

WHAT IS THE GRAPHEM(AT)IC STATUS OF PUNCTUATION UNITS?

TOWARD BASIC OPERATIONAL CONCEPTS OF COMPARATIVE PUNCTUATION RESEARCH

Jonas Romstadt (University of Bonn)
Dimitrios Meletis (University of Vienna)
Comparative Punctuation Worldwide
Regensburg, 22.09.2023



Motivation and
main question(s)

GENERAL OBSERVATIONS

- 1 Punctuation is constant (vs. scripts, which are variable).

Es war spät abends, als K. ankam.

German

Был уже поздний вечер, когда приехал К.

Russian

Ήταν αργά το βράδυ όταν έφτασε ο Κ.

Greek

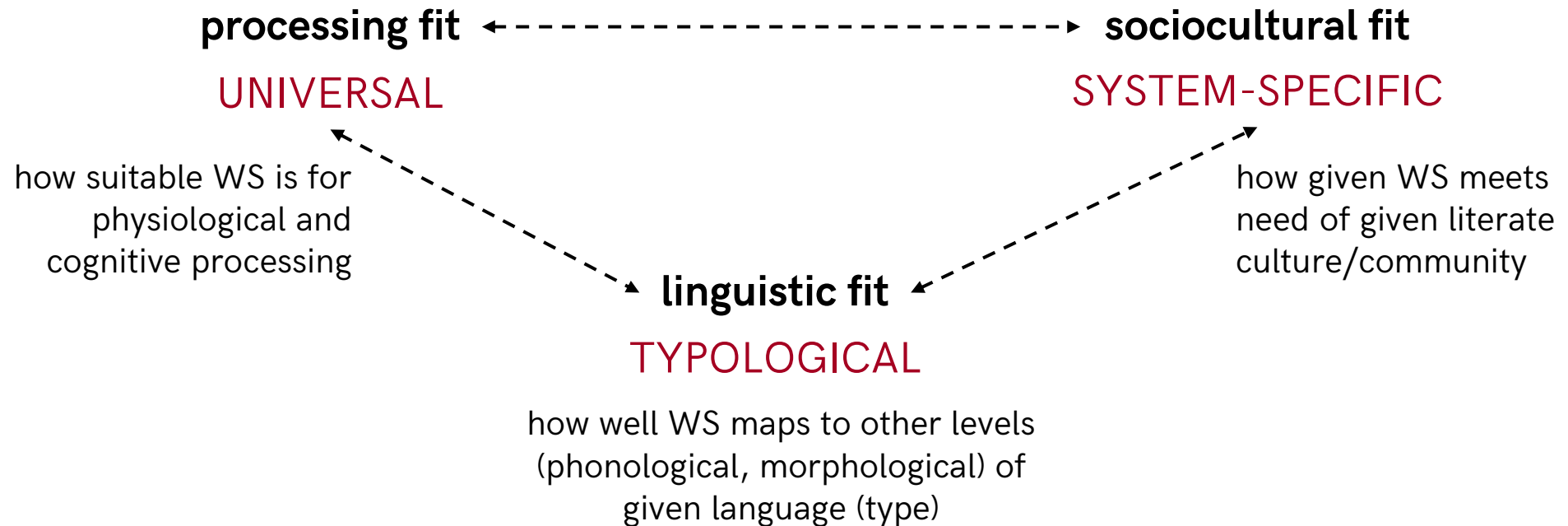
Кが到着したのは夜遅くだった。

Japanese

Franz Kafka, *The Castle* (1922)

GENERAL OBSERVATIONS

- 1 Punctuation is constant (vs. scripts, which are variable).

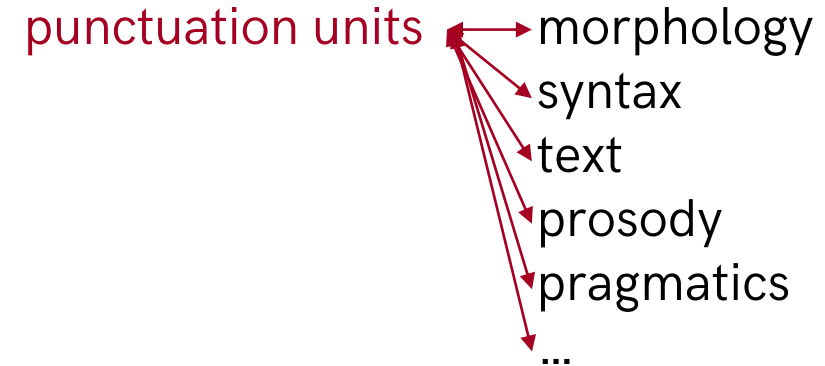
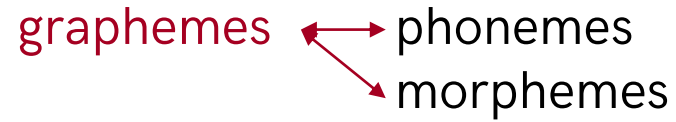


(cf. Meletis 2020)

GENERAL OBSERVATIONS

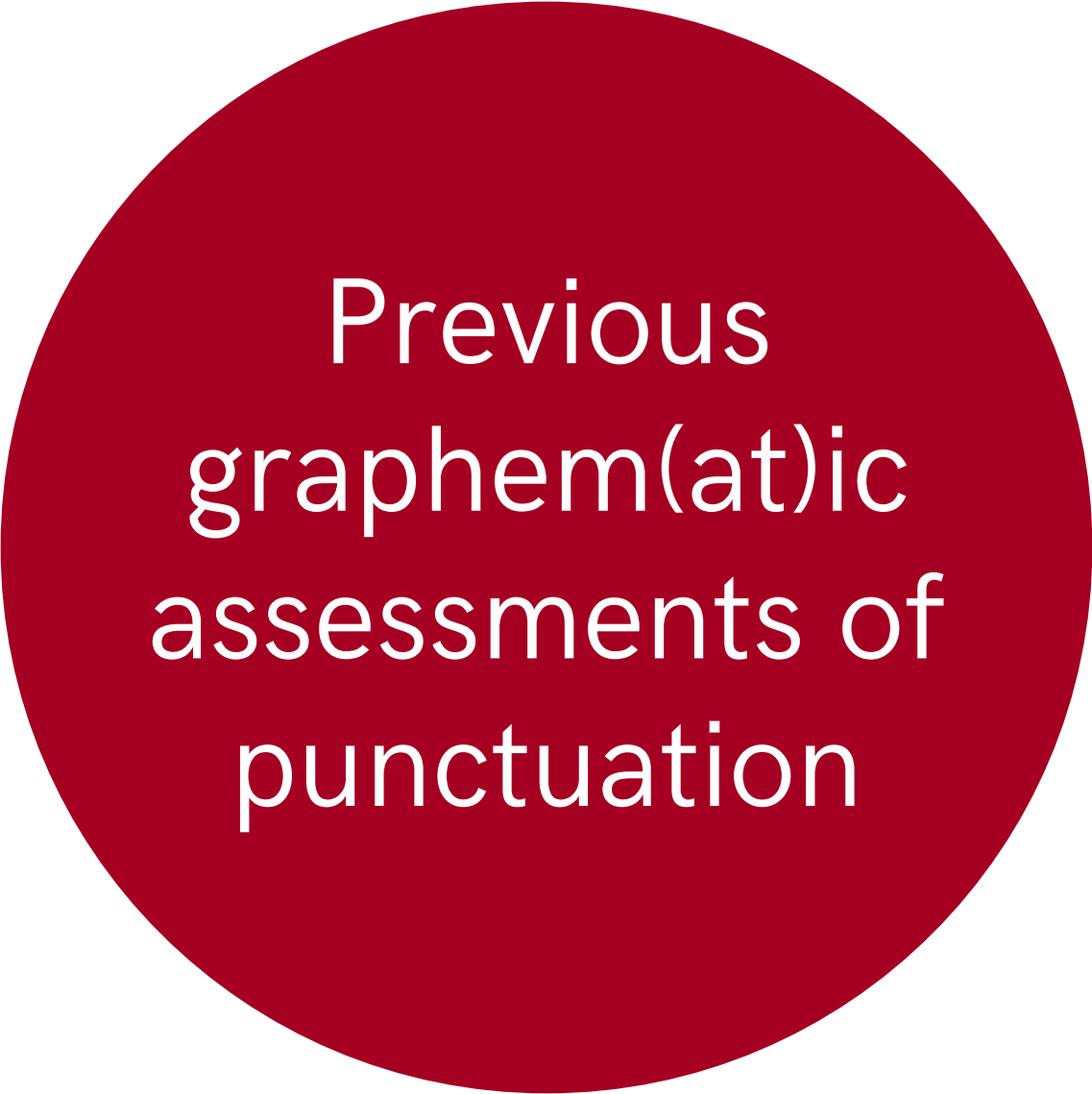
1 Punctuation is constant (vs. scripts, which are variable).

2 Punctuation relates to many linguistic levels.



GENERAL OBSERVATIONS

- 1 Punctuation is constant (vs. scripts, which are variable).
- 2 Punctuation relates to many linguistic levels.
- 3 Punctuation is genuinely 'written' and underlines the need for an independent grapholinguistics.



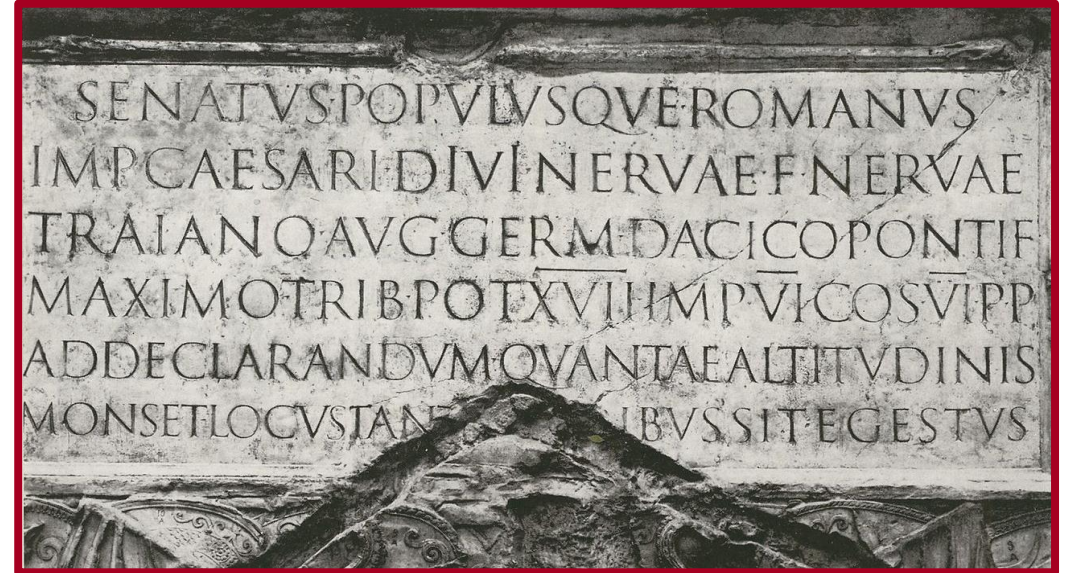
Previous
graphem(at)ic
assessments of
punctuation

PUNCTUATION AS PART OF THE WRITING SYSTEM





- 'punctuational big bang' is traced back to ancient Greece (around 200 BC) (cf. [Houston 2013](#))
- development of punctuation is closely linked to the establishment of a *scriptio discontinua* (cf. [Saenger 1997](#))

punctuation can thus be seen as a **secondary** (and characteristic) system or a secondary part of the writing system



Trajan's Column, Rome (completed AD 113)

WHAT DOES PUNCTUATION MEAN?

	letters	digits	special characters	punctuation units	blank space
identifiable without context	+	+	+	+	
recodable				-	-
freely combinable	+	+	-	-	-
paired	+	-	-	-	-

(cf. [Bredel 2008](#))

ARE PUNCTUATION UNITS GRAPHEMES?



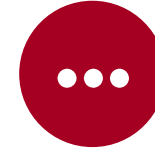
punctuation as “a special graphic subsystem” in which “punctuation marks behave similarly to graphemes”
(cf. [Baudusch 1981: 206-207](#))



graphemes as “the smallest units of written language that can be defined both formally and functionally”, punctuation signs as “graphemes in the narrower sense” but not as “basic graphemes”
(cf. [Gallmann 1985: 10-11, 18](#))



graphemes as “the smallest distinctive, syllabically autonomous units of written language”
(cf. [Berg 2019: 29](#))



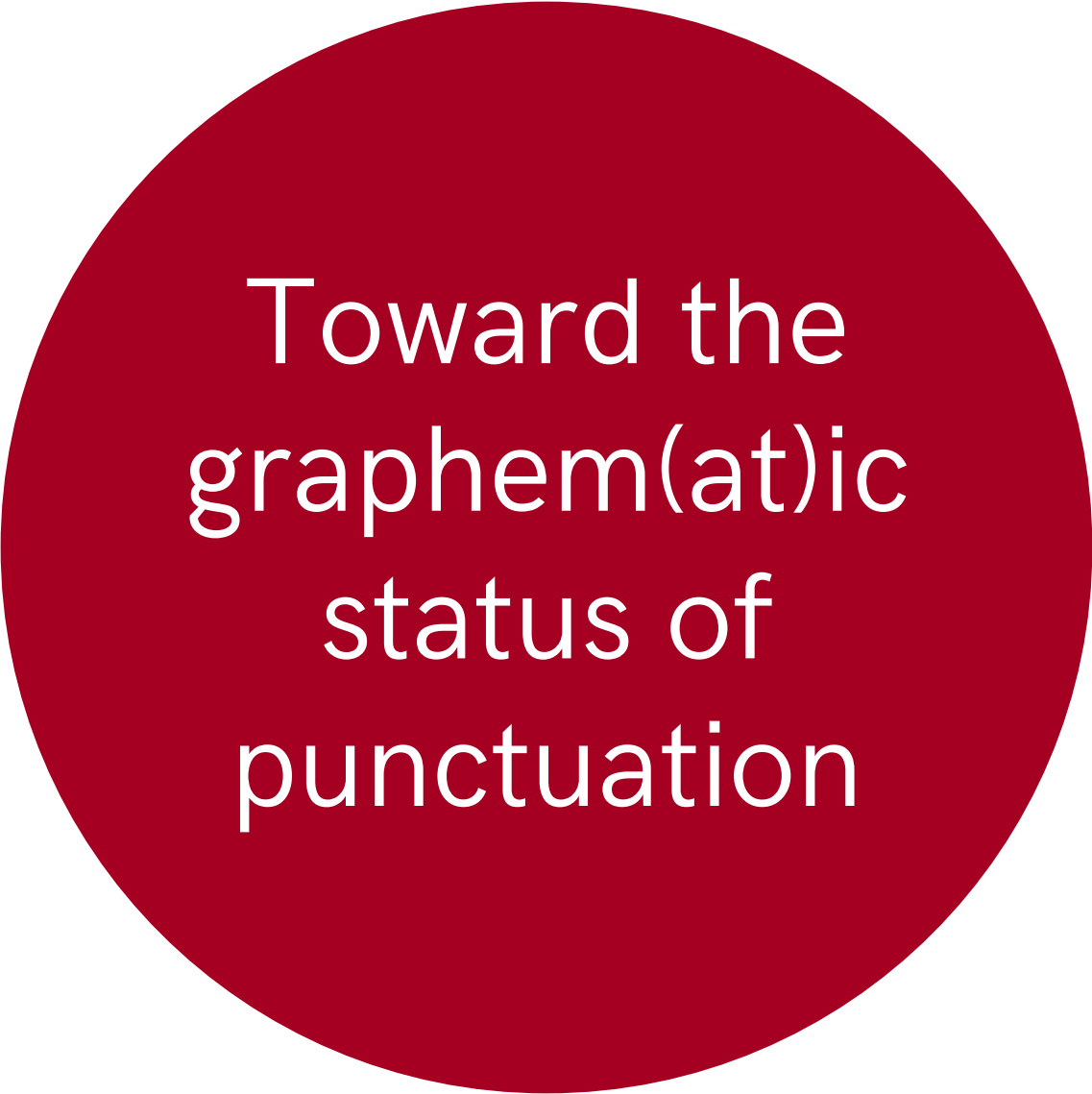
graphemes as a basic written unit “that (1) distinguishes meaning, (2) has linguistic value [...] and (3) is minimal” (cf. [Meletis 2019: 43](#))

FUNCTION(S) OF PUNCTUATION UNITS

- punctuation units are used “to make the infinite series of letters [...] clear for the eye” (cf. [Bieling 1880: 5](#))
- [Gallmann \(1985: 27\)](#) therefore calls them “comfort graphemes”
- a range of psycholinguistic studies on different writing systems show that readers use punctuation in language processing, see [Hill/Murray \(2000\)](#) for the comma in English, [Niikuni/Muramoto \(2014\)](#) for the comma in Japanese, [Schlechtweg \(2022\)](#) for the quotation marks in English among many others

INTERIM CONCLUSIONS

- 1 Punctuation units differ from default graphemes (“basic graphemes”) – both functionally and formally.
- 2 Attempting to establish the grapheme status of all punctuation units (i. e., treating them as a coherent set) is part of the problem rather than the solution.
- 3 Punctuation units nonetheless seem to have a common basic function: They serve as reading aids at different linguistic/communicative levels.



Toward the
graphem(at)ic
status of
punctuation

Universals: System/**Form**

- lack of visual salience, 'smallness'

. ; , : - — ... ` ? ! () „ ”

Punctuation marks in German (cf. Bredel 2008)

- small punctuation marks are not extended: at the formal level, they differ strongly from default graphemes
- but: in non-alphabetic writing systems, there are 'smaller' graphemes such as the optional (short) vowel graphemes in the Arabic abjad or the commonly smaller 'satellite' vowel graphemes in abugidas
- there is a lack of independent examples (cf. [Sampson 2016](#)) but it is significant that punctuation marks have prevailed for a long time and in diverse writing systems (by being adopted and adapted)

Universals: System/**Function**

	.	,	()	“ ”
German	end of a sentence as a parsing unit	continuation of 'sentence-grammatical' parsing and coordination or subordination of what follows	introduction of a side discourse	distancing from own text (either because it is quoted or to express reservation, cf. Klockow 1980)
English	as in German	as in German (for more details see Lindbüchl 2014)	as in German	<"", as in German
Greek	as in English	as in English also in use as a silent letter as in <i>ó,ti</i> (<i>whatever</i>) vs. <i>óti</i> (<i>that</i>)	as in English	<« »>, as in English

Universals: System/**Function**

	.	,	()	“ ”
Russian	as in English	as in German, but used very liberally	only used to mark pure asides	only for inlined direct speech and other quotation, otherwise em-dashes are used
Chinese	jùhào <。 > “Apparently Chinese people don’t use jùhào to complete a sentence [...] but instead to complete a block of clauses [...], thus expressing the completeness of a meaning or idea” (Sun 2022: 222)	as in English, but separate comma for enumeration <、 >	as in English	<「」> as a quotation mark used in Traditional Chinese (<『』> when embedded within single); in Simplified Chinese, these marks are used in vertical writing, <“”> in horizontal writing, <《》>, <〈〉>, <____> for titles

Universals: System/**Function**

	.	,	()	“”
Japanese	<。 > as in English	<、 > used very liberally	as in English (but also variety of other brackets that are versatile)	<「」 > as in English
Thai	minor pauses are seldom marked by a comma, major pauses by a period, but most often they are not used and instead a blank space is used (cf. Haas 1980: 89)		as in English (but also used rather rarely)	
Arabic	as in English	< ، > as in English	as in English	as in English
Hebrew	as in English	as in English	as in English	formely <„“>, now <””> as in English

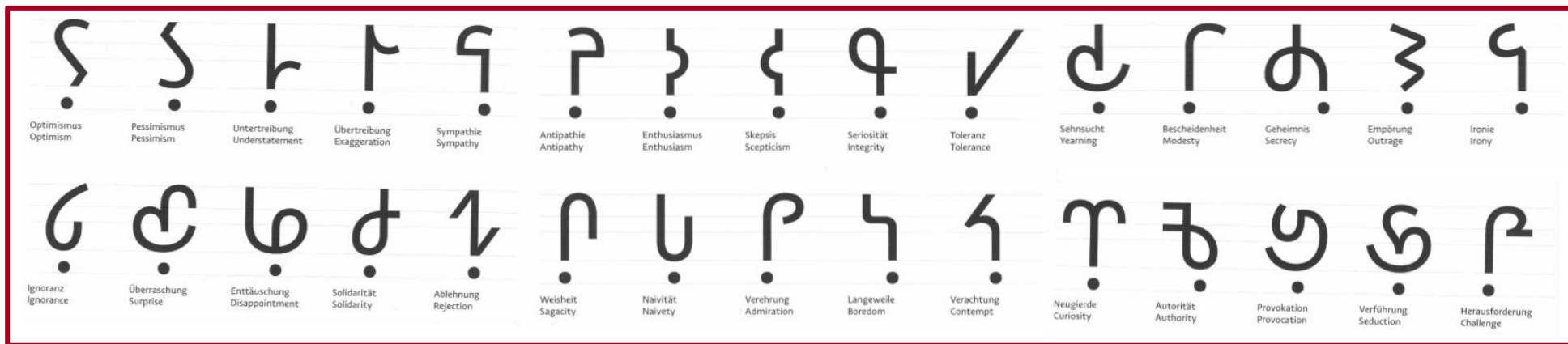
Universals: System/**Function**

- main function of default graphemes: transportation of meaning through their combination (most prominently in written *words*, cf. [Schmidt 2018](#))
- punctuation, in contrast, is not part of the structures of texts that carry meaning (cf. [Gallmann 1985: 24](#))
- related to that: default graphemes combine freely with each other, punctuation units do not

this results in two super-classes of graphemes: **content graphemes** (letters/characters and digits) vs. **function graphemes** (or 'structure graphemes', punctuation units and blank spaces)

Universals: Use

- punctuation units can be 'pragmatically repurposed' (cf. [Androutsopoulos 2022](#), [Busch 2021](#) among others)
- examples have been described in various writing systems, for example:
 - the 'agitation mark' (Aufregezeichen) in German: <!!11!>
 - the ellipsis to insinuate something, e.g., in German and Greek: <...>
 - the tilde <~> (as a standalone mark) to indicate sarcasm, e.g., in Japanese and Thai
- pragmatic (or communicative) functions seem to be among the most palpable



cf. Bohatsch (2018)

Variation

✱	section mark
:	word separator
::	full stop (period)
፣	comma
፥	colon
፤	semicolon
፦	preface colon
፩	question mark
፪	paragraph separator

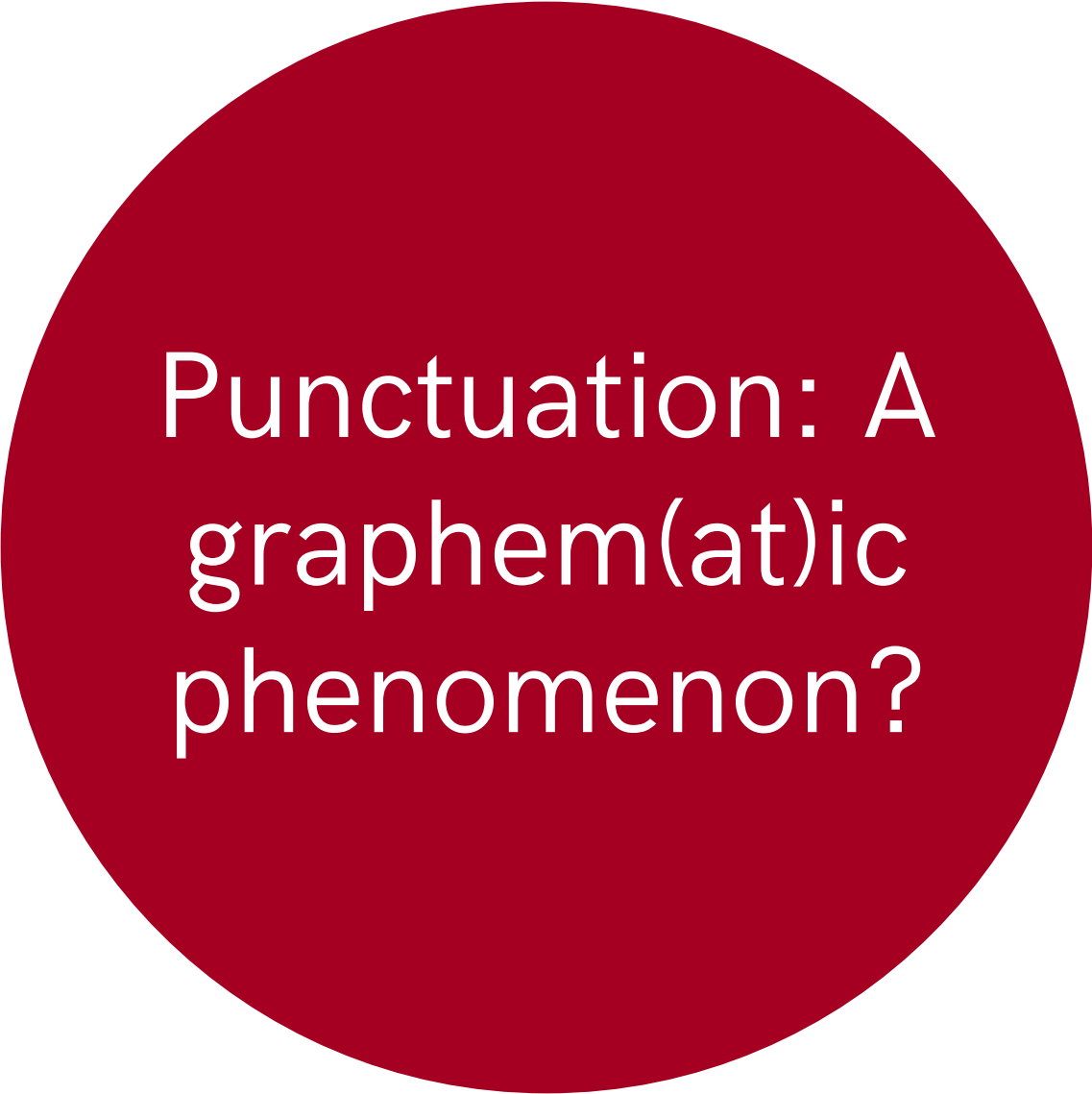
Ge'ez script (Ethiopia and Eritrea)

- formally: visually more coherent and systematic than those in the Western set, formed of dots and small strokes
- functionally: basic reading instructions, additional structuring functions

እኑሃ፡ለእሙ፡ወሰዳግ፡ያዕቆብ፡
ለራሔል፡ወደርን፡በቃሉ፡ወበ
ክዩ፡ወዋድአ፡ለራሔል፡ከመ፡
ወልደ፡እጎቱ፡ለላባ፡ወእቱ፡ወ
ከመ፡ወልደ፡ርብቃ፡ወእቱ፡
ወሮዳት፡ራሔል፡ወአደደዳቹ
ለአቡሃ፡ዘንተ፡ነገረ፡ወሰባ፡
ሰዎዳ፡^ሰቃለ፡ሰመ፡ያዕቆብ፡ወ
ልደ፡ርብቃ፡እጎቱ፡ሮዳ፡ወተቀ
በሎ፡ወሐቀሮ፡ወሰዳዎ፡ወወሰ
ደ፡ቤቶ፡ወነገሮ፡ለላባ፡ከሎ፡
ዘንተ፡ነገረ፡ወደቤሎ፡ለባ፡ለ
ያዕቆብ፡እዎኑ፡ዐዳዎሃ፡ወእዎ
ኑ፡ሠጋሃ፡አንተ፡ወነበረ፡ዎሰላ
ሁ፡ሠላሳ፡መዋዕለ፡
ወደቤሎ፡ለባ፡ለያዕቆብ፡እ
ሰመ፡እኑሃ፡አንተ፡ኢተተቀነደ፡
ለተ፡በክ፡ንግረኑ፡ዐሰበክ፡ዎ
ንተ፡ወእቱ፡ወቦቱ፡ለላባ፡ክል
ኢ፡አዋልደ፡ሰግ፡ለእንተ፡ተል

Variation

- other 'distinct' punctuation units are often no longer in use, for example in Thai: <๐>, <๑>, <๒>
- same function, different forms: in many writing systems there is also an iteration unit like <๓> in Thai, <々>, <ゝ> and <ゝ> in Japanese and the numeral <2> in Indonesian, Filipino and Malay
- same form, different functions: the <;> in Greek is used as a question mark (and <·> takes over the function of the semicolon as we know it); in Armenian, the <.> is used as a colon and <:> as a full stop
- in Armenian punctuation units for questions and exclamations appear diacritic-like above (or slightly to the right of) the vowel: <՛> (exclamation), <՛> (emphasis), <՛> (question)
- punctuation may be the ultimate example of cultural diffusion
- variation is, however, mostly visual, while functionally, punctuation seems to be more stable



Punctuation: A
graphem(at)ic
phenomenon?

CONCLUSION

- Fuhrhop/Peters (2023) differentiate between *graphemic* and *graphematic*
 - **graphemic** everything that pertains to the grapheme as a unit
 - **graphematic** everything that refers to the writing system and phenomena pertaining to the writing system in general
- punctuation is a central graphematic phenomenon but not necessarily a graphemic phenomenon in the narrow sense
- the graphemic status of punctuation units should be understood as a scalar concept
- an exclusive offline view may not be suitable for studying punctuation (and default graphemes?)

WHAT FOLLOWS

typological Which punctuation forms and which punctuation functions occur in different writing systems and which do not?







usage-based Which variation phenomena are formally or functionally loaded and how? At what level of the language system does variation play out? How does variation in punctuation relate to variation in the use of default graphemes?

historical When and how do punctuation forms and functions become established?

in relation to grapholinguistic theory in general Which levels of the language system are related to punctuation and how? Why can punctuation be described as a success story in otherwise very different language and writing systems? How are punctuation units and linguistic value related precisely?

BIBLIOGRAPHY




- Androutsopoulos, Jannis (2022): Interpunktion und Stilisierung im digitalen Diskurs. Struktur, Registrierung und Pragmatik des ‚Aufregezeichens‘. In: Busch, Florian/Droste, Pepe/Wessels, Elisa (Eds.): *Sprachreflexive Praktiken. Empirische Perspektiven auf Metakommunikation*. Berlin: Springer, 23–49.  DOI: [10.1007/978-3-662-64597-0_2](https://doi.org/10.1007/978-3-662-64597-0_2) ●
- Baudusch, Renate (1981): Die Prinzipien der deutschen Interpunktion. *Zeitschrift für Germanistik* 2 (2), 206–218.  <https://www.jstor.org/stable/23974822> ●
- Berg, Kristian (2019): *Die Graphematik der Morpheme im Deutschen und Englischen*. Berlin/Boston: de Gruyter.  DOI: [10.1515/9783110604856](https://doi.org/10.1515/9783110604856) ●
- Bieling, Alexander (1880): *Das Princip der deutschen Interpunktion nebst einer übersichtlichen Darstellung ihrer Geschichte*. Berlin: Weidmannsche Buchhandlung. ●
- Bohatsch, Walter (2018): *Typojis: Einige neue Zeichen / A Few More Glyphs*. Mainz: Schmidt. ●
- Bredel, Ursula (2008): *Die Interpunktion des Deutschen. Ein kompositionelles System zur Online-Steuerung des Lesens*. Tübingen: Niemeyer.  DOI: [10.1515/9783484970502](https://doi.org/10.1515/9783484970502) ●
- Busch, Florian (2021): *Digitale Schreibregister. Kontexte, Formen und metapragmatische Reflexionen*. Berlin/Boston: de Gruyter.  DOI: [10.1515/9783110728835](https://doi.org/10.1515/9783110728835) ●
- Fuhrhop, Nanna/Peters, Jörg (2023): *Einführung in die Phonologie und Graphematik*. 2nd edition. Berlin: Metzler.  DOI: [10.1007/978-3-476-05940-6](https://doi.org/10.1007/978-3-476-05940-6) ●

BIBLIOGRAPHY




Gallmann, Peter (1985): *Graphische Elemente der geschriebenen Sprache. Grundlagen für eine Reform der Orthographie*. Tübingen: Niemeyer.  DOI: [10.1515/9783111630380](https://doi.org/10.1515/9783111630380)


Haas, Mary R. (1980): *Thai System of Writing*. 2nd edition. Washington D.C.: Spoken Language Services.


Hill, Robin L./Murray, Wayne S. (2000): Commas and spaces: Effects of punctuation on eye-movements and sentence parsing. In: Kennedy, Alan/Radach, Ralph/Heller, Dieter/Pynte, Joël (Eds.): *Reading as a Perceptual Process*. Oxford: Elsevier, 565–590.  DOI: [10.1016/B978-008043642-5/50027-9](https://doi.org/10.1016/B978-008043642-5/50027-9)

Houston, Keith (2013): *Shady Characters. The Secret Life of Punctuation, Symbols & Other Typographical Marks*. New York/London: W. W. Norton & Company.

Klockow, Reinhard (1980): *Linguistik der Gänsefüßchen. Untersuchungen zum Gebrauch der Anführungszeichen im gegenwärtigen Deutsch*. Frankfurt am Main: Haag und Herchen.


Lindbüchl, Isabell (2014): Ein Komma für den Leser – Sprachverarbeitung und Interpunktion im Deutschen, Englischen und Französischen am Beispiel des Kommas. *Diskussionsforum Linguistik in Bayern 4*.  https://epub.ub.uni-muenchen.de/25194/1/DF_2014_Empirie_und_Theorie_13.7.pdf (accessed 28.10.2020), 69–84.

Meletis, Dimitrios (2019): The grapheme as a universal basic unit of writing. *Writing Systems Research 11* (1), 26–49.  DOI: [10.1080/17586801.2019.1697412](https://doi.org/10.1080/17586801.2019.1697412)

Meletis, Dimitrios (2020): *The Nature of Writing: A Theory of Grapholinguistics*. Brest: Fluxus Editions.  DOI: [10.36824/2020-meletis](https://doi.org/10.36824/2020-meletis)

BIBLIOGRAPHY




Niikuni, Keiyu/Muramoto, Toshiaki (2014): Effects of punctuation on the processing of temporarily ambiguous sentences in Japanese. *Japanese Psychological Research* 56 (3), 275–287. 

DOI: [10.1111/jpr.12052](https://doi.org/10.1111/jpr.12052)

Sampson, Geoffrey (2016): Typology and the study of writing systems. *Linguistic Typology* 20 (3), 561–567 

DOI: [10.1515/lingty-2016-0027](https://doi.org/10.1515/lingty-2016-0027)

Saenger, Paul Henry (1997): *Space Between Words. The Origins of Silent Reading*. Stanford: Stanford University Press.

Schlechtweg, Marcel (2022): Quotation marks in advanced language acquisition: A reading time experiment on English pure quotation. *Linguistik online* 118, 99–114.  DOI: [10.13092/lo.118.9047](https://doi.org/10.13092/lo.118.9047)

Schmidt, Karsten (2018): *Phonographie und Morphographie im Deutschen. Grundzüge einer wortbasierten Graphematik*. Tübingen: Stauffenburg.

Sun, Kun (2022): An Investigation of the Factors Influencing Chinese Reader's Perception of Sentence Boundaries in Mandarin. In: Rössler, Paul/Besl, Peter/Saller, Anna (Eds.): *Vergleichende Interpunktion – Comparative Punctuation*. Berlin/Boston: de Gruyter, 215–236.  DOI: [10.1515/9783110756319-010](https://doi.org/10.1515/9783110756319-010)