



The interactional principle in digital punctuation

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ABSTRACT

While early CMC research already mentioned the repetition and omission of certain punctuation signs as salient features of digital interactional writing (cf. Crystal, 2001; Runkehl et al., 1998; Werry, 1996), the theoretical perspective on punctuation was mostly limited to noting down these phenomena in their deviations from an orthographic norm and interpreting them as emulation of spoken language features. In contrast, this paper adopts a graphocentric approach and argues for investigating digital punctuation with regard to its emergent *interactional principle*: While the rhetorical principle (marking intonational structures) and the grammatical principle (marking syntactical structures) of punctuation are well known in the history of writing (cf. Parkes, 1992), digital punctuation appears as an innovative extension to these functional realms in that it is used by co-participants to shape and organize their mediated interactional order. When punctuation is deployed in an interactional mode, it structures primarily neither intonational patterns nor grammatical patterns, but interactional patterns such as shaping sequential organization and stance-taking. Drawing on a data set of 47 text-messaging threads by German adolescents, the paper investigates the interactional principle of punctuation by frequency analyses as well as by in-depth sequential analyses of <.>, <:>, <!>, <?>, and <...>. The findings suggest that even punctuation signs whose codification in descriptive and prescriptive grammars is based on pure syntactic criteria are utilized to achieve interactional goals. It shows that by following the *interactional principle*, punctuation establishes collaborative interactional management and serves participants as a graphic means of communicative and social contextualization in digital interactions.

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1. Introduction

Although linguistics' interest in digital language looks back on a 30-year history (Baron, 1984; Ferrara et al., 1991; Herring, 1993), digital punctuation has played a strikingly marginal role in research on computer-mediated communication (CMC) so far (cf. Bieswanger, 2013). Early studies (implicitly) operated with the normative backdrop of standard punctuation and therefore tended to report practices of digital punctuation as a rather peripheral phenomenon of typographic deviation (cf. Crystal, 2001; Runkehl et al., 1998). Thus, innovative functions of punctuation in interactive writing have not been systematically investigated for a long time. This neglect of a fundamental component of written language is particularly remarkable because digital communication was and is primarily studied as “keyboard-to-screen communication” (Jucker and Dürscheid, 2012, p. 39). That punctuation nevertheless did not play a significant role may be due to a phonocentric bias:

Even though linguistic CMC research was mostly conducted with a focus on written language produced by using keyboards, identifying ‘oral structures’, ‘oralizations’, or ‘oral strategies’ as typical features of digital language is paradoxically one of the most fundamental insights into the research field (cf. Baron, 2003; Danet, 2001; Soffer, 2010; Werry, 1996). The greater the degree of informality as well as interactivity, the more likely it is that writing resembles oral structures—so the common view among most linguists (cf. Storrer, 2018). As Tagliamonte and Denis (2008, p. 5) note with regard to Instant Messaging, digital language use can be characterized as “a robust mix of features from both informal spoken registers and more formal written registers”.

As enlightening as this conceptualization is in addressing the fluid use of linguistic resources in digital contexts, it is based on relatively rigid stereotypes of ‘spoken’ and ‘written’ language (cf. Linell, 2005). While a ‘formal written register’ is equated with written language per se, spoken language is overly associated with informality and interactivity. As a consequence, CMC research locates linguistic variation in the spectrum between orality and literacy as a “hybrid register” (Tagliamonte and Denis, 2008, p. 5) rather than focusing on variational phenomena *within* the realm

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of written language. Especially in view of the societal “rise of writing” (Brandt, 2015) in the course of digitization that shatters these traditional biases of linguistic modes, it seems worthwhile to consider the differentiation of writing styles as an autonomous phenomenon of (socio-)linguistic change and to adopt a “graphocentric approach” concerning written digital communication (Androutsopoulos, 2016, p. 291). This emerging research perspective focuses on the variability of genuinely written forms of language used by social actors as a means of interaction. This does not deny that interactional writing can be perceived as hybrid—also from a participants’ perspective—because of the remediation that characteristics known from oral communication undergo. However, from a graphocentric point of view, it must be emphasized that we are dealing with a form of written discourse in its own right and not merely with transformed orality (cf. Soffer, 2010).

A graphocentric perspective becomes particularly evident in the study of digital punctuation since punctuation marks defy a straightforward phonographic interpretation: punctuation marks are written means par excellence as they do not have any phonemic values in contrast to the alphabetic letters they accompany. Instead, punctuation constitutes a purely visual semiotic inventory that is an essential part of writing and reading and, therefore, also of everyday keyboard-to-screen communication. With the rise of written communication in informal contexts through mobile text messaging, punctuation is playing an increasing role in daily communicative lives and is becoming more and more socially and communicatively differentiated (cf. Androutsopoulos, 2018; Androutsopoulos and Busch, 2020; Busch 2017).

What I argue in the following is that practices of punctuation are inseparably connected to the social and mediational setting in which writing and reading take place and that therefore written digital communication opens a whole new chapter in the history of punctuation: the era of the *interactional principle*. Punctuation emerges as a device for organizing written interactions sequentially and establishing shared meanings between participants.

In order to trace these innovative practices, Section 2 discusses previous research on digital punctuation, focusing in particular on a study by Baron and Ling (2011), which relates digital punctuation to punctuation principles known from diachronic research on writing systems. By extending Baron and Ling’s approach, the interactional principle of punctuation will be elaborated. As a next step, the paper aims at an empirical validation of its theoretical assumptions. For this purpose, Section 3 presents a data sample of German adolescents’ everyday writing that is initially examined quantitatively in Section 4. Frequency analysis shows how punctuation marks are distributed between school essays and WhatsApp chat logs of the same adolescent informants. Finally, Section 5 carries out in-depth sequential analyses, covering a broad spectrum of the punctuation inventory by investigating the period, the colon, the exclamation mark, the question mark, as well as the ellipsis dots. Summarizing these empirical findings, the interactional principle of digital punctuation is finally discussed as a fundamental principle of interactive digital writing practice in Section 6.

2. CMC research on punctuation and the interactional principle

Researchers of CMC reported unconventional uses of punctuation signs as early as the mid-1990s (cf. Runkehl et al., 1998; Werry, 1996) but punctuation rarely came in focus as a distinct subject of study. Typically, this early research mentions digital punctuation as either characterized by its absence or by its repetition. During the 2000s, various studies examined selected punctuation marks in terms of their formal variation and their innovative functions in digital sequential threads (cf. Ong, 2011; Raclaw,

2006; Squires, 2012; Vandergriff, 2013; Waseleski, 2006). Common to all these studies is that on the one hand they examine only a few or single signs of the punctuation inventory and on the other hand they make relatively little reference to research on writing systems. Therefore, these studies give inspiring insights into individual phenomena but do not investigate punctuation as a broad resource for meaning making in digital writing. Instead, in these analyses, the re-functionalizations of certain punctuation marks seem to be isolated phenomena, which, moreover, touch the traditional functionalities of these forms in non-interactional writing only marginally.

One exception in this respect is a study by Baron and Ling (2011), which links punctuation in online and mobile communication to basic principles of punctuation that are known from historical research on writing systems: the *rhetorical principle* and the *grammatical principle*. Rhetorical punctuation primarily acts as a guide to reading aloud. It indicates melody of speech, rhythm, accents, and pauses for taking breath (cf. Nerius, 2003, p. 2470; Saenger, 1997). Traditionally, it is assumed that rhetorical punctuation evolved into grammatical punctuation in the history of written European languages. This is also the case for German punctuation, which is the focus of this paper (cf. Besch 1981). With the change of reading practice towards silent reading as well as the process of standardization, the function of punctuation evolved over the centuries. As a consequence of a new, elaborated literacy with long utterances, the grammatical principle gained importance. Grammatical punctuation acts as a guide to decode complex syntactic structures (cf. Baudusch, 1980, p. 199; Eisenberg, 1998, p. 328).

Furthermore, it is also synchronously assumed that the punctuation systems of different languages each tend towards one of these principles. While Modern English, for example, shows a tendency towards rhetorical punctuation, Modern High German is considered a language with primarily grammatical punctuation (cf. Bartsch, 1998, p. 517). This has a direct consequence on punctuation usage: The grammatical punctuation of Modern High German, especially the use of commas, is characterized by a rigid corset of codified rules that allow less stylistic freedom than we can observe in Modern English punctuation, for example (cf. Nunberg and Briscoe, 2002, p. 1727).

Of course, a dichotomy that breaks down the history of punctuation in two basic principles necessarily goes along with rough simplifications. It is therefore worth remembering that historical punctuation was never monofunctional but varied according to individual writers (cf. Marcus, 2018) as well as text types (cf. Smith, 2017) at all times. In this respect, the mediational practices of reading aloud and reading silently map not only on a diachronic dimension of alternation but also on a synchronic dimension, in that certain text types are more likely to be tied into a silent reception practice (e.g., reading legal statutes), while other text types have a higher chance of being read aloud (e.g., reading letters). In this sense, punctuation change is highly multi-factorial (cf. Parkes, 1992). However, this makes it particularly rewarding to adopt a perspective that does not proclaim punctuation principles as absolute diachronic phenomena but relates them to social practices of writing and media usage. The rhetorical principle and the grammatical principle thus do not characterize two distinct historical phases but should be regarded as typically overlapping and multifunctionally layered. Nevertheless, depending on which literacy practices are typical for a society, the principles also gain dominance over each other and then become primary or secondary, respectively.

Against this backdrop, Baron and Ling (2011) argue in their empirical study on texting adolescents that contemporary punctuation in (what they call) electronic-mediated communication (EMC) complies with the rhetorical rather than the grammatical

principle, emulating intonation features and suggesting pauses familiar in speech:

“These tendencies are reflected in the data we examined on text messaging, wherein EMC punctuation (at least among adolescent and young adults) can lend an oral tone to the messages. [...] Similarly, among the university students, use of ellipses in lieu of periods, especially following transmission-internal sentences (e.g., ‘So bored in class. . . what are you doing?’) suggests the kind of pauses familiar in speech.” (Baron and Ling, 2011, p. 62)

Baron and Ling’s conclusion represents an example of a phonocentric perspective that Nunberg (1990, p. 15) rejects as a “transcriptional view of punctuation” since it conceals the semiotic autonomy of punctuation as an originally graphic resource. By adopting a graphocentric viewpoint on frequent practices of digital punctuation, as for example the repetition of exclamation marks (cf. Danet, 2001; Tselinga, 2007), it is also questionable to what extent writers actually attempt to resemiotize what is spoken or whether there is an orientation towards socially shared writing practices instead (cf. Androutsopoulos, 2018, p. 743).

For example, Tannen (2013, p. 106) reports that female students consciously reflect on the repetition of exclamation marks as conventional “enthusiasm markers” and accordingly expect them as appropriate in digital peer-group interactions. Here, the repeated form becomes the unmarked choice that is indexically connected to the social situation of informal texting with friends. The primary focus is therefore on the enregisterment of the form with a social situation (cf. Agha, 2007), i.e. its social indexicality that becomes rather decoupled from a situated phonographic interpretation. Not patterns of expressive intonation, but the visual convention of multiple uses of graphic features appears to be the guideline for one’s own situated writing practice. Georgakopoulou (2016) also describes similarly conventionalized patterns of expressivity in relation to the interactional practices surrounding the posting of selfies. This “ritual appreciation” is manifested repeatedly in semiotic forms, “which are strikingly similar, visually and linguistically” (ibid., p. 301) and also include repeated exclamation marks.

Accordingly, instead of referring to a different semiotic mode (i.e. ‘digital punctuation emulates oralness’), an alternative starting point for explaining new forms and new functions of punctuation focuses on the interactional constellation of digitally mediated writing: at least two participants produce written utterances with the aim of interacting with each other, understanding each other, performing collaborative, sequentially unfolding communicative actions (cf. Georgakopoulou, 1997; Imo, 2019). Digital messages mold into a stream of interactional exchange to whose preceding utterances they are linked and whose progress they anticipate. As modern punctuation in line with the grammatical principle has long been understood primarily as a means of *text* segmentation (cf. Nunberg, 1990), these new digital practices of written interaction require a perspective on punctuation as a means of *interactional* organization—a perspective on punctuation in ongoing communicative events.

For this purpose, I draw on the framework of Interactional Sociolinguistics (Gumperz, 1982; Tannen, 2004) and Interactional Linguistics (Couper-Kuhlen and Selting, 2018; Selting, 2008) by exploring punctuation marks as *contextualization cues* that allow participants to “signal contextual presuppositions” (Gumperz, 1982, p. 131) and to achieve interpretations of written utterances in context, respectively. Contextualizing functions of punctuation in digitally mediated writing are analyzed by tracing how participants use these graphic resources to construct a collaborative meaning in ongoing sequences, establish a shared situation, and interpret that situation socially and communicatively. Thus, in terms of methodology, the proposed approach joins the ranks of linguistic CMC research that has already fruitfully used interactional concepts to study emoticons and emojis (Imo, 2019;

Pappert, 2017), spelling variation (Darics 2013), or even single punctuation marks (Androutsopoulos, 2018, 2020; Androutsopoulos and Busch, 2020; Ong, 2011; Vandergriff, 2013).

Following this interactional approach, I aim to investigate how the punctuation inventory (not just individual sign forms) fits into digital communication and how observable communicative practices suggest an essential turn in the use of punctuation—when punctuation marks refer neither to prosodic units, nor sentences or parts of sentences, but the collaborative course of interaction. Just as punctuation was utilized for structuring purposes with regard to the mediational practices of reading aloud (i.e. the rhetorical principle) and of composing syntactically complex written documents (i.e. the grammatical principle), a new and distinct punctuation principle should also be assumed for the mediational form of digitally written interactions: the *interactional principle*. When punctuation is deployed in an interactional mode, it structures primarily neither intonational patterns nor grammatical patterns, but interactional patterns such as sequential organization (e.g. by linking as well as delimiting interactive contributions and by displaying interactional stance). While grammatical and intonational functions can still play a secondary role, collaborative writers use punctuation marks in their interactional embedding as contextualization cues, indicating interpretations of utterances and guiding sequential progress.

In the emergence of these functions, the topological-spatial position of the forms certainly plays a crucial role: While syntactic delimiting functions of punctuation are not completely lost and can still be observed message-internally, interactional punctuation condenses especially on the periphery of messages—especially on the right margin. Interactional punctuation thus ties in with more general graphic contextualization practices by using topological slots in which, for example, emoticons and emojis would also be placed for contextualization work. How this theoretical sketch can be observed in empirical data will be illustrated in the following sections.

3. Data

The following investigations are derived from a research project on adolescents’ registers of digital writing (Busch, 2021). This study is based on data collected in four high schools in and around Hamburg, Germany, in 2016. Research on adolescents’ registers of writing is particularly interesting because the everyday literacy of young people incorporates both literacy practices in educational contexts of school, on the one hand, and extensive use of writing in digital media, on the other hand. Crucial for the analysis of digital punctuation are 23 text portfolios with formal and informal writing samples of adolescents between the ages of 12 and 18. Although this is a relatively wide age range in terms of linguistic practices, it allows comparisons with a representative study of adolescents’ media usage in Germany that examines this age group on an annual basis (cf. JIM-Studie, 2019). Each portfolio includes school texts written by hand (mostly essays from German literature classes) and at least two private WhatsApp chat logs. The school sample includes 77 texts with a total of 22,920 words, while the WhatsApp sample of 47 threads with a total of 151,970 words is substantially larger. The token count only refers to the messages of the 23 portfolio informants. By including the messages of the respective interlocutors, the result is an extended WhatsApp sample with 301,987 words. All chat logs were gained using the WhatsApp export function. Without exception, all WhatsApp threads can be labeled as informal with interlocutors such as close friends and schoolmates. Consequently, the prototypical activities include arranging appointments, small talk, gossiping, and joking around in the context of everyday school life as well as the

discussion of homework. In this sense, the sample seems to match the prototypical digital literacy practices of German adolescents.

The text portfolios enable a systematic (intra-individual) comparison between formal, non-interactive writing in school and informal, interactive writing using digital devices. All punctuation marks have been automatically counted for both the school sample and the WhatsApp sample. In addition, qualitative coding of the topological and sequential position of punctuation marks within messages was manually performed using the analysis software MAXQDA. In particular, it should prove to be relevant that each punctuation token was coded whether it was placed at the beginning, in the middle, or at the end of a message.

4. Quantitative distribution of punctuation marks

In order to focus on digital punctuation, it makes sense to begin by comparing the overall frequencies of punctuation in both samples (see Table 1). The figures suggest that the distribution of punctuation marks varies by sample. What was already suspected is shown here: While the most common signs in formal writing are by far the period and comma, these syntactic signs play a minor role in digital informal writing. Instead, the question mark, apostrophe, and ellipsis dots have higher frequencies in WhatsApp chats.

These differences in frequency can most likely be explained by the varying contextual settings and the associated communicative activities (cf. Biber and Conrad, 2009; Sanchez-Stockhammer, 2016). While we can observe a punctuation practice of the grammatical principle primarily in the school sample, the WhatsApp sample seems to provide evidence of the interactional principle due to the accumulation of certain communicative signs, i.e. the question mark, and the suppression of syntactic signs, i.e. the period and the comma (regarding the distinction between *communicative* and *syntactic* signs see Section 5). Of course, this interpretation of the figures remains vague at first and requires subsequent qualitative in-depth analysis to confirm it in the following section.

However, the remainder of this paper is not just about the widely used punctuation marks of the WhatsApp sample. Instead, the analysis will also focus on those punctuation marks that are used relatively infrequently and that may still undergo functional shifts in keeping with the interactional principle. Only an empirical analysis of a broader appropriation of the entire punctuation inventory would prove a principled practice of interactional punctuation in digital writing.

5. Punctuation classes in the WhatsApp sample

In order to draw a picture as holistic as possible, the following analysis is subdivided into the three functional classes of the punctuation inventory according to Bredel (2008, 2011): *syntactic signs*, *communicative signs*, and *scanning signs*. Bredel develops a cognitive-pragmatic theory of punctuation, according to which punctuation signs instruct the reader how to decode a written utterance. Although the approach was not developed under consideration of digital communication, it is also well suited to interactive writing by providing an action-centered model of punctuation usage. While syntactic signs (i.e. period, comma, semicolon, and colon) guide the grammatical parsing process of reading, communicative signs (i.e. exclamation mark, question mark, quotation marks, and parenthesis) concern the role relationship between writer and reader. Finally, scanning signs (i.e. hyphen, apostrophe, and ellipsis dots) indicate that information necessary for decoding (grammatically or lexically) is missing and must be added by the reader herself. All three classes show a shift towards

Table 1
Punctuation sign frequencies in the school and WhatsApp sample per 1,000 words. (Absolute numbers in brackets.)

	School sample	WhatsApp sample
<.>	72.1 (1,662)	3.7 (568)
<,>	54.8 (1,263)	2 (297)
<:>	0.2 (4)	0 (1)
<?>	6.7 (155)	1.3 (193)
<!>	2.1 (49)	1.2 (188)
<?>	3.3 (77)	17.2 (2,621)
<'>	13.6 (313)	0.3 (47)
<(>	9.7 (223)	0.5 (74)
<)>	11.3 (261)	0.5 (79)
<->	5.1 (121)	0.2 (32)
<>	0.1 (3)	0.4 (63)
<...>	0.9 (21)	6.3 (952)
Σ	181.2 (4,152)	33.7 (5,115)

the interactional principle in digital writing. This is shown below with regard to the period and the colon (syntactic signs in Section 5.1), the exclamation mark and the question mark (communicative signs in Section 5.2), as well as the ellipsis dots (scanning sign in Section 5.3).

5.1. Syntactic signs: period and colon

The omission of the period at the end of text messages has been repeatedly noted in recent research (cf. Gunraj et al., 2016; Houghton et al., 2018; McSweeney, 2018). At the same time, however, these studies suggest that although the frequency of this specific punctuation mark is drastically marginalized, the period is retained in the punctuation inventory and is still systematically deployed by writers—only less often and with a different communicative function.

The same can also be seen in the German data examined here (cf. Androutsopoulos and Busch, 2020; Busch, 2017). Focusing on the distribution of the period in the WhatsApp sample, it shows that only 12 out of 23 participants use periods at all, most of them with a low message-to-period-ratio and especially at the end of sentences within a message—not at the end of messages. These findings suggest the formation of a new local norm in informal digital writing: the omission of periods at the end of messages. This can be explained by the affordance of the medium to display messages as delimited speech bubbles. Postings already appear visually as bracketed; the end of a message and therefore the end of a message's final syntactic construction are already identifiable without punctuation. Given this functional substitution, one might wonder why message-final periods are observed at all.

But it is precisely the default of omission that may now be exploited communicatively with exceptional periods. Compared to the default without a period, the message-final periods appear marked. Against this backdrop, the period has the potential to be meant and to be understood as a contextualization cue. To illustrate if and how a message-final period contextualizes messages, the following is a closer, qualitative look on example 1 and 2 below.

Example 1.

01/01	17:32:	Martin:	Gleich GTAV? 'GTAV in a moment?'
01/02	17:36:	Frank:	Ne sorry. 'Nope sorry.'
01/03	17:37:	Martin:	☹

Example 2.

-
- 02/01** 16:55: *Martin:* *Hast du am Freitag also morgen zeit?*
'Do you have time on Friday,
tomorrow?'
- 02/02** 22:09: *Frank:* *Nein. Leider nicht.*
'No. I'm afraid not.'
- 02/03** 22:34: *Martin:* *Hast du echt keine zeit?*
'You really don't have time?'
-

In example 1, Martin invites Frank to an online session of the videogame *GTA V* (01/01). Frank rejects and closes the dispreferred responsive message with a period (01/02). In example 2, Martin asks Frank if he has time for a meeting the next day (02/01). Frank denies this question and closes the dispreferred responsive message with a period (02/03). What we see here is Frank's strategy to use the period in unwilling or dispreferred second turns. More specifically, Frank tends to use his rarely realized message-final periods to contextualize his unwillingness of further negotiation within an interactional sequence (even if this stance is challenged by Martin in the second example). This interpretation is also supported by the fact that Frank shows no effort to establish accountability for his dispreferred answer; there is no explanation for his turning down the invitation, nor does he reply with a 'good news exit' (e.g. suggesting a different date) which can be observed in comparable interactional contexts (cf. König, 2015). Furthermore, example 2 in particular shows that the dispreferred response was sent after a relatively long time which also contributes to the unenthusiastic tone. The period is thus arranged here as part of a cluster of contextualizing strategies, which—apart from the politeness expressions *sorry* (example 1) and *leider* (example 2)—suggest Frank's grumpy attitude.

In addition, the fact that Frank's message-final periods must be considered as communicatively marked here is also shown by its overall quantitative distribution. In Frank's 841 messages there are only 74 message-final periods. That only 8.8% of Frank's messages end with a period (while most messages end without punctuation at all, with a different punctuation mark, or with an emoticon) makes it clear that Frank's message-final periods are noticeable exceptions—even though his period frequency is still far above that of the other participants (cf. Androutsopoulos and Busch, 2020).

Thus, in the light of qualitative analyses, we can state that the period has at most a metaphorical syntactic function, such as the pronounced 'period' at the end of a spoken utterance to indicate a firm stance. What we see is that the period was fitted into a repertoire of interactionally functionalized forms.

However, this *pragmaticalization*—as Androutsopoulos (2018, p. 728) calls it—does not apply to all syntactic signs. Partly they keep their structuring function, but their point of reference is less the syntax of a text than the interactional organization. This applies, for example, to the colon. In its traditional function, the colon identifies lexical content "as an elaboration or expansion of some element in the preceding lexical clause" (Nunberg, 1990, p. 30). In this function, we find the colon as a frequent punctuation mark in the school sample but also in some instances in the WhatsApp sample, as we see in example 3 below. Frank uses the colon to announce a list of things he will have with him on a paintball meeting.

Example 3.

-
- 03/01** 10:25: *Frank:* *Soll ich irgendwas bestimmtes mitbringen außer: Kugeln, Kleidung, 10 € und Hygiene-Artikel?*
'Should I bring anything in particular with me except: bullets, clothes, 10 € and hygiene articles?'
-

The example illustrates how traditional functions of punctuation occur. They are part of the interlocutors' writing repertoires and can still be used to textually structure messages.

Nevertheless, punctuation marks are overlaid with other, new, or enhanced functions. The following example 4 illustrates this for the colon.

Example 4.

-
- 04/01** 16:57: *Frank:* *Am besten stellst du ein, dass ich garnicht erst bei den Freunden angemeldet werde.*
'The best thing you can do is to set that I'm not even registered with my friends.'
- 04/02** 16:57: *Martin:* *Wie das?*
'How's that?'
- 04/03** 16:58: *Frank:* *Einstellungen. → Freunde. → und dann den haken so machen:*
'Settings. → Friends. → and then tick the box like this:'
- 04/04** 16:58: *Frank:* *[photo omitted]*
- 04/05** 16:59: *Martin:* *Okay hats gemacht*
'Okay did it'
-

In this sequence, Frank asks Martin to make certain settings in an online computer game (04/01). He describes his technical instructions in message 04/03 step by step, segmented and connected by typographic arrows to navigate Martin to the settings menu. For the last step, he refers to a screenshot sent as an image file in the following message 04/04, which shows where Martin has to click. This cataphoric reference is realized by the combination of modal deictic *so* and a colon at the end of message 04/03. The colon provides a graphical pointing—comparable with text-deictic means such as *see below*. It is the colon that instructs cross-messages and establishes cohesion between the messages 04/03 and 04/04. In an interactional perspective, Frank deploys the colon as a projective device to instruct his chat partner at the end of the third message that a fourth message will follow immediately, so Frank's turn is not yet finished. The colon functions as a floor-holding device in this instance.

This observation is particularly remarkable because there are doubts in research about the extent to which conversational categories such as 'turn' and 'floor' can be applied to digitally written interactions (cf. Garcia and Jacobs, 1999; Giles et al., 2015; see also König this volume and Meiler this volume). For example, Beißwenger (2007) considers the concept of floor to be unsuitable for describing written interactions because overlaps are (technically) impossible anyway and speakers do not compete for the floor as it is known from spoken face-to-face conversations. By acknowledging this critique of the notion of floor in its narrower

sense, it is at the same time obvious that participants orient themselves with basic structuring procedures of sequential organization by developing strategies to indicate their claim of ‘holding the floor’ in a wider understanding of the term. For example, [Beißwenger \(2007\)](#) reports on the practice of *splitting* in chat conversations, in which an interlocutor splits up a written contribution into several shorter messages sent quickly one after the other in order to signal her current claim of the producer role and to assign recipient roles to other participants (cf. [Beißwenger, 2007, pp. 245-253](#)). The projective practice of the colon as shown in example 4 seems more comparable with these kinds of activities, indicating the cohesion of two messages as parts of one interactional turn—which, if possible, should not be interrupted by another participant’s contribution.

What can be observed for message-final colons in the WhatsApp sample is therefore a functional extension: The punctuation mark abstracts its reference level and not only refers to following verbal utterances but to the whole subsequently sent message as a coherent expansion. This use is especially realized when the colon construction is verbalized in a first message and is followed by a colon expansion in another semiotic modality in a second message, such as an image, video file, or a voice message.

5.2. Communicative signs: exclamation mark and question mark

In contrast to syntactic signs, which are partly reinterpreted and expanded by the participants in interactional writing contexts, communicative signs such as the question mark and the exclamation mark are inherently oriented towards participant stances (cf. [Bredel, 2011, p. 49ff](#)). Nevertheless, we also see functional shifts and specific uses in this punctuation class with regard to the interactional mode of text-messaging.

Certainly, the most conspicuous on a formal level here is the tendency to repetition. For example, we can see that there is approximately the same number of single and iteration instances of exclamation marks in the WhatsApp sample (see [Table 2](#)). Furthermore, individual style preferences are observed relative to the particular writers: While Anne (on rank 1) or Lisa (on rank 2) mainly repeat, Elisabeth (on rank 3) and Frank (on rank 4) mainly realize single exclamation marks.

The following example of one of Lisa’s threads shows the extent to which a socially shared convention of repetition can be expressed and thereby established.

Example 5.

05/01	20:17:50:	Lisa:	[video omitted]
05/02	20:17:40:	Nelly:	Cool
			‘Cool’
05/03	20:19:32:	Lisa:	Cool??HEFTIG!!!!!!!!!!!!
			‘Cool??VIOLENT!!!!!!!!!!!!’
05/04	20:19:35:	Nelly:	Was
			‘What’
05/05	20:20:02:	Nelly:	Ich kann leider nicht den tob hören
			‘I can’t hear the sound’
05/06	20:20:07:	Nelly:	Ton
			‘Sound’

After Lisa has sent a funny video file in message 05/01, Nelly only answers *Cool* with no further punctuation or emojis (05/02).

² Such formats of *other-initiated other-repair* (see Mostovaia this volume) can be assumed to be the strictest metapragmatic evaluations that can be found in digitally written interactions.

Table 2

Absolute frequencies of single and repeated exclamation marks per participant (predominant numbers in bold).

	<!>	<!> repeated
01 Anne	5	39
02 Lisa	8	26
03 Elisabeth	20	3
04 Frank	15	3
05 Jana	14	1
06 Janne	8	5
07 Konrad	5	5
08 Marcel	6	3
09 Ina	3	4
10 Tobias	3	1
11 Nadine	1	2
12 Benni	2	0
13 Nils	2	0
14 Kunzang	0	2
15 Otto	0	1
16 Alma	1	0
Σ	93	95

In message 05/03, Lisa evaluates Nelly’s reaction as inappropriate by repeating her utterance and adding an iterated question mark.² Then she adds an—in her point of view—adequate reaction: *VIOLENT!!!!!!!!!!!!* The expressivity indicated through uppercase letters and eleven exclamation marks is not only to be read with regard to the video file in message 05/01 but also refers metapragmatically to Nelly’s evaluation in message 05/02, which lacks any graphic expressivity markers at all. What we see is Lisa demonstrating how to index a contextually appropriate socio-emotional stance (cf. [Georgakopoulou, 2016; Tannen, 2013](#)). The underlying semiotic relationship of iconicity concerns both the exclamation mark and the question mark: The more signs are set, the stronger the indexed meaning. The interactional principle shows itself in this increasing ability to gradually index socio-emotional stances, i.e. the overt display of emotion that is designed for “evaluating objects, positioning subjects (themselves and others), and aligning with other subjects, with respect to any salient dimension of the sociocultural field” ([Du Bois, 2007, p. 163](#); cf. also [Du Bois and Kärkkäinen, 2012](#)).

This expansion of contextualizing functions is especially evident for the question mark, which is orthographically required at least for some question types. However, this normative expectation is undermined by the fact that the linguistic structures, which make a question mark normatively required in standard writing, also clearly identify a sentence itself as a question in German—namely the use of *w*-words such as *wie* (example 6), verb-first clauses (example 7), as well as the addition of question tags such as *oder* (example 8). It is precisely in these cases that it can be observed that question marks are omitted. The question mark’s function of indicating the end of a sentence disappears completely.

Example 6.

06/01	22:17:	Alma:	Wie ist es ausgegangen
			‘How did it end’

Example 7.

07/01	18:49:	Nadine:	Willst du morgen bei uns mitfahren
			diesmal werden wir auch so pünktlich
			sein das wir noch zu Edeka können 🍷❤
			‘Do you want to ride with us tomorrow
			this time we will be also so on time that
			we can still go to Edeka [a supermarket]
			🍷❤

Example 8.

08/01 18:06: *Marco: Ihr habt mich doch jtz locker verarscht oder
'You've got to be kidding me, haven't you'*

Instead, question marks are used when smooth turn-taking is at risk, for example, when a written question without rising intonation does not become clear as a question, as in example 9. Lisa asks for a meeting at the bakery. However, the interrogative clause type does not become clear without a question mark. Therefore, to avoid misunderstandings, Lisa adds a single question mark in message 09/03 a few seconds after message 09/02.

Example 9.

09/01 07:37:59: *Lisa: Hi
'Hi'*
09/02 07:38:13: *Lisa: Treffen bei der b ckerrei
'Meeting at the bakery'*
09/03 07:38:26: *Lisa: ?*

It shows that the time that has elapsed since the previous message is crucial for the interpretation of single question marks. While the question mark in example 9 was sent in close temporal progression (and is therefore analyzed as a supplement to message 09/02), in example 10 we can observe a temporally stretched use. Especially in such instances of temporal distance from preceding messages, an interactional characteristic of decoupled question marks becomes particularly clear: the focus on a directive function. Frank's question mark in message 10/02 seems especially remarkable here because the preceding message 10/01 ends with an imperative clause. The question mark relates to this directive utterance and refers to the twelve minutes elapsed in which Frank's chat partner did not react. It could be paraphrased as 'What is going on? Why don't you answer?' or 'Please write!'. The question mark updates the request from message 10/01 and clarifies its urgency. Also, message 10/02 provides a new push notification signal to the addressee's device to draw attention to Frank's request. In other words, the question mark here does not indicate that the previous message is to be read as a question but instead implements a new directive action itself. In usages like this, question marks are not only decoupled from the syntactic structure of a sentence—they are completely decoupled from the lexical content and only indicate that a response is expected.

Example 10.

10/01 11:01: *Frank: Steam meint, ich bzw. Du spielst gerade
Gta... falls du es gerade spielst. Ich m chte
jetzt spielen... schreib mir bitte einfach,
wan die mission vorbei ist
'Steam tells me you're playing Gta... if you
are playing it right now. I want to play
now... just text me when the mission is
over'*
10/02 11:13: *Frank: ?*
10/03 11:14: *Frank: Sorry, dass ich so ungeduldig bin, aber
nacher spielst du garnicht, sondern
irgendein Hacker.. dann muss ich so schnell
wie m glich mein PW  ndern
'I'm sorry I'm so impatient, but maybe
you're not playing, but some hacker.. then I
have to change my PW as soon as possible'*

5.3. Scanning signs: the ellipsis dots

The last punctuation mark investigated here goes in a similar direction: the ellipsis dots, the second most common punctuation mark in the WhatsApp sample (see Table 1). While the orthographic codification by which the ellipsis dots indicate missing parts of a clause does not play any role in the data examined, a key function of ellipsis dots can be observed: allusion (cf. Androutsopoulos, 2020; McSweeney, 2018; Vandergriff, 2013). Here, a similarity to the rhetorical device of aposiopesis can be seen, which is also indicated with ellipsis dots, especially in literary texts. However, the syntactic omissions we know from aposiopeses are not a characteristic of utterances that are closed with ellipsis dots in the WhatsApp sample under investigation. There are no 'missing' verbal constituents in most of these cases. Instead, the ellipsis dots guide the recipient's conversational inference by indicating a message as alluding to some shared culturally and personally shaped background knowledge without making it explicit. By avoiding explicitness, ellipsis dots are also repeatedly used as a means of politeness in digital interactions, for example, to express "polite disagreements" (Vandergriff, 2013, p. 5). This allusive indexicality of the ellipsis dots thus also has an interactional dimension: Ellipsis dots at the end of a message indicate that an action trajectory is kept open—the dots indicate there is more to be said and project subsequent contributions. In this sense, the sign appears as the opposite of the period (see Section 5.1). The following example shows the extent to which social positioning is achieved through this intimation function.

Example 11.

11/01 19:46: *Julia: Ubd bei dir??  
'How about you??  '*
11/02 19:52: *Jana: Ja halt mit Schule alles dumm
'Yeah well school's all stupid'*
11/03 19:52: *Julia: Oh man
'Oh boy'*
11/04 19:56: *Jana: Ja  
'Yes  '*
11/05 20:22: *Julia: Ach s  e so kann das doch ehrlich nicht
weiter gehen...
'Oh sweetie it can't go on like this...'*
11/06 20:22: *Jana: Ich wei ..
'I know..'*

After Jana reports her frustration about her situation in school, her friend Julia states *Oh sweetie it can't go on like this...'* in message 11/05. Jana confirms the evaluation in message 11/06, also with final ellipsis dots. The ellipsis dots of both writers indicate that there would be actually still more to write on the topic (what can be observed as common use in the data). Regarding the relatively short and unspecific explanation for Jana's sadness in message 11/02, it can be assumed that both interlocutors had already exchanged messages on this topic. A closer look at the detailed chat history actually shows that Jana and Julia had been talking about problems at school for several weeks already and also directly the day before the sequence shown in example 11. By using ellipsis dots, they are now alluding to the problem known to both of them in its larger context. At the same time, the final ellipsis dots in message 11/05 are to be read as marking the message as not providing a fixed solution to Jana's problem but remaining open in the sense that it demands a future process of action. The fact that Jana also uses ellipsis dots in message 11/06 can be understood as a social

alignment (cf. Du Bois, 2007). Jana signals through punctuation that she shares Julia's assessment of the emotional situation (as an object of evaluation) and thus positions herself affirmatively in solidarity.

In other cases, the indicated openness does not only remain an intimation, but the ellipsis dots project a follow-up contribution. The ellipsis dots then either initiate turn-taking, i.e. assign the producing role to the other participant (as can be seen in example 12 below, where both interlocutors recite song lyrics together and align in their uses of punctuation and emojis; the ellipsis dots cue this shift to this special collaborative activity), or frame a message as a chunk of an overall turn that is not yet finished (as can be seen in example 13 in which Lisa realizes an enumeration in message 13/02 that continues after an interruption in message 13/04). This latter use appears to be comparable to the use of the colon as a floor holding device, discussed in Section 5.1.

Example 12.

12/01	20:34	Jessica:	<i>F steht für... 🍷</i> 'F is for... 🍷'
12/02	20:38	Laura:	<i>Freunde die was unternehmen... 🍷</i> 'Friends who do stuff together... 🍷'
12/03	20:39	Jessica:	<i>U steht für... 🍷</i> 'U is for... 🍷'
12/04	20:39	Laura:	<i>Uns dich und mich... 🍷</i> 'you and me... 🍷'
12/05	20:39	Jessica:	<i>N steht für... 🍷</i> 'N is for... 🍷'
12/06	20:40	Laura:	<i>Endlich haben wir mal Spaß ganz friedlich und freundschaftlich 🍷</i> 'Anywhere and anytime at all, down here in the deep blue sea 🍷'

Example 13.

13/01	20:57:11	Nelly:	<i>Was machst du grade</i> 'What are you doing right now'
13/02	20:59:23	Lisa:	<i>Musik hören,auf dem sofa(in mein Zimmer sitzen,mit tobi und dir schreiben,das Gruppen Bild von dem 6c chat aktualisieren...)</i> 'listening to music, sitting on the sofa in my room, texting with tobi and you, updating the profile pic of the class chat...'
13/03	20:59:00	Nelly:	<i>Wow.</i> 'Wow.'
13/04	21:00:04	Lisa:	<i>...und warten das pastevka beginn</i> '...and waiting until [the TV show] Pastevka begins
13/05	21:00:08	Lisa:	<i>Und du??</i> 'What about you??'

6. Discussion and conclusions: punctuation as interactional writing practice

The examples above illustrate the flexible yet systematic appropriation of punctuation marks by interlocutors to deal with interactional tasks in mobile text messaging. By following the

interactional principle, punctuation serves writers and readers in digital interactions primarily as a graphic means of communicative and social contextualization. On the one hand, interactional punctuation contextualizes collaborative interaction management by ensuring interactional cohesion (e.g. using the colon as in example 4), demanding a change of participation roles at sequential positions relevant for turn-taking (e.g. using the question mark as in example 9 or 10 as well as the ellipsis dots as in example 12 or 13), or—on the contrary—marking sequences or action trajectories as closed (e.g. using the period as in examples 1, 2, or 3). On the other hand, punctuation contextualizes the socio-pragmatic interpretation of contributions by indexing affective stances and social alignment. This might be particularly evident in the period's function to indicate social and emotional distance (cf. Androutsopoulos and Busch, 2020) but can also be observed in the conventionalized display of excitement indicated by exclamation marks (e.g. in example 5) as well as the social alignment indicated by ellipsis dots (e.g. in example 11).

The innovative functions that punctuation marks take on in each case are not arbitrary: they draw on traditional codified functions but are reinterpreted or extended in interactional writing. For example, the deictic function of the colon is traditionally known—although utilizations such as in example 4 show that this deictic function is transferred and expanded from a textual to an interactive and even transmodal mode. A similar argument can be made for the class of communicative signs. For example, the directive function of the question mark (e.g. in examples 9 and 10) has its origin in the codified function of the sign but evolves in interactive writing with a new autonomous, discourse-specific quality.

Most of the examples discussed suggest that there is a tendency to weaken the grammatical principle in interactional writing via text messaging applications, while the communicative tasks of punctuation become more relevant. Nevertheless, it is important to stress that we are not dealing with exclusivity here. Although the interactional principle is particularly characteristic of the data examined, the grammatical principle also applies to certain punctuation practices. In this respect, the analyses suggest topological-spatial segregation: The interactional principle is most evident at the initial and final positions of messages—these slots can be considered particularly relevant in terms of sequential organization and stance-taking. While punctuation at the very beginning of a message refers to a preceding message (e.g. in the case of the ellipsis dots as in example 13), message-final punctuation commonly contextualizes the message it is included in and projects a scope of potential follow-up contributions by other participants (here the ellipsis dots are also suitable as an example, but also the period or the directive use of the question mark). The topological periphery of a message is especially relevant for sequential organization through punctuation.

The special status of this position for interactional matters is also shown by the fact that emojis and emoticons, another important means of digital contextualization, also occur particularly frequently in these slots. In this sense, a semiotic repertoire of interactionally relevant message-final forms can be assumed, in which not only certain punctuation signs but also emojis, as well as emoticons, are included. This repertoire is constituted by the expansion of the interactional principle on the punctuation side, but also by the expansion of syntactic function on the side of pictorial signs. Thus, it has already been noted in various studies that emojis and emoticons share characteristics with punctuation by structuring and terminating messages (cf. Dresner and Herring, 2010, p. 264; Provine et al., 2007). Future comparative research can start here to examine this heterogeneous class of forms with regard to their shared communicative functions. For example, reflexive interviews suggest that young participants perceive a continuum from the very formal punctuation marks to the more

conservative, but informal emoticons and finally to the informal, playful emojis (cf. Busch, 2021). The structural hybridity of emoticons as pictorial signs composed of punctuation marks is reflected in the participants' socio-communicative appropriations. The extent to which pictorial signs and punctuation interrelate at the message-final position and form paradigms of contextualization thus seems to be a complex and productive area for future research.

While the message-final position is thus primarily the place of the interactional principle, in contrast, it is shown that punctuation within messages can increasingly be oriented towards other principles, predominantly the grammatical principle. Research that takes a deficit-oriented view of punctuation runs the risk of discussing only those punctuation features that deviate from the orthographic standard. However, the examples discussed clearly show that syntactic punctuation marks are also deployed in digital interactions according to their codified functions. This is demonstrated by the more frequent use of periods message-internally as well as the use of commas—be it for delimiting subordinate clauses (e.g. example 4 and 10) or for structuring enumerations (e.g. examples 3 and 13). In this regard, syntactic punctuation is quite common in the sample, although its codified use is probably also related to the linguistic ideologies of participants. For example, in Frank's chats (examples 1, 2, 3, 4, and 10), a higher orientation to the orthographic standard and thus also a higher weighting of the grammatical principle can be observed in comparison to the other informants. In contrast, participants such as Lisa and Nelly (examples 5, 9, and 13) display a different attitude to standard language norms and realize interactional punctuation almost exclusively. It could be argued that interactional punctuation is indispensable in digital interactive writing, while grammatical punctuation increasingly serves a socio-indexical function of displaying participants' prestigious orthographic competence. This claim is consistent with additional ethnographic investigations that examined the linguistic-ideological assumptions and rationalizations of the participants studied here and emphasize the social value of the orthographic standard as an extremely relevant reference point for practices of social positioning among German adolescents (cf. Busch, 2018, 2021). The basic characteristics of standard German punctuation as being primarily oriented to the grammatical principle as outlined in Section 2 is certainly crucial here. Since Modern High German offers relatively little stylistic freedom when it comes to grammatical punctuation (compared to Modern English, for example), the binarity of standard and non-standard punctuation may be perceived as even more socially marked than in languages that already exhibit a greater degree of punctuation variation. Accordingly, orthographic competence and punctuation competence, in particular, are shown to be something that adolescents metapragmatically reflect on very consciously and link to social contexts, especially formal educational contexts—whereas standard punctuation in informal text messages tends to be enregistered with specific activities (e.g. arguing) or specific addressees (e.g. parents), which, compared to the prototypical 'texting with friends', appear to be rather socially marked.

The various interactional utilizations of punctuation marks may have their predecessors, such as the informal handwriting of postcards or the use of writing in comics (cf. Sanchez-Stockhammer, 2016). In these cases, we also see a dialogical orientation—for example towards the addressed recipient of a postcard or between the characters in a comic strip—and we also encounter the need for social and emotional contextualization. Nevertheless, it must be noted that digital punctuation as a means of shaping quasi-synchronous, mutual interaction adds a whole new dimension to the communicative orientation of punctuation. As these new digital writing practices conventionalize, new registers emerge, which coexist with those of institutional writing, simply because people

are now using written language for a much wider range of purposes than ever before, and the same people who interact on WhatsApp also write for educational and professional purposes, using completely different punctuation styles (as the comparison between school essays and WhatsApp threads of the same informants clearly showed). Focusing on digital punctuation seems to be a fruitful way for future research to learn more about the social differentiation of written resources in general.

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