meant adopting another script to suggest closeness (a phenomenon sometimes called "allotography"). Even inscriptions written purely in one language sometimes consciously seem to adopt linguistic features from another linguistic tradition to display attachment to that tradition.[69]

It would be interesting to extend this sort of research beyond purely linguistic observations and to analyze which differences and (conscious/unconscious) similarities existed between different writing traditions. This is a topic treated here in the contributions of Wolfe (Greek and Syriac) and Conti (Greek and Latin), but it has also been of some interest in recent scholarship on modern-day writing practices. Bateman and Judy Delin, for example, have compared English and Japanese instruction manuals,[70] and Hiippala the Finnish and English versions of the same tourist brochure.[71]

**7. Developing quantitative approaches.** Most work to date on the materiality and by extension social semiotics of ancient documents has been done from a qualitative perspective. This is not just because scholars working in the field are most familiar with a qualitative approach: at present, there are simply no tools available that allow us to annotate large amounts of data in a user-friendly way. This is not to say that digital papyrology has not made a lot of progress in recent years: the papers published in *Digital Papyrology II: Case Studies on the Digital Edition of Ancient Greek Papyri* (2018, edited by Nicola Reggiani) give a good overview of some of the latest methods and tools developed in this field. These tools particularly concern the level of the text/document, including its diplomatic transcription, metadata, image(s), and secondary literature. Less progress has been made on levels lower than the text, although some of the functionalities developed by Trismegistos, such as Trismegistos Words and Text Irregularities,[72] form a notable exception to this trend, and some very valuable research findings have been made in this regard,[73] as also shown by Depauw in his contribution to this volume.

In order to engage in multi-modal research, we need digital tools that are able to make annotations not only at different textual levels but also on different types of objects (texts and images), preferably in a (semi)automated manner, and to link those annotations to each other in sophisticated ways, so that they can be queried. This is a challenge all researchers working in the field of multimodality face; to give one example, for his multimodal analysis of tourist brochures, Hiippala analyzed a corpus of "just" 89 documents.[74] Computer vision and machine learning are rapidly developing fields which address many of the issues relevant to multimodal analysis. Learning techniques from these fields, or even communicating and collaborating with its scholars, would

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[69] See Adams and Swain 2002, 7–8. Conversely, there are bilingual inscriptions with two texts that are similar but seem to follow their own cultural traditions (see Taylor 2002, 321).
[70] Bateman and Delin 2003.
[71] Hiippala 2012.
[72] These functionalities can be utilized at https://www.trismegistos.org/words/ and https://www.trismegistos.org/-textirregularities/ respectively.
[73] See, e.g., Stolk and Depauw 2015; Keersmaekers 2020.
[74] Hiippala 2016.

open up further opportunities/possibilities for classicists. Exemplary in this regard has been the project led by Isabelle Marthot-Santaniello at the University of Basel, "Reuniting Fragments, Identifying Scribes and Characterizing Scripts: The Digital Paleography of Greek and Coptic Papyri,"[75] which is attempting to apply techniques such as document binarization to the papyrological corpus for purposes such as writer identification.[76]

**8. Integrating theoretical models**. When new digital tools are developed, it is important that they not only allow new possibilities on the digital side; they should also be based on the latest theoretical insights, concerning, for example, document structure. Above, we have described the progress that has been made by scholars such as Bateman in developing a "corpus-based" approach to multimodal analysis, which clearly distinguishes between different analytical layers for annotation. Bateman's framework is firmly based on findings from other disciplines, including not only social semiotics, but also design theory and rhetorical structure theory.

Scholars working in the areas of multimodality and social semiotics more broadly have drawn on a variety of theoretical frameworks to improve and enrich their analyses, including politeness theory, critical discourse analysis, cognitive linguistics, construction grammar, relevance theory, and visual rhetoric.[77] While these primarily linguistic frameworks have been applied (to various extents) to the analysis of the Ancient Greek language, their relevance for documents in their entirety remains to be explored, a point that is made in this volume by Amory for politeness theory.

**9. Allowing for complementary perspectives**. While the introduction of multiple analytical layers for documentation annotation, as in social semiotic and multimodal approaches, considerably facilitates and clarifies the analysis of (ancient) documents, it begs the question to what extent such approaches constitute an abstraction. Lemke has suggested in this context that we try to adopt a "phenomenological" perspective, questioning "whether the division of meaning making into language, gesture, drawing, action etc. is not mostly artificial."[78] In actual practice, it is probable that the different aspects of the multimodal artifacts that people produce and encounter are actually perceived of as unitary phenomena. In a similar vein, scholars have criticized the fact that in most social semiotic and multimodal theories the process of meaning making is approached (whether implicitly or explicitly) from the point of view of the speaker/producer/author. One may just as well put the hearer/recipient/reader at the center, focusing on the question of "how … recipients integrate the different modalities like text, picture, sound, and design into a coherent meaning."[79]

While linguistic studies have demonstrated the value of including a "meta-perspective" on how language users perceived linguistic variation and varieties,[80] exploring such alternative per-spectives on document design and composition is far from evident for the source material we are

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[75] https://d-scribes.philhist.unibas.ch/en/.
[76] For recent publications, see, e.g., Mohammed, Marthot-Santaniello, and Margner 2019; Pratikakis et al. 2019.
[77] See van Leeuwen and Kress 1995; Bowker 2013; Forceville 2014; Cohn 2016.
[78] Lemke 2014, 166.
[79] Bucher 2017, 91.
[80] See, e.g., Colvin 2014; Van Rooy 2016; Bentein 2020.

dealing with, though perhaps not entirely out of the question.[81] This is shown by Béthume in this volume, who challenges the adequacy of modern scholarship's use of the term "hypercorrection," arguing for the need to see inscriptions as written utterances that were perceived visually in antiquity. The same topic, but for a different corpus and time period, is also taken up by De Mol, whose chapter shows that in terms of social context, the use of a linguistic term such as hypercorrection is less straightforward than it may seem at first sight.

**10. Mapping communicative situations.** When it comes to contexts of writing in antiquity, scholarship has mostly its effort on recording stable characteristics such as the names of the persons involved in the communicative event, and their place and time of writing (the Trismegistos portal being the best-known source for such metadata). More recent scholarship has also attempted to map characteristics that are more dynamic, and therefore require close reading of the actual text, such as the relationship between the sender and the addressee, their occupation at the time of writing, the social distance, among others. This is now being exhaustively undertaken in the context of the ERC-funded EVWRIT project (Everyday writing in Graeco-Roman and late antique Egypt: A socio-semiotic study of communicative variation), which is led by Klaas Bentein at Ghent University.[82]

Both approaches are essentially participant- rather than communication-based, which can be partly attributed to the fact that they are focused on a fixed set of text types, such as letters, petitions, and contracts. In order to be able to make a broader comparison of communicative situations, and to gain a more comprehensive understanding of the functions of written communication in society, both synchronically and diachronically, one would have to develop a set of parameters that specifically target the nature of the different communicative situations, such as the social domain (administrative, family and friendship, transactional, religious, etc.),[83] the directionality of the social interaction (e.g., unidirectional [a sermon] vs. interdirectional [a dialogue]), and the type of interaction (e.g., embodied [direct contact] vs. disembodied [indirect contact]).[84] Taking into account such a broader set of communicative parameters would enable scholars to detect similarities and differences not only across text types, but also across fields that are traditionally not studied together—papyrology and epigraphy, literary and non-literary texts—which may be considered a crucial step towards a better understanding of the history of writing practices in antiquity.

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[81] Letter writing manuals, for example, constitute an interesting source for such a meta-perspective.

[82] See www.evwrit.ugent.be. For an inventory of potential social parameters and their impact on particle usage in documentary papyri, see, e.g., Bentein 2015.

[83] See, e.g., Ong 2015, 194–226 .

[84] See, e.g., Clark 1999.

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