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# Grapholinguistics

## An expanding research field

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*University of Zurich*



## Structure of this talk

- Preliminaries
- Review of the German grapholinguistic tradition
- Grapholinguistics and public discourse: the example of handwriting
- Handwriting, typography and the study of graphetics
- Graphetics, graphematics, orthography: a (new) structural approach
- Conclusion and outlook



“**Grammatology**, the study of writing systems, offers a useful way to evaluate evolutionary approaches to understanding change in cultural phenomena” (Bruce Trigger)

“**Graphology** is the study of the writing system of a language – the orthographic conventions that have been devised to turn speech into writing” (David Crystal)

“Graphology and **orthography** can also be considered synonymous to the writing system.” (Hanna Rutkowska)

“the term **graphemics** should be confined to the study of systems of writing” (Charles E. Bazell)

“**Writing Systems Research** [...] relating to the analysis, use and acquisition of writing systems” (Wikipedia)



Hanna Rutkowska

## Chapter 11: Orthography

- 1 Theoretical approaches to language, speech, and writing: between referentiality and autonomy — **201**
- 2 Definitions of orthography and related terms — **203**
- 3 Classification of writing systems and principles governing English orthography — **204**
- 4 Units of writing systems: terminological evolution — **207**
- 5 The inventory and distribution of English graphemes from the synchronic and diachronic perspective — **209**
- 6 Orthography as the source of phonological evidence — **211**
- 7 Sociolinguistic aspects of orthography — **212**
- 8 Summary — **213**
- 9 References — **214**

Rutkowska, Hanna. 2017. Orthography. In Laurel Brinton & Alexander Bergs (eds.), *Historical Outlines from Sound to Text. Volume 1*. Berlin, Boston: De Gruyter Mouton, 200-217.



## **Schriftlinguistik: Definition**

**Definition:** „[z]usammenfassende Bez. für Bemühungen, konsistente Beschreibungen und Analysen der geschriebenen Sprachform von Spr. zu gewinnen und sie zu einer allgemeinen Schrifttheorie als konstitutivem Bestandteil einer allgemeinen Sprachtheorie zu entwickeln“ (Glück 2016: 596)

“label for efforts of gaining consistent descriptions and analyses of the written form of language and of developing them to a general theory of writing as a constitutive part of a general theory of language” (our translation).

Glück, Helmut. 2016. Schriftlinguistik. In Helmut Glück & Michael Rödel (eds.), *Metzler Lexikon Sprache*, 5th edn. Stuttgart: Metzler, 596.



## ***Schriftlinguistik: Status quo***

**Definition:** „[z]usammenfassende Bez. für Bemühungen, (1) konsistente Beschreibungen und Analysen der geschriebenen Sprachform von Spr. zu gewinnen und sie zu einer (2) allgemeinen Schrifttheorie als (3) konstitutivem Bestandteil einer allgemeinen Sprachtheorie zu entwickeln“ (Glück 2016: 596)

- (1) work has thus far focused on individual languages (mainly German)
- (2) thus, there is no comprehensive theory of writing as yet
- (3) findings on writing are seen as ‘niche’, literacy is devalued when compared to spoken language; thus, the relevance of writing and literacy is marginalized in general theories of language
  - but cf. the implicit and unconscious *written language bias* inherent in many linguistic theories



## German(ist) *Schriftlinguistik* (1/2)

- research groups *Studiengruppe Geschriebene Sprache* and *Forschungsgruppe Orthographie* founded in the different parts of then-separated Germany in the 1970s/1980s
- term ‘Schriftlinguistik’ first used in edited volume by Nerius/Augst (1988)
  - alternative term ‘Grapholinguistik’ serves as model for English ‘grapholinguistics’
- in the early 1990s, many doctoral dissertations and habilitation theses in Germany were focused on writing, a paradigm shift took place and scholars stopped feeling the need to justify their work on written language (cf. Günther 1990)

Günther, Hartmut. 1990. Zur neueren Schriftlichkeitsforschung. *Beiträge zur Geschichte der deutschen Sprache* 112. 349–370.  
<https://doi.org/10.1515/bgsl.1990.1990.112.349>

Nerius, Dieter & Gerhard Augst (eds.). 1988. *Probleme der geschriebenen Sprache. Beiträge zur Schriftlinguistik auf dem XIV. internationalen Linguistenkongreß 1987 in Berlin*. (Linguistische Studien, A 173). Berlin: Akademie der Wissenschaften der DDR.



## German(ist) *Schriftlinguistik* (2/2)

- large-scale bilingual handbook project *Schrift und Schriftlichkeit/Writing and its use* produced two volumes in 1994 and 1996 (Günther/Ludwig 1994/1996)
  - indicative of breadth of the field, its interdisciplinarity, and international interest in the topic
  - term ‘Schriftlinguistik’ not used in the handbook
- textbook *Einführung in die Schriftlinguistik* released in 2002, followed by four reissues

Dürscheid, Christa. 2016. *Einführung in die Schriftlinguistik*, 5th edn. (UTB 3740). Göttingen: Vandenhoeck & Ruprecht.

Günther, Hartmut & Otto Ludwig (eds.). 1994/1996. *Schrift und Schriftlichkeit/Writing and its use*. (Handbooks of Linguistics and Communication Science 10.1 & 10.2). Berlin, Boston: De Gruyter.  
<https://doi.org/10.1515/9783110111293.1>,  
<https://doi.org/10.1515/9783110147445.2>

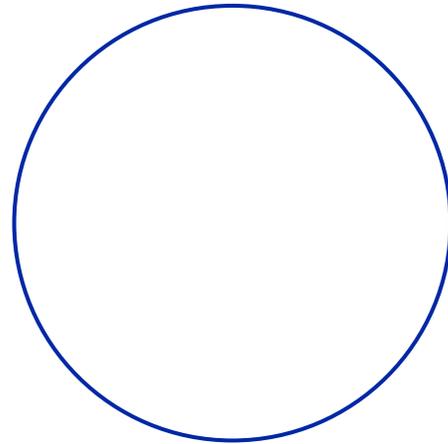


## Grapholinguistics: An international, interdisciplinary field

### German structuralist *Schriftlinguistik*

focused on German, interested  
in fundamental theoretical  
aspects (e.g., relation between  
speech and writing) and  
descriptive concepts (e.g.,  
grapheme)

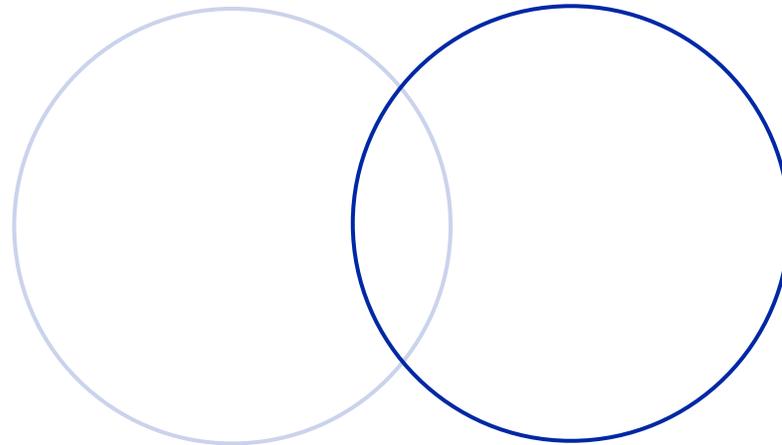
existing research community  
(e.g., research groups)





## Grapholinguistics: An international, interdisciplinary field

German structuralist  
*Schriftlinguistik*



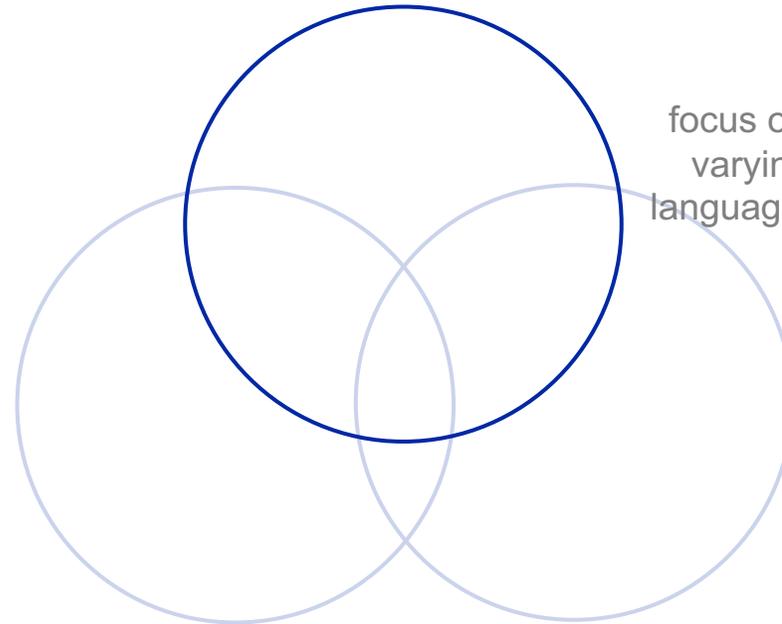
Angloamerican linguistic  
research on writing

overview monographs by individual scholars (i.e., no community) focused on typological and diachronic aspects; multiple writing systems are being analyzed, but in juxtaposition and not relation to each other



## Grapholinguistics: An international, interdisciplinary field

German structuralist  
*Schriftlinguistik*



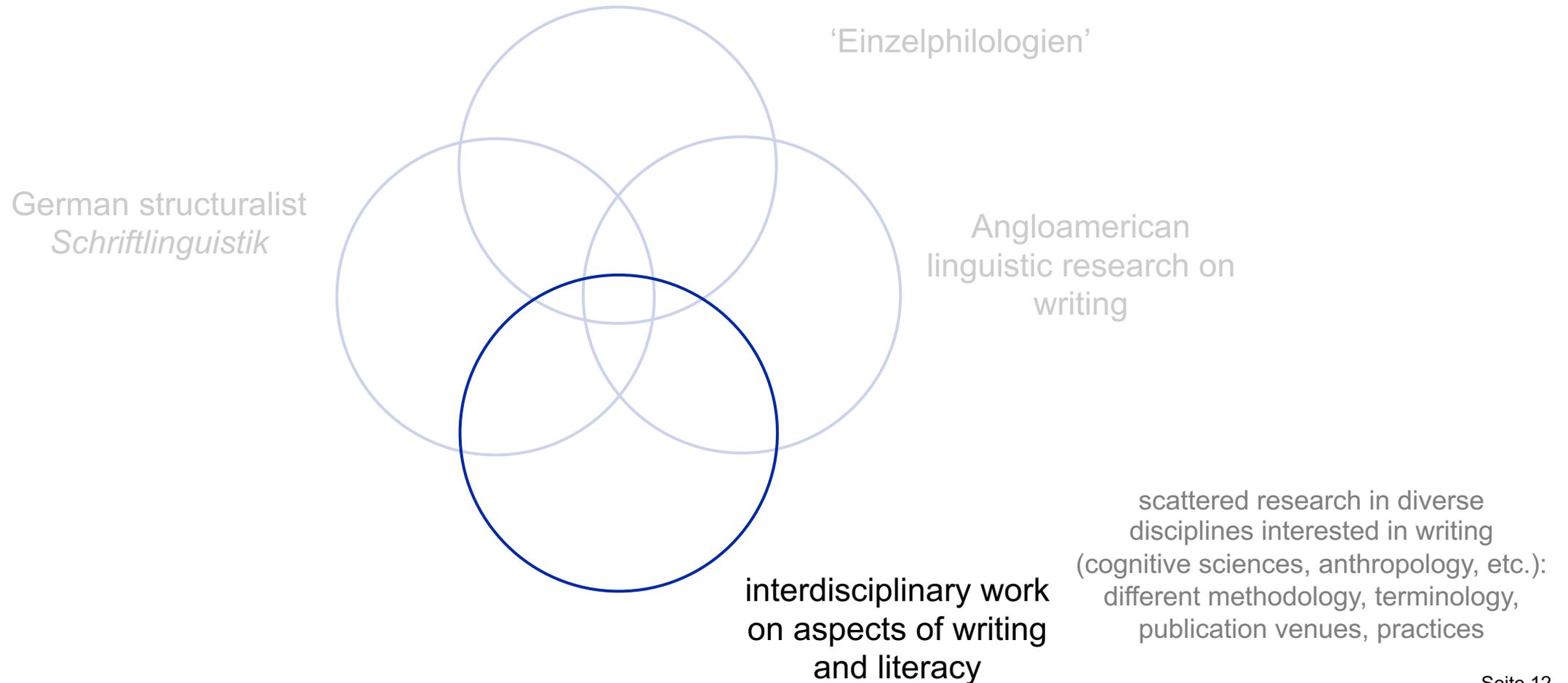
‘Einzelphilologien’

focus on diachrony, ‘historical graphematics’;  
varying terms and traditions depending on  
language; no justification of research on writing  
necessary

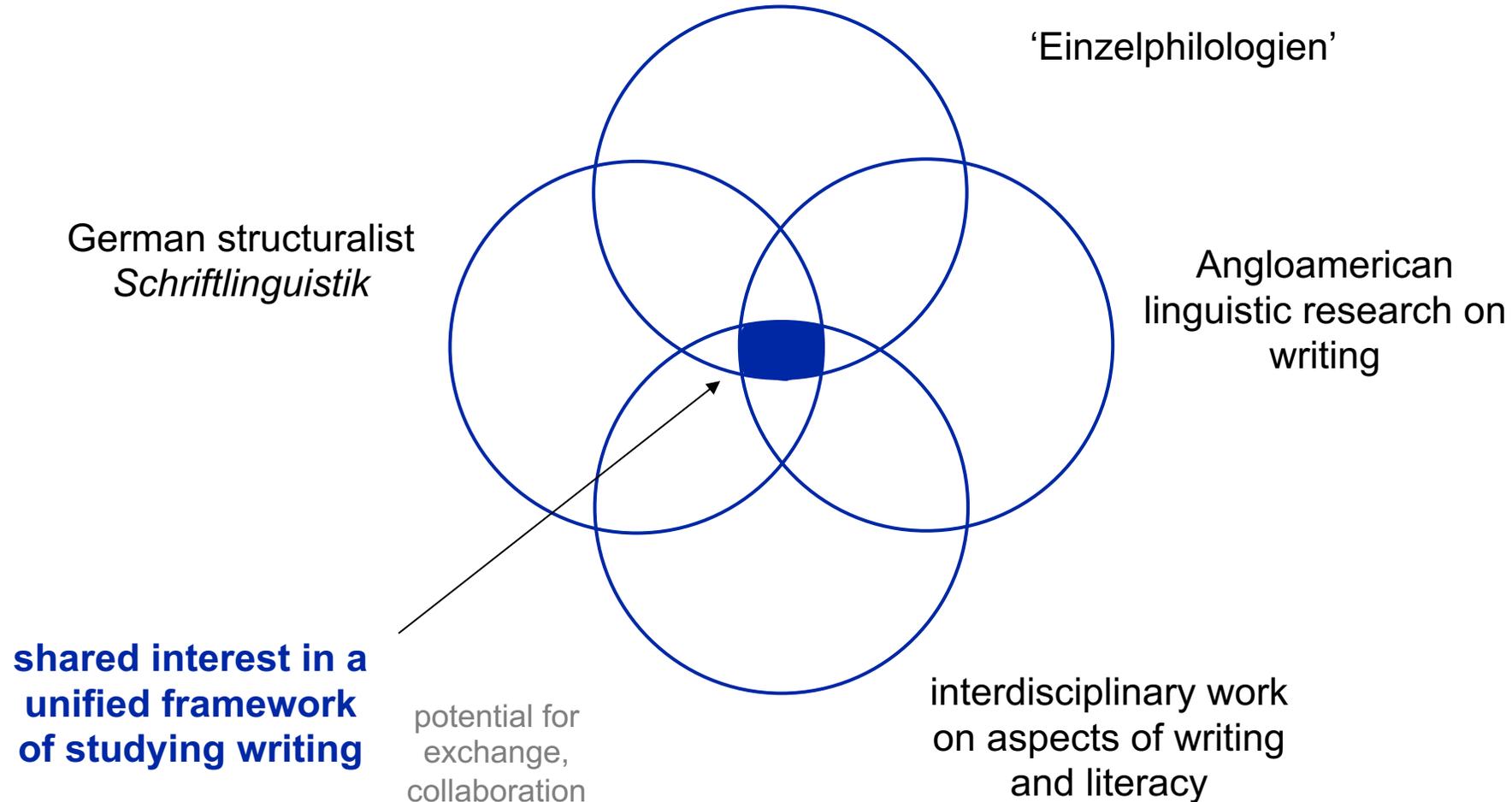
Angloamerican  
linguistic research on  
writing



## Grapholinguistics: An international, interdisciplinary field



## Grapholinguistics: An international, interdisciplinary field





## Challenges in establishing grapholinguistics

- no institutionalization, i.e., no chairs and no integration in curricula
  - but first chair for Schriftlinguistik at the *University of Hamburg* (Prof. Nadja Kerschhofer-Puhalo)
- different languages of research and publication, lack of reception beyond linguistic and disciplinary boundaries
- different methodologies, research paradigms, and traditions
- different venues of presentation and dissemination (conferences, journals, book series)
  - but workshop series of the *Association of Written Language and Literacy* (since 1997) open to all disciplines interested in writing
- individual description trumps explanatory comparison: focus on (valuable) work on individual languages and aspects is rarely complemented with a (re)integration into a larger theoretical framework
- (unproductive) arguments about terminology rather than concepts
  - including the name of the field

(cf. Meletis 2021)

Meletis, Dimitrios. 2021. On being a grapholinguist. In Yannis Haralambous (ed.), *Grapholinguistics in the 21st Century, Proceedings, Part I, Paris, France, 2020*. (Grapholinguistics and Its Applications 4). Brest: Fluxus Editions, 47–62.

<https://doi.org/10.36824/2020-graf-mele>

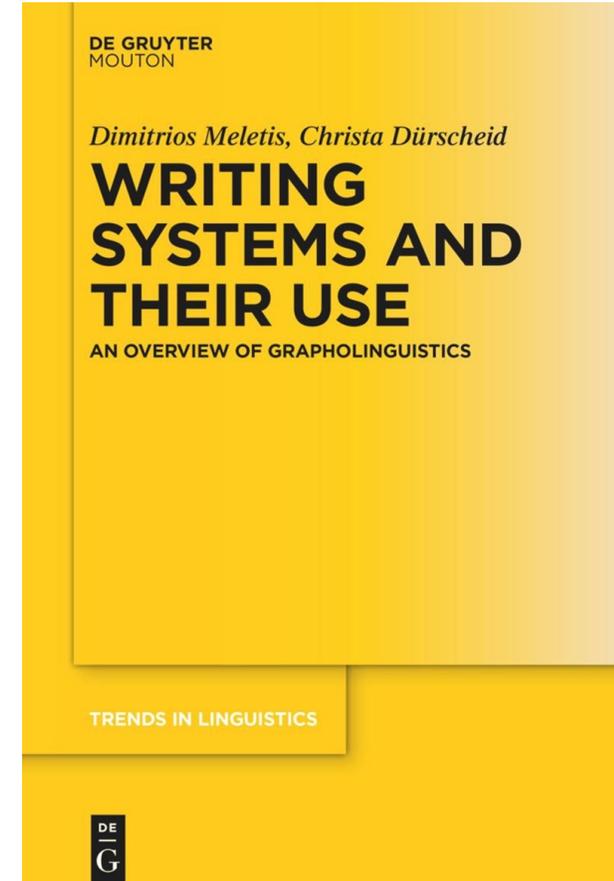


## Opportunities for exchange (Selection)

- workshops of the *Association of Written Language and Literacy*
  - 13 biennial workshops since 1997
  - eponymous journal and book series *Studies of Written Language and Literacy* at John Benjamins
- conference series *LautSchriftSprache / ScriptandSound*
  - 5 conferences since 2011
  - eponymous book series at Reichert Verlag
- conference series *The Idea of Writing*
  - eponymous book series at Brill (seemingly dormant)
- conference series *Grapholinguistics in the 21<sup>st</sup> Century* (also called “/gʁafematik/”)
  - three biennial workshops since 2018 (/gʁafematik/ 2018, 2020, 2022)
  - proceedings published in the related open-access book series *Grapholinguistics and Its Applications* (Fluxus Editions)
- IDS-Jahrestagung 2023: *Orthographie in Wissenschaft und Gesellschaft*

- integration of different perspectives from diverse disciplines
  - including – but not limited to – anthropology and cultural studies, psychology and cognitive science(s), sociolinguistics
- combination of synchronic and diachronic perspectives
  - diachrony informs synchrony and vice versa
- establishment of a unified descriptive and explanatory framework – including methodology and concepts (e.g., *allography*) for all writing systems regardless of type
- publication of findings (at least additionally) in English to foster international visibility and exchange

(cf. Meletis/Dürscheid 2022)



Meletis, Dimitrios/Christa Dürscheid. 2022. *Writing systems and their use. An overview of grapholinguistics* (Trends in Linguistics. Studies and Monographs 369). Berlin, Boston: De Gruyter. <https://doi.org/10.1515/9783110757835>

“However, it would be wrong to assume that this monograph is merely an adaptation of the German-language introduction (even if this had been the original intention); rather, Dimitrios and I have reviewed and re-handled the broad field of grapholinguistics. Thus, our book does not centre on German, as *Schriftlinguistik* did; also, it is not a textbook but a work that presents its own theoretical approaches and is addressed to peers.”

(Meletis/Dürscheid 2022: V)

Dürscheid, Christa. 2016. *Einführung in die Schriftlinguistik*, 5th edn. (UTB 3740). Göttingen: Vandenhoeck & Ruprecht.

Meletis, Dimitrios/Christa Dürscheid. 2022. *Writing systems and their use. An overview of grapholinguistics* (Trends in Linguistics. Studies and Monographs 369). Berlin, Boston: De Gruyter. <https://doi.org/10.1515/9783110757835>



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**FUTURE**

# The uncertain future of handwriting

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The New York Times

# What's Lost as Handwriting Fades

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Aa Bb Cc Dd Ee Ff Gg

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Home / Education / 852 / How to Help Your Child With Handwriting

## How to Help Your Child With Handwriting

Writing by hand can help with literacy, but experts say not to stress if your child is struggling.

By Linda Linn-Bell | April 29, 2022 at 10:48 a.m.

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Anna Chernin

## Handwriting vs typing: is the pen still mightier than the keyboard?



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News Opinion Sport Culture Lifestyle More

Education Schools Teachers Universities Students

### Writing in the classroom

Teacher Network

## Does writing by hand still matter in the digital age?

Technology is having an impact on children's handwriting ability. But what does this mean for learning and development?



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Harriet Swain  
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## Don't Forget to Write! Why Letters and Cards Are More Important Than Ever

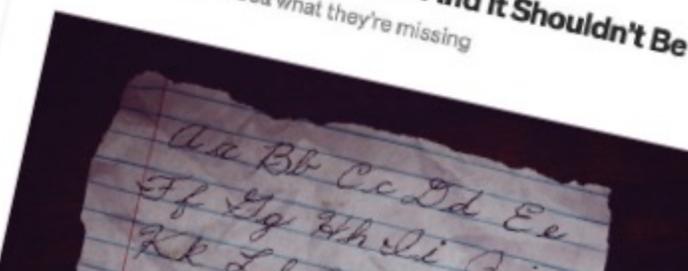
Your handwriting may be rusty, but we say: enough with the Zooms. Foster some real connections by putting pen to paper



Samantha Kemp-Jackson  
Oct 27, 2021 · 5 min read · Member only

## Cursive Writing is Dead...And It Shouldn't Be

Our kids have no idea what they're missing



## Grapholinguistics and public discourse: the example of handwriting

- topic with high visibility in the public discourse
- in grapholinguistics so far only smaller studies on single phenomena
- one current monograph on the topic: Gredig 2021 (see also the special issue of *OBST* published in 2014)

Böhm, Manuela/Olaf Gätje (eds.). 2014. Handschreiben – Handschriften – Handschriftlichkeit. *OBST* 85.

Gredig, Andi. 2021. *Schreiben mit der Hand: Begriffe – Diskurs – Praktiken*. Berlin: Frank & Timme.  
<https://doi.org/10.26530/20.500.12657/46049>





2014



2021



## Central topoi in the public discourse on handwriting

1. handwriting as an 'endangered' practice;
2. the survival or 'comeback' of handwriting;
3. the benefits of handwriting for motor skills and cognitive processes;
4. the permanence of handwriting and its perception as a trace of the writing process and writers' emotions;
5. aesthetics of handwriting and its association with individuality and personality.

(cf. Gredig 2021)

Gredig, Andi. 2021. *Schreiben mit der Hand: Begriffe – Diskurs – Praktiken*. Berlin:  
Frank & Timme. <https://doi.org/10.26530/20.500.12657/46049>



## Grapholinguistic research on handwriting: an example

The study on *character amnesia* (cf. Meletis/Dürscheid 2022: 84–88)

- *Character amnesia* designates a situation in which users can read certain characters but are not able to write them by hand
- mostly affects users of morphographic writing systems (Chinese and part of the Japanese writing systems)
- dissociation between the ability to recognise a character and the incapability of writing it (cf. Huang 2021)

Huang, Shuting, Yacong Zhou, Menglin Du, Ruiming Wang & Zhenguang G. Cai. 2021.  
Character amnesia in Chinese handwriting: A mega-study analysis. *Language Sciences* 85.  
101383

## Graphetics: Subfields

### graphetics

(after Günther 1993)

productional  
graphetics



- How do scribes/designers make use of resources of graphetic variation in order to constitute and convey a specific meaning in a given communicational situation?
- Are there universals in the manual production process (e.g., hand movements that occur in the production of all scripts)?

descriptive  
graphetics



- How can typographic variation that exists among type families be adequately described?
- How can basic shapes be segmented? What are the minimal distinctive segments?

perceptual  
graphetics

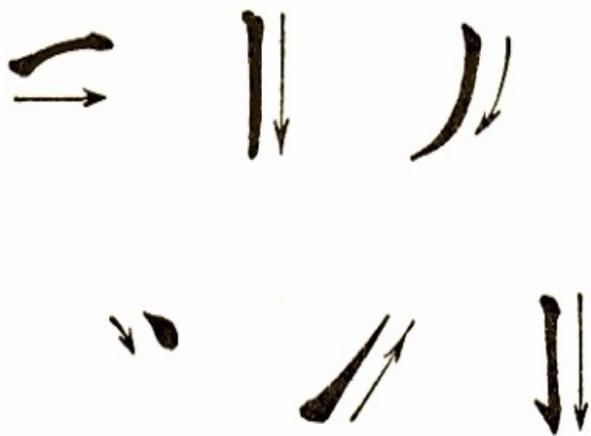


- How do the graphetic features of a text influence the constitution of meaning that occurs during the perception (i.e., reading) process?
- Which are the units that are most relevant during the reading process?

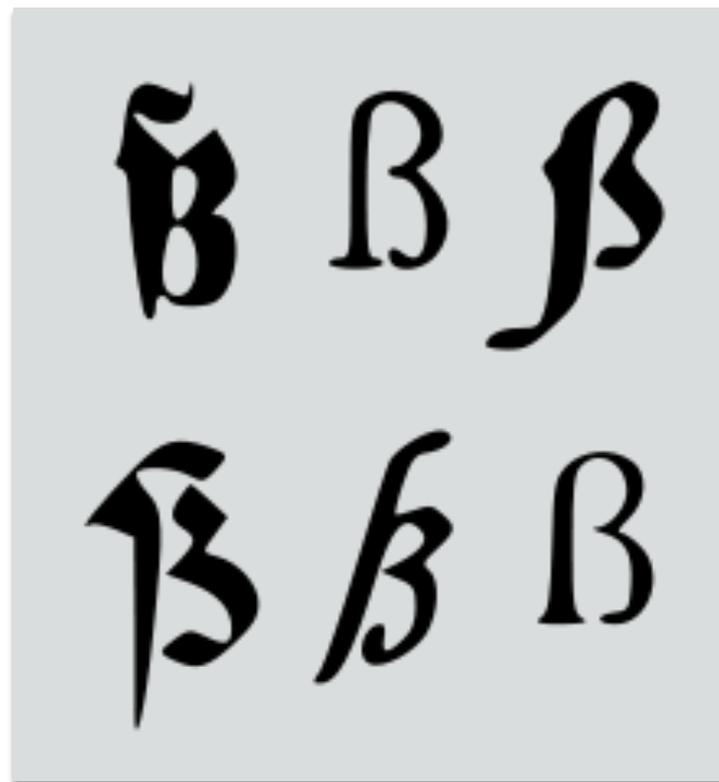
Günther, Hartmut. 1993. Graphetik – Ein Entwurf. In Jürgen Baumann, Hartmut Günther & Ulrich Knoop (eds.), *Homo scribens. Perspektiven der Schriftlichkeitsforschung*, 29–42. (Reihe Germanistische Linguistik 134). Tübingen: Niemeyer.

<https://doi.org/10.1515/9783111377087.29>

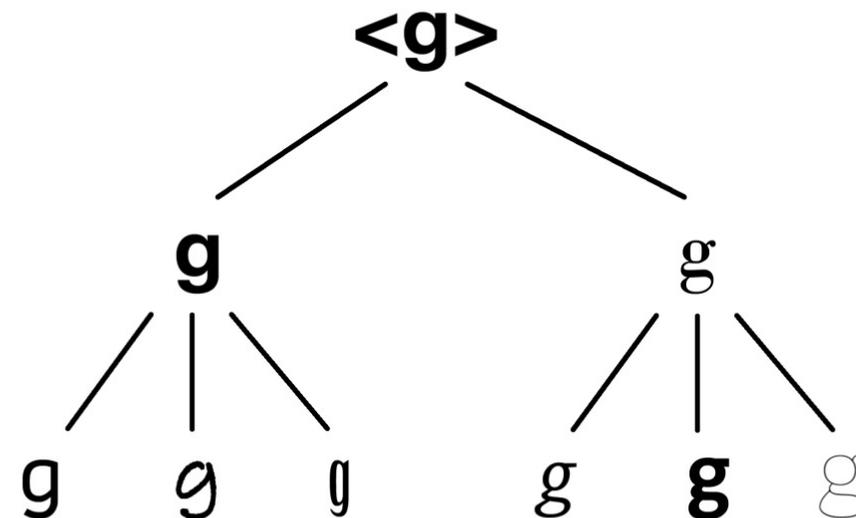
## Graphetics: Basic units



elementary form



graph



basic shape

# Graphetics: Spatial division

 <p><b>SEGMENTAL SPACE</b> Unit: <i>basic shape</i> (abstract), <i>graph</i> (concrete)</p>	<p>Writing is an invention and a cultural technology that altered humankind and continues to exert a massive influence on it. This is true to such a degree that it is almost impossible to overstate the</p> <p><b>LINEAR SPACE</b> Unit: <i>one-dimensional graphetic sequence</i></p>	<p>Writing is an invention and a cultural technology that altered humankind and continues to exert a massive influence on it. This is true to such a degree that it is almost impossible to overstate the</p> <p><b>LINEAR SPACE</b> Unit: <i>line</i></p>
<p>Writing is an invention and a cultural technology that changed humankind and continues to exert a massive influence on it. This is true to such a degree that it is almost impossible to overstate the relevance of writing in modern societies.</p> <p>When, in one of my classes on grapholinguistics, I asked students to imagine what their everyday lives would look like without writing, they simply couldn't. In literate communities, a life without writing appears almost unthinkable. As a mode of communication fundamentally</p> <p><b>AREAL SPACE</b> Unit: <i>two-dimensional graphetic sequence</i></p>	<p><small>Have only multiplied thanks to digitalization, writing is a conventional and easy way of communicating, and as is aptly evident in the cases of messenger services, social media, etc. It is strikingly flexible when it comes to degrees of formality or registers. Conceptually, the lines between written, literate and spoken oral are increasingly blurred (for the conceptual dimension of written vs. spoken, cf. Koch &amp; Oesterreicher 1993). Writing is also a deeply social and personal matter. Through writing – be it a special style of handwriting, the use of a specific font, the choice of words in writing or any of its other highly variable aspects – one can convey their identity. Writing, to everyone who is literate, is perceived as a skill that matches best to oneself, and in a community, it is regarded as a common good. It is not surprising, then, that matters of writing are frequently debated quite heatedly (take as examples discussions on orthography reforms, the abolishment of cursive handwriting in early literacy instructions or the discussion whether emojis are written words). Writing has evidently ceased to stand in the shadow of spoken language. It is not a conservative technique reserved for scribes of the elite. It is an intricate part of many lives, and linguistically speaking, it is a socio- and sometimes even the initiator of change and innovation.</small></p> <p><small>The treatment of writing in linguistics gives an utterly different picture. In linguistics, writing has always existed in the margins. Until recently, that is, as Baroni (2007: 209) observes, "most linguists, when dealing with graphemics, written language, writing systems and orthography, felt the need to justify themselves. It is about time to change this attitude and to stop feeling guilty about treating graphemics as part of linguistics". The change of attitude he writes about, it seems, has slowly spread: in the last couple of decades, the investigations of various aspects of writing has become gradually more accepted. The slow emergence of an interdisciplinary field called grapholinguistics, English grapholinguistics, is an immediate result of this. However, despite the growing interest in the subject, the late acceptance of writing to the list of linguistic matters reflects itself in the degree of development</small></p> <p><b>HOLISTIC SPACE</b> Unit: <i>writing/reading surface</i></p>	<p><b>LEVELS OF DESCRIPTION</b></p> <p><i>micrographetics</i> (segmental) <i>mesographetics</i> (linear) <i>macrographetics</i> (areal, holistic) <i>paragraphetics</i> (holistic, physical properties)</p>

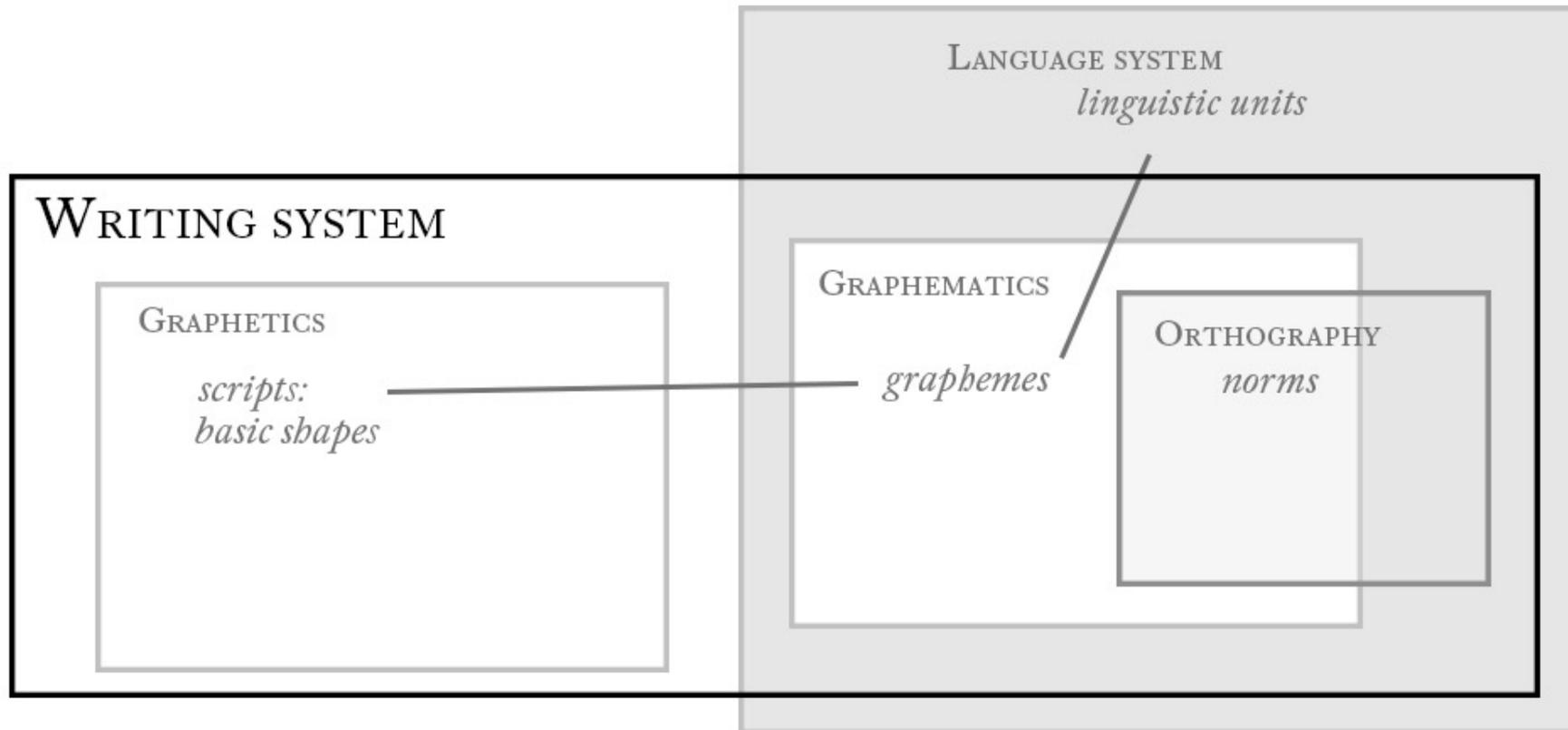
Meletis, Dimitrios. 2020. *The nature of writing. A theory of grapholinguistics* (Grapholinguistics and Its Applications 3). Brest: Fluxus Editions.  
<https://doi.org/10.36824/2020-meletis>

(Meletis 2020: 39)

## Graphetics: Material



## Modular model of writing systems



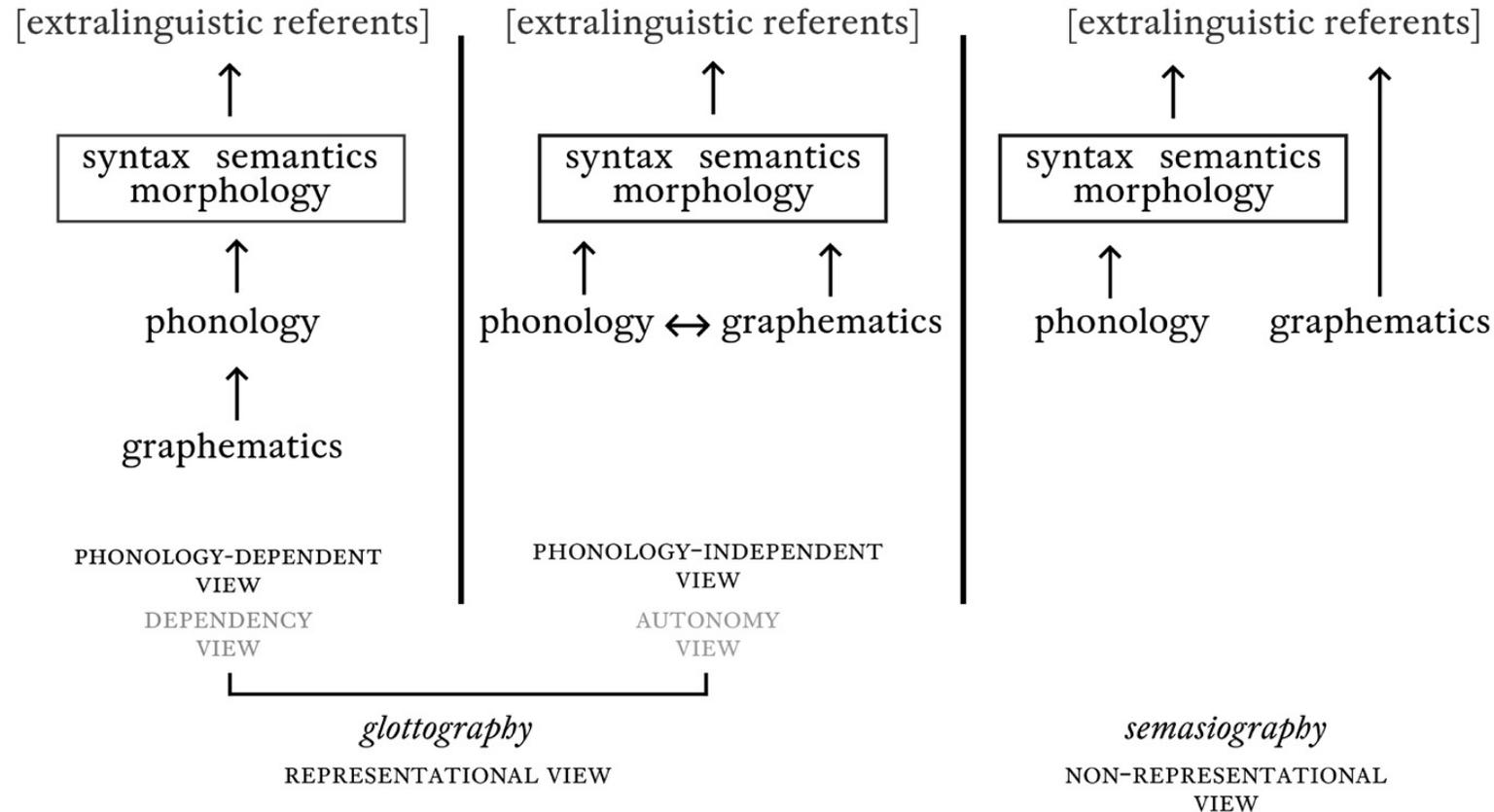
Condorelli, Marco. 2022. *Introducing historical orthography*. Cambridge: Cambridge University Press.

Meletis, Dimitrios. 2020. *The nature of writing. A theory of grapholinguistics* (Grapholinguistics and Its Applications 3). Brest: Fluxus Editions.  
<https://doi.org/10.36824/2020-meletis>

Neef, Martin. 2015. Writing systems as modular objects: Proposals for theory design in grapholinguistics. *Open Linguistics* 1. 708–721.  
<https://doi.org/10.1515/opli-2015-0026>

(Meletis 2020: 21; cf. also Neef 2015; Condorelli 2022)

## Graphematics: Relation between speech and writing



Meletis, Dimitrios. 2020. *The nature of writing. A theory of grapholinguistics* (Grapholinguistics and Its Applications 3). Brest: Fluxus Editions.  
<https://doi.org/10.36824/2020-meletis>

(Meletis 2020: 68)



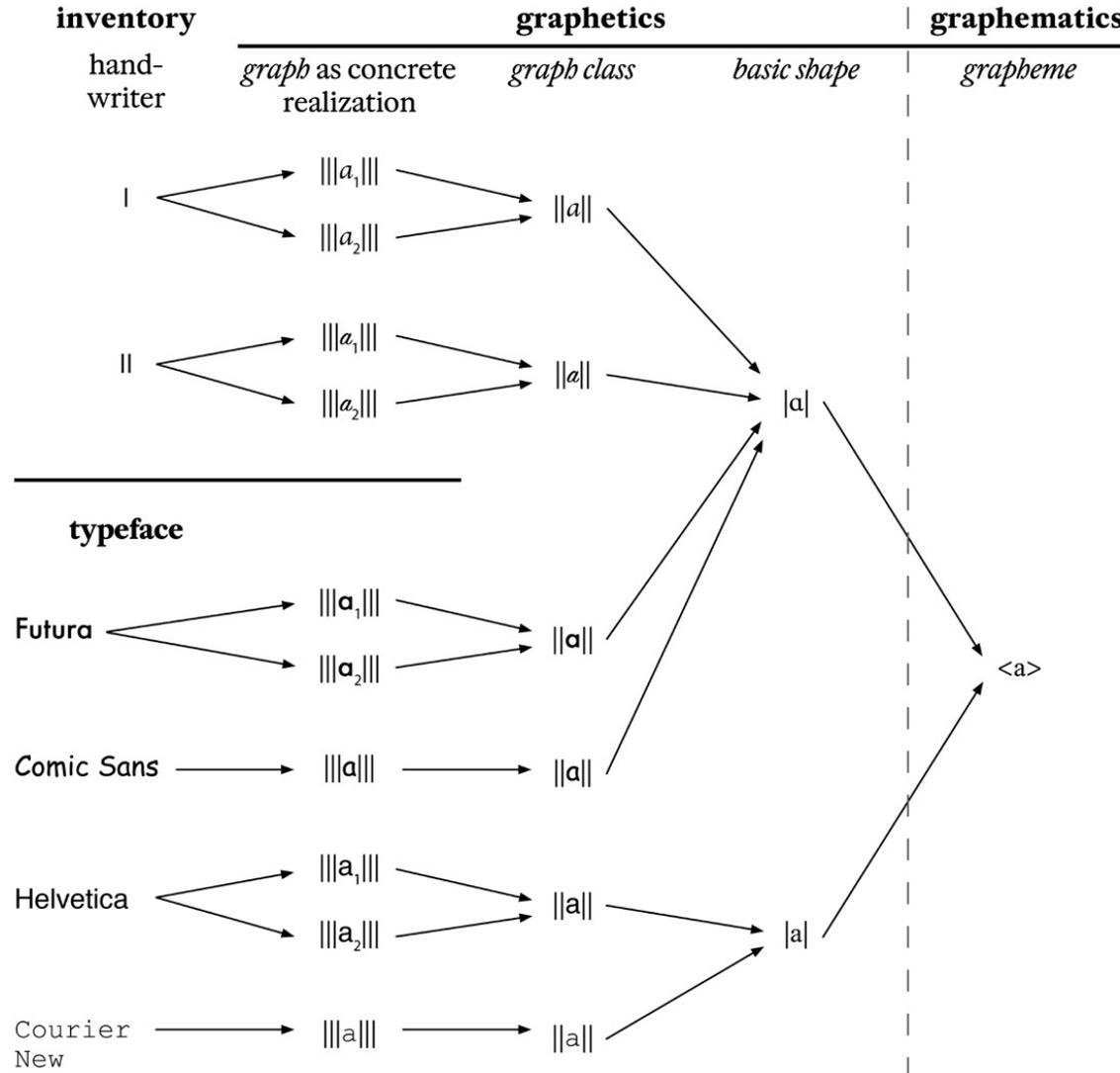
## Graphematics: The ‘grapheme’ (cf. Meletis/Dürscheid 2022)

1. distinguishes meaning (= distinctiveness criterion)
  - minimal pairs of existing words of a language (not pseudo- or non-words): German <Farbe> vs. <Narbe>
2. refers to a linguistic unit / linguistic information (= linguistic value criterion)
  - German <denkt> vs. <deckt>, but |c| does not refer (at least in no native context) to a linguistic unit on its own, only in combinations; |c| is no grapheme, <ch> is (= complex grapheme)
3. is minimal (= minimality criterion)
  - <ng> is no grapheme, since <n> and <g> are already graphemes themselves; in complex graphemes (such as <ch>, at least one component cannot be a grapheme itself)

# Graphematics: Allography

Meletis, Dimitrios. 2020. *The nature of writing. A theory of grapholinguistics* (Grapholinguistics and Its Applications 3). Brest: Fluxus Editions.  
<https://doi.org/10.36824/2020-meletis>

(Meletis 2020: 109)



**graphematic allography**  
 basic shapes assigned to graphemes

**graphetic allography**  
 graphs as concrete realizations assigned to graph classes  
*(intra-inventory graphetic allography)*  
 graph classes assigned to basic shapes  
*(inter-inventory graphetic allography)*



## Orthography

„Es geht also darum, dass jemand etwas aufschreibt, das von anderen gelesen werden kann, und dass er sich dabei an die vorgegebenen Festlegungen hält, die mittlerweile die meisten Sprecher-gemeinschaften in unterschiedlich verbindlicher Form getroffen haben.“

(Karg 2015: 5)

Karg, Ina. 2015. *Orthographie: Öffentlichkeit, Wissenschaft und Erwerb* (= Germanistische Arbeitshefte, 46). Berlin, Boston: De Gruyter.

<https://doi.org/10.1515/9783110366679>



## Orthography: Features

- external, (doubly) codified norm
- social bindingness
- (small) degree of variation
- changeability

(vgl. Nerius 2007: 34–40, 2020: 369–370)

Nerius, Dieter. 2007. Merkmale der Orthographie.  
In Dieter Nerius (et al.) (eds.), *Deutsche  
Orthographie*, 4<sup>th</sup> edn. Hildesheim: Olms,  
34–40.

Nerius, Dieter. 2020. Kodifikation der Schreibung.  
In Thomas Nier, Jörg Kilian & Jürgen  
Schiewe (eds.), *Handbuch Sprachkritik*.  
Stuttgart: Metzler, 368–375.



## Orthography: Areas of standardization

“[...] the aspects most commonly codified by means of orthographic rules are grapheme-phoneme correspondence, word division, hyphenation, capitalization, and the spelling of loan words.”

(Coulmas 1996: 379)



## Orthography: Areas of standardization

	phonographic correspondences	word separation	capitalization	integration of loanwords
Chinese	–	–	–	+
Japanese	+	–	–	+
Korean	+	+	–	+
Thai	+	–	–	+
Arabic	+	+	–	+
Hebrew	+	+	–	+



## Summary

### Topics addressed in our talk:

- the grapholinguistic tradition (i.e., focused on individual writing systems and their description, mainly German)
- the public discourse on handwriting (with a focus on Germany)
- a structural framework for grapholinguistic research
  - tools for studying any writing system (with regard to their graphetic, graphematic, and orthographic features)



## Outlook

- the vast public interest in issues of writing could be used to raise awareness for their scientific study
- there is much potential to merge the rich research traditions of more philological, historically oriented research on writing with synchronic perspectives on writing – linguistic, sociolinguistic, and psycholinguistic ones (they inform each other)
  - the opportunities for exchange are there, they must only be used
- the future of a shared study of writing (whether *grapholinguistics* or *historical graphematics*) lies in the comparison of phenomena across writing systems
- first steps in the development of a theory of writing as a constitutive part of a general theory of language have been taken; this must now be further pursued