Chapter 14

Dynamics of discourse markers in language contact

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This chapter addresses the dynamics of discourse markers (DMs) in language contact. DMs are functionally variable elements that are grammatically not integrated and hence easily transferable – in terms of matter as well as in terms of pattern. This makes them especially dynamic in language contact and, in particular, in heritage languages. We present findings from the RUEG corpus on verbal DMs and on the three-dot sign, which we approach as a graphic DM, in different heritage languages (German, Greek, Turkish, Russian) and majority languages (English, German). Qualitative findings indicate an impact of societal status differences on frequencies, functional extension/restriction, and (inverted) pragmaticalisation processes.

1 Introduction

Discourse markers (DMs) are linguistic devices that speakers use to signal a range of pragmatic and communicative functions in their speech and writing. These markers are functionally variable elements, and their polyfunctional nature (e.g. Moosegard Hansen 1998, Schiffrin 1987, Schourup 1999) makes them a highly versatile lexical domain in general (Auer & Günthner 2005). This inherent characteristic of DMs may be conducive to innovation, especially in informal communicative situations where there is less normative pressure compared

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to more formal situations. In language contact settings, the use of DMs can be particularly interesting, as speakers' repertoires contain DMs from different languages whose functions might overlap. Research suggests that bilingual speakers profit from shared mental planning processes while using different resources in their repertoire (cf. Matras 2010: 69). As a consequence, bilingual speakers might have access to a shared functional pool of such DMs. Previous studies discuss two main reasons for the dynamics of DMs in language contact: 1) their detachability and 2) their tendency for functional convergence.

(1) Detachability: According to Matras, DMs are highly detachable not only in a structural sense but also from the bulk of the lexicon (Matras 1998, 2020; see also Fuller 2001). Because of their "pragmatic role […] as highly automatic conversational routines" (Matras 2020: 209) and their gesture-like quality, Matras suggests the involvement of distinct control mechanisms compared to those governing lexical items or grammatical inflections (Matras 2020: 209). In bilinguals, this easily leads to the tendency to integrate DMs from one language into the other, as various studies on borrowings have shown (e.g. Salmons n.d., Goss & Salmons 2000, Fuller 2001, Matras 1998, see also Wiese et al. 2025 [this volume]). This phenomenon is also called matter replication (see Matras & Sakel 2007, Matras 2010).

(2) Functional convergence: DMs are not only susceptible to matter replication (or borrowing) but also to pattern replication (see Matras & Sakel 2007, Heine et al. 2021: 212). For the discourse domain and specifically DMs, this means that the functional spectra of specific DMs have the potential to converge. This can lead to functional extensions, restrictions and/or an increase in frequency.

While previous studies on DMs in language contact settings mainly focused on borrowings (e.g. Salmons n.d.; contributions in Maschler 2000), this chapter focuses on functional convergence in the discourse domain. We examine the dynamics and variability of DMs across different languages and contact settings where languages have a different societal status: They have either the status of a minoritised heritage language that is mainly spoken in families and in certain communities but is not the language of the larger society or as a majority language, i.e. the language spoken by the larger society in which administrative processes and school education usually take place. A typical scenario for bilingual heritage speakers (HSs) usually results in them being dominant in their majority language, at least in certain communicative situations, at some point after

the start of school (cf. Rothman 2009, Flores et al. 2019). As a consequence, one might expect a stronger influence of the majority on the heritage language. In this chapter, we will look at how this influence manifests itself in the case of DMs. More specifically, we will investigate how overlapping functional spectra of DMs in one language influence the use of DMs in a contact language. This leads us to our first research question: What are the patterns of functional variation, extension, and restriction of DMs in language contact?

We also introduce a new kind of DM, namely graphic DMs, such as the three-dot sign, from instant messaging (Labrenz et al. 2022; see also Wiese & Labrenz 2021 on emoji as graphic DMs), thus including the (informal) written domain into DM research. By so doing, we follow Imo's call to broaden DM studies (Imo 2017). Graphic DMs are an interesting case for studies in language contact because they are not confined to any specific language, but rather keep their form or matter across languages, which makes them translinguistic elements. In view of this fact, it is particularly interesting to see if language-specific uses or functions still occur or if the same matter also leads to cross-linguistic universal patterns. This leads us to our second research question: Are there language-specific uses of graphical DMs even if they have the same form across languages? If so, what are the dynamics in bilinguals? In pursuit of these questions, we conduct a cross-linguistic study that includes a range of contact settings which allows us to disentangle the effects of societal language status and bilingualism in general. The chapter is structured as follows: Section 2 discusses conceptual aspects of DMs, followed by an overview of the functions of the verbal and graphic DMs explored in this chapter based on prior literature. Section 3 presents the database and outlines the procedure of the corpus study. In Section 4, we present the findings regarding specific uses in language contact. Following a brief discussion and the synthesis of the findings in Section 5, we conclude in Section 6.

2 Verbal and graphic DMs

DMs typically come from a variety of part-of-speech categories, such as adverbs and conjunctions (cf. Schourup 1999, Crible 2018: 69 for an extended enumeration). According to the literature, such polyfunctional lexical items carry a core meaning that has been partly lost through a process of semantic bleaching and syntactic disintegration (cf. Hopper & Traugott 2003: 94), a process also referred to as pragmaticalisation or grammaticalisation (see Brinton 2017 and Diewald 2011 for a discussion of these terms). A consequence of this process is that DMs contribute solely to the discourse-functional level. And this can be said for verbal

as well as graphic DMs alike (cf. Wiese & Labrenz 2021 on emoji, Labrenz et al. 2022 on the three-dot sign). We define DMs

> […] as elements that are not fully syntactically integrated and do not directly contribute to the propositional meaning and truth value of an utterance but rather operate on the level of discourse (cf. Blakemore 2004, Fraser 2006, Blühdorn et al. 2017). (Wiese & Labrenz 2021: 3)

Throughout the literature there are different approaches to what should be included in the category of DMs. This terminological inconsistency in the field (e.g. Andersen 2001, Fraser 1999) makes it particularly challenging to work cross-linguistically on discourse-pragmatic markers. In this paper, we address this challenge by taking on a functional perspective on DMs (cf. Maschler 2009). For this purpose, we consider a range of functions that are prototypical for the class of DMs (see also Pons Bordería & Fischer 2021 on DM features).

For instance, connectors that mark semantic relations are more lexicalised and, in our view, less prototypical as DMs than markers that solely structure discourse. This is in line with Ariel (1994), who distinguishes between "semantically transparent markers as opposed to relatively opaque ones" (Ariel 1994: 3251). Pragmatic detachability (Matras 1998) in terms of degree of lexicalisation and semantical transparency can thus serve as indicators for prototypicality of DMs. Following this logic, English *so* as a semantically transparent marker, is less typical for the class of DMs than English *well* (Ariel 1994, Müller 2005: 62).

Below we give an overview of the canonical functional spectrum of the items under investigation – that are German *so*, Turkish *yani* and *işte*, Greek *etsi* and *lipon*, and the three-dot sign based on previous descriptions in the literature, and list those functions that are relevant for later analysis. Since most of the verbal DMs overlap functionally with either English *so* or with German *so* or *also*, we expect convergent developments between these markers. As they are important counterparts of the items under investigation, we first give a brief overview of their functional spectrum.

English *so* is widely being acknowledged as an adverb of degree and manner (like German *so*) and as a conjunction (e.g. Müller 2005: 62). As a conjunction, it indicates an inference or a consequence. In this function, it is seen as a DM by most researchers, although it might not be the most prototypical representative of its class (see Müller 2005: 62 and discussion in the Introduction). Another function of *so* in peripheral position is that of initiating a new narrative sequence (cf. Bolden 2009). The functional spectrum of English *so* encompasses initialising

a narrative, indicating the end of a narrative, thematic switch, and [indicating a consequence][1].

German *also* is a highly polyfunctional lexical item (e.g. Alm 2007, Fernández-Villanueva 2007, Labrenz 2023). A central use of *also* is as a consequence indicating adverbial connector and as marker for indicating inferences (Konerding 2004). It is also commonly used as a repair marker, including the indication of elaborations/specifications, corrections, restarts and hesitations (see Pfeiffer 2017). Similar to English *so*, it can be used to initiate a new narrative sequence. In addition, it can indicate the speaker's stance (evaluation) (Labrenz 2023). The functional spectrum of *also* includes initialising a narrative; indicating evaluations/inferences, elaborations, or corrections/restarts; and [indicating a consequence (adverbial connector)][2].

German *so* is a highly polyfunctional lexical item and its classification has been widely discussed in a range of grammatical descriptions and studies (see Schumann 2021 for an overview). A central function of *so* is its deictic use (e.g Thurmair 2001, Ehlich 2007). As a modal indexical marker, it can indicate manner, quality, or intensity (Wiese 2011, Schumann 2021). Additional uses are as a comparison particle, as a quotative marker, as a progressive marker, and to indicate approximations and hedging (cf. Hennig 2006, Wiese 2011, 2012, Schumann 2021). In addition, Hennig (2006) mentions the use of *so* in the function of initialising a new narrative sequence in left peripheral position (cf. Hennig 2006). A non-canonical use of *so* as a focus marker has been described by Wiese (2011) and explored in detail by Schumann (2021). In this use, *so* is an optional element that is semantically bleached such that it does not contribute any meaning and solely contributes on the level of discourse (Wiese 2011). As a focus marker and in hedges (in *und so* 'and so' or *oder so* 'or so'), *so* can be located in utterance final position (Wiese 2012, Schumann 2021: 48). Hence, in these uses it fits our criteria for DMs. In this paper, the focus function of *so* in the right peripheral position will be treated as an assertion because, in contrast to medial positions, the scope is extended from a phrase to the entire preceding clause. German *so* functionally overlaps with English *so*, but the only overlap in discourse functions is the initialising function. The discourse-functional spectrum of German *so* includes initialising a narrative, assertion, and hedging. Examples are provided in Section 4.1.

[1]Functions in square brackets indicate that they are not the most prototypical cases of the DM category.

[2]German *also* is not a DM in this case: When it is used for indicating a consequence on the propositional level it is syntactically integrated.

Turkish *işte* is one of the most frequent discourse markers in Turkish (Yılmaz 2004). Its main functions are marking shared knowledge between discourse participants, claiming the turn in a conversation, marking topic boundary by indicating the end of a discourse unit and emphasizing the speaker's points (Özbek 2000, Yılmaz 2004). In the latter function which we call *assertion*, it overlaps with German *so*. In addition, *işte* has functional overlap with English *so* and *well*. The discourse-functional spectrum of *işte* encompasses indicating a thematic switch, ending a narrative, and assertion. Examples are provided in Section 4.2.

Turkish *yani* is the most frequent discourse marker in conversational Turkish (Yılmaz 1994, 2004, Özbek 1995). Turkish *yani* is originally a loanword from Arabic (*yaʿnī*, "[he/she/it] means") and entered into Turkish directly as a DM with predominant linking functions, such as indicating elaborations. However, in modern Turkish *yani* is multifunctional, and in addition to the function of elaboration, it is used to summarize ideas, to emphasize the speaker's stance on something (indicate an evaluation), to initiate a turn, and to hold the floor (Yılmaz 2004). It functionally overlaps with German *also*. Depending on its functional contribution in discourse, it overlaps functionally with English *well* or *so*. The discourse-functional spectrum of *yani* includes indicating elaboration, evaluation, the end of a narrative, and hesitation. Examples are provided in Section 4.3.

Greek *lipon* is used most frequently as a DM according to Georgakopoulou & Goutsos (1998). In formal grammars and Greek-English dictionaries, *lipon* is characterised as a deductive conjunction (Triantafyllidis 2019) which can be translated as "so", "then", "therefore", "hence" or as an interjection meaning "well", "so", "now" expressing surprise, relief, query, or decision (Stavropoulos 1988: 119). In spoken narratives, *lipon* functions as a hypotactic marker (Redeker 1990) linking secondary parts of speech (such as comments, corrections, etc.) to the main narrative part (Antoniou 2008). On the basis of their analysis of spoken and written narratives and non-narratives, Georgakopoulou & Goutsos (1998) claim that *lipon* is used for the transition from a secondary to the main line of narration but never the other way around. Such uses of *lipon* can also be found in classroom environments where *lipon* is used by teachers in turn-initial position to return to previously interrupted narration or discussion (Christodoulidou 2014). There is thus functional overlap with German *also* and with English *so* or *well*. The discourse-functional spectrum of *lipon* includes initialising a narrative, and indicating a thematic switch. Examples are provided in Section 4.4.

Greek *etsi*'s main function in Modern Greek is that of an adverb of manner or quantity (Tzartzanos 2002). Regarding its function as a DM, Georgakopoulou & Goutsos (1998) did not find evidence that *etsi* functions as a DM in spoken modality and only found limited use of *etsi* as a DM in written modality. After

conducting a corpus analysis of spoken Greek texts, however, Tsampoukas (2015) found a variety of DM functions of *etsi*. More specifically, Tsampoukas (2015) provides evidence and argumentation that *etsi* is currently in the beginning of a grammaticalisation process. The main DM function that Tsampoukas (2015) identified for *etsi* is that it indicates a result or a consequence of a previously mentioned event or series of events in the discourse. Thus, similarly to German *also* and English *so*, *etsi* may have the function of a consecutive connector – a function which we do not see as the most prototypical for the category of DMs, but which could be a step with potential for further pragmaticalisation. The discourse-functional spectrum of *etsi* includes [indicating a consequence (emerging)]. Examples are provided in Section 4.5.

The three-dot sign's cross-linguistic canonical function is its use as a placeholder for omitted material (see Raclaw 2006: 301, Baron & Ling 2011: 60 on English; Bredel 2008: 125, Meibauer 2019: 68, Androutsopoulos 2020: 154 on Greek, Rosenthal 2012: 90 on Russian; Turan 2014: 44 ff. on Turkish). A number of additional functions come into play, especially when writing digitally. These functions closely resemble those of verbal DMs. Consequently, we approached the three-dot sign as a graphical DM. Like verbal DMs the three-dot sign is positioned at the periphery and does not contribute directly to the propositional meaning, but rather at the level of discourse. This perspective allowed us to subsume its functions under textual, subjective and intersubjective discourse functions. Examples are given in Section 3.2.

3 Method

3.1 Database

The informal and formal-spoken productions in the English, German, Greek, and Turkish subcorpora snapshot versions 1.0[3] of the RUEG corpus constitute the database for the study of verbal DMs. The informal-written productions (instant messages) of the RUEG corpus version 0.4.0 (Wiese et al. 2021) are the database for the study of the three-dot sign, and also include Russian.

The data comprise naturalistic and comparable productions that were elicited using the Language Situations setup (Wiese 2020). As described in more detail in Wiese et al. (2025 [this volume]), in this setup, participants watched a video about a car accident and were asked to imagine themselves as eyewitnesses, and to tell different interlocutors about it in four different communicative situations. We

[3]https://hu.berlin/rueg-corpus (last accessed January 10th, 2024)

focus on the spoken mode in formal and informal communicative situations for the verbal DMs (Table 1). In these conditions, participants were asked to act out leaving a voicemail for the police and a voicemail via WhatsApp for a friend. For the three-dot sign, we focus on the informal-written communicative situation in which participants were asked to write an instant message to a friend (Table 2). Tables 1 and 2 give an overview of the word tokens and speakers included in the respective analyses. We included heritage German (Table 1), Turkish, Greek (Tables 1 and 2) and Russian (Table 2) in contact with majority German and English and additionally looked at the respective languages spoken in a majority context (e.g. German in Germany, Turkish in Turkey). Each subcorpus contains bilingually and monolingually raised adolescents (age 14–18 years) and adults (22–35 years). The monolingually raised speakers grew up with English, German, Greek, Russian, or Turkish as their only language in the family. These languages have the societal status of a majority language in the respective countries of elicitation. The bilinguals were HSs of Greek, Russian, and Turkish, raised in Germany or the US and HSs of German in the US. Thus, they grew up with either German or English as a majority language, in addition to their respective heritage languages.

Table 1: Database for the analysis of verbal DMs, RUEG corpus Snapshot 1.0: Number of overall word tokens in informal (is) and formal-spoken (fs) data and speakers across languages and language status (excluding heritage Russian speakers of the English and German subcorpus)

Language	Societal status	Tokens (is, fs)	Speakers
English	majority	63,813	222
German	majority	59,300	175
	heritage	9,187	35
Greek	majority	15,560	64
	heritage	23,505	108
Turkish	majority	11,538	66
	heritage	25,370	126

3.2 Procedure

For the verbal DMs, we selected specific polyfunctional lexical items (Pichler 2016: 1) from each language that serve discourse-pragmatic functions that partly

Table 2: Database for the three-dot sign, RUEG corpus version 0.4.0: Word tokens of informal-written (iw) data and speaker numbers across languages, societal language status, and countries

Language	Societal status	Tokens (iw)	Speakers
English	majority	16,363	187
German	majority	25,094	165
Greek	majority	5,488	64
	heritage-DE	3,819	47
	heritage-US	3,391	64
Russian	majority	4,398	67
	heritage-DE	4,927	58
	heritage-US	3,889	66
Turkish	majority	4,222	64
	heritage-DE	4,502	65
	heritage-US	3,575	56

overlap with their counterpart in the respective contact language. In particular, we look at German *so*, Turkish *yani* and *işte*, and Greek *etsi* and *lipon*. We chose these markers because they are among the most frequent DMs in the respective languages, and our corpus data indicated interesting patterns in heritage language use. We extracted all occurrences of these items along with their verbal context. Two annotators independently annotated positions and functions. The annotated positions include left (1) and right (2) peripheral and medial (3) positions. To guide our functional annotation process, we referred to an established annotation catalogue derived from functions of these DMs as described in the existing literature (see Section 2). We regularly discussed cases of doubt. Special emphasis was placed on instances that did not align with the established functions of the respective DMs. In such cases, we determined functions by analysing the preceding and subsequent verbal content and the role of the discourse marker in that specific context.

(1) left periphery
so i: just witnessed an accident [USmo05FE_isE][4]

[4]The speaker codes are constructed as follows: The first two letters refer to the country of elicitation (DE=Germany, TU=Turkey, GR=Greece, US=USA RU=Russia, TU=Turkey); the next two

(2) right periphery
weil äh die müssen Rücksicht auf uns nehmen **so**
because uh they have to respect of us give DM
'because they have to respect us **so**' [DEbi26FT_isD]

(3) medial
ama iki tane araba **işte** kaza yap-tı
but two piece car DM accident do-3SG.PST
'but (-) two cars **işte** had an accident' [DEbi26FT_isD]

For the three-dot sign the procedure was similar, but additional factors were taken into account: We extracted all occurrences of the three-dot sign together with their preceding and following context and annotated the data manually. In our analysis, we considered the position (lone, message-final, CU-internal, between discourse units, see (4–10)) and the discourse context on the macro- and micro-levels. On the level of macro-structure, the entire message was taken into account and divided into opening, main narration and closing ((4), see also Katsika et al. 2025 [this volume]). At the level of micro-structure, preceding and following discourse units of the three-dot sign were classified according to their functional contribution as real-world-referring (mainly referring to the retelling of the accident as in 'witnessed a rear end collision' in (4)), subjective (convey attitudes, stance, evaluations as in 'weird day today' in (9)), and intersubjective (concerned with speaker-hearer relationship for example through greeting in (4) (Labrenz et al. 2022: 255)). Subsequently, we derived textual, subjective, and intersubjective discourse functions of the three-dot sign considering its position and contextual environment.

(4) macro-structure
[hey …sorry im running a bit late …witnessed a rear end collision.]OPENING
[someone last their ball and it went onto oncoming traffic!]
MAIN NARRATION
[need to stay and give testimony to the officers about what i saw! see you soon]CLOSING [USbi19FG_iwE]

to the speaker's language background (bi=bilingual, mo=monolingual; followed by age group (1–49=adults, >50=adolescents); then gender self-identification (F=female, M=male), heritage language (G=Greek, D=German, T=Turkish, R=Russian) or majority language in case of German (D) and English (E) monolinguals; communicative situation (iw = informal-written, is = informal-spoken, fw=formal-written, fs = formal-spoken); language of elicitation (D=German, E=English, G=Greek, R=Russian, T=Turkish).

Based on previous literature (e.g. Androutsopoulos 2020, Busch 2021, Meibauer 2019) and in view of position and context, we identified the following DM functions of this graphic device in our data and subsumed them under three broader categories as follows.

1. textual: discourse organisation (5) and segmentation (6), creating dramatic effect (7)
2. subjective: indicating speechlessness and/or emphasis (8)
3. intersubjective: general openness of the communication inviting the interlocutor to react (9), (10)

In (5) and (6), the three-dot sign has a textual function. While in (2) it indicates a major shift at the macro- and micro-structure levels, in (6) it is simply segmenting the informational content in the main narration (see Labrenz et al. 2022: 252–58 for details of the method).

(5) Between discourse units and between main narration and closing
[они плсвонили полиции]MAIN NARRATION ... [как ты думаешь: мне тоже надо в полицию поехать и им как свидетел всё расказать?]CLOSING
oni plsvonili polizie ... kak ty dumaesh: mne tozhe nado v poliziyu poekhat' I im kak svidetel vsjo rasskazat'?
'they called the police ... Do you think I should go to the police and tell them everything as a witness?' [DEbi03FR_iwR]

(6) Between discourse units: preceding and following real-world referring DUs
this 1 guy was playing with a ball ... it slipped from his hand [USbi57FG_iwE]

(7) Internal with preceding interjection
Whoa...just witnessed a chain reaction accident. [USmo32ME_iwE]

(8) Between discourse units with preceding subjective DU
bonitaaaa, tam auffahrunfall, aber sooo unnötig ... siehste man kann nicht kontrollieren habibi
'bonitaaaa, tam rear-end collision, but sooo unnecessary ... you see you cannot control habibi' [DEbi03FT_iwD]

(9) Message-final with preceding subjective DU
and crashed into each other, wierd day today ... [USbi55MR_iwE]

(10) Message-final with preceding real-world referring DU
ich bleib mal hier, falls ich aussagen muss ...
'I'm staying here in case I have to give a witness statement…'
[DEbi37FR_iwD]

The following section includes an analysis of each of the DMs that we identified and analysed in the RUEG corpus.

4 Findings

4.1 German *so*

Although German *so* and English *so* differ in their phonological representation, they are orthographically identical. As described in Section 2, the only functional overlap regarding DM uses is the initializing function. We start from the following hypothesis for German as a majority language[5] compared to German as a heritage language in a majority-English setting: Due to the orthographic similarity of German *so* and English *so* and their divergent functional spectrum, we expect an impact of majority English on heritage German, leading to functional differences in heritage German compared to majority German. A close look at the positions and specific functions of *so* reveals interesting trends. As shown in Table 3, most of the uses of *so* in all groups are in the integrated position. If we focus on peripheral uses, i.e. those cases that correspond to our DM definition, we see that while HSs prefer left peripheral positions, majority speakers (MSs) show a more frequent use in the right peripheral position. This positional difference between MSs and HSs is related to differences in functional use. Note that we included mono- and bilingual MSs in the analysis in order to disentangle bilingualism from language status effects. In the following, we first present specific functions and then show the proportional use of these functions per speaker group and how this is related to position.

In HSs of German, we observe the use of *so* with a novel function in left peripheral position, namely as a connector indicating a consequence (11a). This is one of the functions of English *so* (11b). In German it is an innovative use of *so*, since this function would canonically be covered by German *also*.

[5]MSs of German integrated in this analysis are either monolingually or bilingually raised with Turkish as their (other) family language.

Table 3: Raw numbers (*n*) and percentages of syntactically integrated, right and left peripheral positions of 'so' across mono- and bilingual MSs of German, and HSs of German

	integrated		right peripheral		left peripheral	
	n	%	*n*	%	*n*	%
MS (mo)	306	88.0	41	11.8	1	0.3
MS (bi)	282	87.9	34	10.6	5	1.68
HS	55	70.5	1	1.3	22	28.2

(11) consecutive connector

a. aber die Autos haben gekommen **so** sie [die Leute]
but the cars have.AUX.3PL PTCP-come-PTCP so they [the people]
haben gestoppt
have.AUX.3PL PTCP-stop-PTCP
'but the cars came, *so* they [the people] stopped' [USbi57FD_fsD]

b. *it was cause this guy like lost control of his soccer ball and I know you love soccer* ***so*** *thought you'd be interested* [USmo11FE_isE]

We also observe a more frequent use of the 'initialising narrative' function in HSs compared to MSs (cf. Hennig 2006 on that function). This may also reflect an influence from English *so*, for which the initialisation of a new narrative (sequence) has been described as a function (cf. Bolden 2009). We also find evidence for this function in our data for English *so* (12b).

(12) initialising message/narrative[6]

a. **so** F16 da war ein Mann
so F16 there was a man
'*so* F16, there was a man' [USbi75MD_fsD]

b. so i: just witnessed an accident it seemed like a minor accident there was a woman on the right side of the street opening her trunk [USmo05FE_isE]

Additionally, as shown in Table 3, there is only one case of right peripheral use of *so* in HSs, while for MSs this is the most frequent peripheral position. This is related to functions. The one use in the right periphery is as a general extender

[6]F16 in (12a) refers to the case number of the accident that was provided by the elicitors.

or hedge[7] as in (13). We found no evidence though for the use as an utterance final assertion marker as in (14) which we found to be very common in majority language use (see Table 4). This might indicate that the non-overlap with the functional spectrum of English *so* might have an additional impact on the functional use of German *so* in HSs. However, the fact that these functions are (almost) absent in our data does not necessarily mean that HSs do not actually use such functions.

(13) general extender/hedge
ich soll auch nochmal anrufen und **so**
I should also again call and so
'I should also call again and *so*' [DEmo17MD_isD]

(14) (utterance final) assertive function
dieser Ball ist dann einfach auf die Straße gerollt **so**
this ball is then simply onto the street rolled DM
'this ball then simply rolled onto the street *so*' [DEmo76FD_isD]

Table 4: Percentages of functions of 'so' at the periphery across speaker groups. Columns should sum to 100%, missing values are functions that occur less than 4 times

Function	Peripheral position	MS (mo)	MS (bi)	HS
hedge	right	59.5	58.9	-
assertion	right	38.1	28.2	-
consequence	left	-	-	39.1
initialising	left	-	-	30.4

In summary, our analysis of German HSs' use of German *so* revealed functional extensions (indicating a consequence), and restrictions (hedge, assertion) when no overlapping functions were present. Furthermore, when the functional spectrum overlapped (initialising function), German HSs displayed a higher frequency of use compared to German MSs. For this item, we observe a unidirectional cross-linguistic influence from the majority into the heritage language which supports our initial hypothesis.

[7]Note that English *so* can be used as general extender in the construction 'and so on (and so forth)' in parallel to German 'und so weiter und so fort'. In (colloquial) German this is often reduced to 'und so'.

4.2 Turkish *işte*

Turkish *işte* overlaps with German *so* in its utterance final assertive function. Thus, our hypothesis is the following: Due to functional similarities of German *so* and Turkish *işte*, we expect a more frequent use of overlapping functions in heritage Turkish in Germany. In our data, addressee-oriented functions such as marking shared knowledge between discourse participants and claiming turn in a conversation are very rare, presumably because the elicited productions are monologues that do not presuppose an answer or a reaction from the interlocutor. In Table 5, we present the percentage of functions of *işte* across speaker groups. Only functions that occurred more than 2 times are considered.

Table 5: Percentages of functions of *işte* across speaker groups; only functions that occurred more than 2 times are considered

	HS		MS
Function	Germany	US	Turkey
assertion	46.8	37.0	41.9
thematic switch	13.9	21.9	12.9
connector	11.4	13.7	9.7
hesitation	12.7	4.1	8.1
initializing narrative	5.1	2.7	12.9
elaboration	6.3	15.1	12.9
other	3.2	5.5	1.6

Among all three speaker groups in our data, *işte* most frequently functions as an utterance-final assertion. Notably, Turkish HSs in Germany exhibit a slightly higher use of *işte* in this function (15a) compared to Turkish MSs and HSs in the US. In fact, this is the function that is shared by Turkish *işte* (15a), (15b) and German *so* (14). Hence, the higher frequencies of *işte* in this function might be driven by the functional overlap with German *so*.

(15) assertive function

a. arka-daki araba yetiş-e-me-di ve (-) kaza
back-ATTR car keep-up-NEG-PST.3SG and (-) accident
ol-du **işte**
happen-PST.3SG DM
'The car at the back wasn't quick enough and the accident happened *işte*' [DEbi59MT_isT]

b. karşı-dan (-) bebek araba-lı iki kişi geç-iyo-du (-)
opposite-ABL stroller-ATTR two person pass-PROG-PST.3SG
yan-ın-da bi de çocuğ-u var-dı **işte**
side-POSS-LOC also child-POSS be-PST.3SG DM
'From the opposite side two persons with a baby were passing. They also had a child *işte*.' [TUmo73MT_fsT]

In addition to the proportionally more frequent use of the assertive function in HSs in Germany, we find novel functions of *işte* as a circum-connector (16) and what could be called an emergent subordinate connector (17) in heritage and majority Turkish; although the frequency of such examples is slightly higher in HSs. Drawing a parallel to the developments in Balkan Turkish, Keskin et al. (n.d.) discuss similar examples where DMs are used in the function of connectors and argue that such innovation points to an ongoing shift of Turkish to Indo-European subordination patterns (see Keskin 2025 [this volume]).

The development of *işte* from a marker with predominant discourse-pragmatic functions to novel connecting functions corresponds to an opposite development to typical pragmaticalisation processes characterised by semantic bleaching (cf. Section 2). Compared to DMs as defined in this article, connectors contribute more meaning to the logical coherence of utterances and are, therefore, at least less prototypical for the DM category than those that operate purely on a meta-communicative level indicating, for instance, a new narrative sequence.

(16) circum-connector
işte (bi) ilk araba da köpeğ-e es-me-sin diye bi fi/firen-e
DM ART first car also dog-DAT hit-NEG-OPT.3SG CON ART break
bas-tı
push-PST.3SG
'*işte* the first car not to crush the dog diye braked' [DEbi25MT_isT]

Example (16) demonstrates the use of *işte* in combination with the subordinator *diye* in the function of a circum-connector which links the finite adverbial clause introduced with *işte* to the main clause. Similar use is also observed in the combination of the DM *yani* with *diye* (see Section 4.3).

(17) relative-connector
sol taraf-ta da bi tane kadın **işte** alışveriş falan yap-mış
left side-LOC also ART piece woman DM groceries stuff do-PST.3SG
'On the left, there was a woman *işte* did groceries and stuff' [DEbi09FT_isT]

Example (17) can be interpreted as a main clause which is followed by a relative clause with the relative connector *işte*. Hence, the sentence follows a subordination pattern similar to the Indo-European one: The relative clause is postpositive finite and is linked to the main clause by means of a free subordinating element. Interestingly, the novel function of *işte* is found also in majority Turkish, which suggests that Turkish in Turkey may also be undergoing syntactic change. At the same time, a higher number of *işte* used in the function of a connector in heritage Turkish might be interpreted as a convergence phenomenon, where Turkish develops patterns of clause combining which follow the model of German and English, respectively (Özsoy et al. 2022, see also Schroeder et al. 2025 [this volume]).

HSs in the US show the lowest frequency in the use of *işte* as an assertion marker – a function that is typically used in informal situations and that is not in the functional spectrum of English *so*. Instead, this speaker group has higher frequencies of *işte* as a connector and as an indication of thematic switch – functions that are in the functional spectrum of English *so*. In addition, we also find a cross-linguistic influence of the majority on the heritage language, but only in terms of the frequency of use of a specific function. The extension of the functional spectrum in terms of specific connective functions in HSs may be more indicative of a language-internal development, as it is also found in Turkish in Turkey, but this process may be accelerated by language contact. Thus, there is only partial support for our original hypothesis.

4.3 Turkish *yani*

Turkish *yani* functionally overlaps with German *also* in its repair marking functions, including elaborations. It also overlaps with English *well* for marking hesitations and *so*, especially for indicating the end of a narrative.

Due to functional similarities of German *also* and English *well/so* with Turkish *yani*, we expect a more frequent use of overlapping functions in heritage Turkish. In Table 6, we present percentages for use of the different functions of *yani* across speaker groups. Only functions that occurred more than two times are considered.

HSs in the US show a more frequent use of *yani* as a hesitation marker (18) – a common function of English *well* (cf. Aijmer 2011) compared to the other two groups. HSs in Germany use *yani* predominantly for indicating elaborations (19) and corrections – two common functions of German *also*. The functional overlap might favor a more frequent use of such functions in HSs compared to Turkish MSs and to HSs with English or German as a majority language respectively.

Table 6: Percentages of use of the different functions of *yani* across speaker groups; only functions that occurred more than 2 times are considered

	HS		MS
Function	Germany	US	Turkey
elaboration	26.5	18.7	19.2
evaluation	8.8	4.4	32.7
correction	23.8	10.9	5.8
assertion	8.2	6.6	13.5
connector	10.2	5.5	5.8
hesitation	7.5	41.7	5.8
encapsulation	4.1	3.3	5.8
ending narration	3.4	3.3	11.5
thematic switch	4.8	5.5	-

(18) hesitations marker
çünkü **yani** o a hab/aa (-) **yani** (-) aile-ye doğru git-me-ye
because DM he hmm DM family-DAT towards go-NMZ-DAT
çalış-tı
try-PST.3SG
'Because *yani* hmm he *yani* tried to go towards the family'
[USbi16MT_fsT]

(19) elaboration
ay/ ondan: ee dolayı işte karşı taraf-a yuvarlan-ıyo köppek de
because of that DM opposite side-DAT roll-PRS.3SG dog also
on-a sa/ **yani** top-a saldır-ıyo
it-DAT DM ball-DAT attack-PRS.3SG
'That's why it rolled to the opposite side. The dog attacked it *yani* the ball.' [DEbi16FT_isT]

Similar to what was observed with regard to *işte*, we find a novel function of *yani* in the function of what might be called an emergent subordinate connector. Like with *işte*, this may combine with the subordinator *diye*, as in (16), and again this is found in heritage as well as majority Turkish speakers, but the number of such occurrences is higher in HSs.

(20) circum-connector
köpeğ-i-ni hemen sıkı tut-tu **yani** bi şey
dog-POSS-ACC immediately tight hold-PST.3SG DM something
ol-ma-sın **diye**
happen-NEG-OPT.3SG CON
'S/he immediately held her/his dog tight so that nothing would happen (to it).' [USbi16MT_isT]

(21) relative connector
şu/ orda bi kadın vardı **yani** araba-sı-na (-) alışveriş
th/ there one woman be-PST.3SG DM car-POSS-DAT (-) grocery
torba-lar-ın-ı falan koyuyodu
bag-PL-POSS-ACC stuff put-ROG-PST.3SG
'There was a woman *yani* (who) was putting grocery bags and stuff into her car.' [DEbi87FT_isT]

In line with our hypothesis, the example of *yani* shows the influence of the respective majority language: HSs show a more frequent use of exactly those functions that overlap with the functional spectrum of the respective majority language counterpart. In addition, similar to *işte*, there may be language internal developments at play, which may be even more dynamic in HSs.

4.4 Greek *lipon*

Greek *lipon* overlaps mainly with German *also* in the initialising-narrative function and with English *so* in indication of thematic switch. Our hypothesis is the following: Due to the overlapping functional spectrum of English *so*, and German *also* with *lipon*, we expect a more frequent use of overlapping functions in heritage Greek.

Examining the use of *lipon* across majority and heritage Greek, we see that although all groups use *lipon* to initialise narrations, other uses of *lipon*, such as the indication of thematic switch, are only found in majority Greek speakers. Data are shown in Table 7.

Although the use of *lipon* in the two HS groups is not as high as the use of *lipon* in majority Greek speakers, all groups use *lipon* to initialise their narrative. This means that they either use it in the very beginning of the text, as in Example (22), or they use it after they provide an opening (such as greeting) and then start their main narrations. In addition, only the majority Greek speakers also use *lipon* to introduce thematic switch, such as in Example (23), in which the

speaker uses *lipon* to switch back to the main narration after having inserted a personal comment.

(22) initialise narrative
lipon otan icha scholasi ap to scholio ke pijena spiti
DM when have.PST.1S finish.PST.1S from the school and go.PST.1S home
ksafnika icha dhi pos mia mpala
suddenly have.PST.1S see.PST.PTCP that a ball
'*lipon* when I finished school and was going home suddenly I saw that a ball.' [DEbi57MG_fsG]

(23) thematic switch
vevea tora entaksi ine dheka metra makria opote mu
certainly now alright be.PRS.3S ten meters away so me.GEN.1S
fanike paralogho e: i sinechia **lipon** ine oti apla
seem.PST.13S illogical uh the continuity DM be.PRS.3S that simply
chtipai to piso amaksi to mprosta amaksi
hit.PRS.3S the back car the front car
'certainly now okay it's ten meters away so it seemed crazy to me uh next *lipon* is that the car at the back simply hits (-) the car in the front.' [GRmo10MG_fsG]

Table 7: Percentages of the most frequent functions of 'lipon' across countries/speaker groups

	MS	HS	
Function	Greece	Germany	US
initialise narrative	75.8	75.0	100
thematic switch	16.2	16.7	-

On the basis of partial functional overlap between *lipon* and the English *so* and *lipon* and the German *also*, we expected to find extended functions of *lipon* in the data of HSs. However, our analysis did not confirm this hypothesis. HSs used *lipon* almost exclusively to initialise narrations. This restricted functional spectrum in the HSs' use of *lipon* might indicate that the initialising function is the most transparent function of this marker and that there is probably no real perceived functional overlap from the perspective of the HSs.

4.5 Greek *etsi*

Greek *etsi* has the emerging function of indicating a consequence. In this function it overlaps with German *also* and English *so*. We hypothesise the following: Due to functional similarities of English *so*, and German *also* with *etsi*, we expect a more frequent use of overlapping functions in heritage Greek. Across all speaker groups, we find functions of *etsi* consistent with the literature. Summary data are given in Table 8. Similar to German *also*, *etsi* indicates a consequence in Example (25). In Example (24), it is similar to the adverbial use of German *so* that indicates a way or manner. In majority Greek, we exclusively find instances of *etsi* in which *etsi* functions as adverb, and hence not as a DM (24), and as a consecutive connector (25). Tsampoukas (2015) identifies the consecutive connector function as a DM function.

(24) adverb
na sas apodhiksi oti ontos **etsi** sinevin/sinevisan ta
to you.PL prove.SBJ.3SG that indeed like happen/happen.PST.3PL the
pragmata
things
'to prove to you that things happened *etsi/like* this' [GRmo08FG_fsG]

(25) consequence
to amaksi pu ine piso pu itan piso ap afto t=
the car that be.PRS.3SG behind that be.PST.3SG behind from this the
amaksi dhe prolave na patisi freno ki **etsi** trakaran
car not get.PST.3SG to push.SBJ.3SG brake and so bump.PST.3PL
'the car that is behind that was behind that car did not get to brake and *etsi/so* they bumped' [GRmo76MG_isG]

In heritage Greek in the US and Germany, however, we observe functional extension of *etsi*. Although heritage Greek speakers in Germany use *etsi* almost as frequently as majority Greek speakers, heritage Greek speakers in Germany extend the use of *etsi* to indicate instances of corrections or restarts (26) and elaborations/specification (27). This corresponds to common functions of German *also*. Heritage Greek speakers in the US use relatively fewer instances of *etsi* compared to the two other speaker groups. Despite the low number of *etsi* occurrences in the spoken narrations of heritage Greek speakers in the US, the use of *etsi* is again extended. Thus, *etsi* is used for indicating the end of a narrative, as in Example (28) , which is a common function of majority English *so*. Overall, the functional extension of *etsi* seems to be a convergence with the respective majority languages.

(26) indicate correction/restart
ey ghia su ti kanis dhe pistevis ti idha simera
ey hello you how do.PRS.2SG not believe.PRS.2SG what see.PST.1SG today
itane **etsi** perpatusane dhio
be.PRT.3SG DM walk.PST.3SG two
'hey hello how are you you won't believe what I saw today two people were *etsi* were walking' [DEbi07FG_isG]

(27) specification
ghiati etrekse ke o antras meta pros ti meria tu skiliu
because run.PST.3SG and the man then towards the side the dog
ki **etsi** itane oli mazi kapos ston aftokinitodromo
and DM be.PST.3PL all together somehow on.the motorway
'because the man also ran towards the side of the dog and *etsi* they were all together somehow on the driveway' [DEbi03FG_fsG]

(28) end narrative
ke stamatise o enas o mprostinos **etsi** ksafnika ke o allos
and stop.PST.3SG the one the front DM suddenly and the other
ap=p/ apo piso ton trakarise ke **etsi**
fr=f/from behind him bump.PST.3SG and DM
'and the one in the front stopped suddenly and the other one at the back bumped on him and *etsi*' [GRmo76MG_isG]

The findings on *etsi* were different than what we expected: We did not find a more frequent use of overlapping functions, but HSs of Greek in Germany and the US extend the functional spectrum of *etsi* according to common functions of the respective majority language counterpart.

Table 8: Percentages of the most frequent functions of *etsi* across countries/speaker groups

	MS	HS	
Function	Greece	Germany	US
adverb	59.2	36.4	79.2
consequence	40.8	47.7	4.2

4.6 Three-dot sign

In analyzing data containing the three-dot sign, we used the indicators of position and context to assign discourse functions. First, we report findings for individual languages. In Table 9 we present raw numbers and percentages for functions that we assigned based on the position. The main finding regarding language specifics is that textual functions are predominant across languages but with a larger variation in German, Russian and Turkish compared to English and Greek (cf. Labrenz et al. 2022: 260–61).

Table 9: Raw numbers (*n*) and percentage use (%) of functions per language relative to all uses of the three-dot sign in that language

	Textual		Subjective		Intersubjective	
	n	%	*n*	%	*n*	%
English	22	88.0	0	0.0	3	12.0
German	52	68.4	4	5.3	20	26.3
Greek	17	81.0	0	0.0	4	19.0
Russian	15	62.5	1	4.2	8	33.3
English	12	63.2	1	5.3	6	31.6

The second indicator (cf. Labrenz et al. 2022: 261–62) was the context which is especially relevant in message-final position and in the position between two discourse units. In these positions the three-dot sign has two sources of interpretation, and can therefore have additional subjective or intersubjective functions depending on the preceding discourse unit. Taken together, the findings from Tables 9 and 10 show a tendency for German, Russian, and Turkish to use the three-dot sign relatively more frequently compared to English and Greek in intersubjective and subjective functions and polyfunctionally.

Regarding potential dynamics in bilinguals (cf. Labrenz et al. 2022: 264–66), we found an overall tendency of bilinguals to adapt the three-dot use in their heritage language to that in the respective majority language in two areas: functional variation and frequency of use. With respect to frequencies, the following pattern emerged for HSs of Turkish and Russian: Just as MSs of German use the three-dot sign more frequently than MSs of English, so HSs of Turkish and Russian with German as their majority language use it more frequently than HSs of Turkish and Russian with English as their majority language (see Table 11). The numbers in brackets are occurrences of the three-dot sign per 100 communicative

Table 10: Raw numbers (*n*) and percentage use (%) of monofunctional (either textual, subjective, or intersubjective) and polyfunctional (additional (inter)subjective functions) use per language relative to all uses of the three-dot sign in that language

	Monofunctional		Polyfunctional	
	n	%	*n*	%
English	17	68.0	8	32.0
German	39	51.3	37	48.7
Greek	17	81.0	4	19.1
Russian	12	50	12	50

Table 11: First pattern for HSs of Turkish and Russian

Germany (DE)			US	
MSs-German	(2.71)	>	MSs-English	(0.96)
HSs-Turkish/DE	(1.89)	>	HSs-Turkish/US	(0.73)
HSs-Russian/DE	(1.5)	>	HSs-Russian/US	(0.52)

units (roughly all independent sentences) in the respective group/language. MSs of German and English includes mono- as well as bilingually raised speakers). Another pattern that emerged is the tendency within bilingual speakers with Greek and Russian as heritage languages to use the three-dot sign relatively more frequently in their majority language (German or English) than in their heritage language (see Table 12).

Table 12: Second pattern for HSs of Greek and Russian

HS of Greek				
majority-German	(1.1)	>	heritage-Greek/DE	(0.73)
majority-English	(1.52)	>	heritage-Greek/US	(0.79)
HS of Russian				
majority-German	(3.0)	>	heritage-Russian/DE	(1.5)
majority-English	(1.16)	>	heritage-Russian/US	(0.52)

To sum up, we found similarities as well as slight differences in the use across countries and languages, as well as across bilingual speakers' two languages. Cross-linguistically, the three-dot sign is used for discourse organisation and segmentation in digital informal writing (see also Busch 2021 on German, and Androutsopoulos 2020 on Greek). In terms of language contact, our data indicate that patterns of use in the majority language influence the use in the heritage language. Additionally, we found that within bilingual speakers the use of the three-dot sign in the heritage language is less frequent and with a smaller functional spectrum compared to their majority language use, maybe pointing to an insecurity in using such salient markers of informality in their heritage language (see Labrenz et al. 2022: 259–266 for more details on results).

5 Discussion

Taken together, our findings indicate similarities between verbal and graphic DMs concerning the impact of societal language status, that is, the status of a contact language as a majority language or as a minoritised heritage language: We observed an influence of the majority language on the use of DMs in the heritage language in terms of frequencies, functional extension/restriction, and pragmaticalisation processes.

More specifically, we find functional extensions, restrictions and/or a more frequent use of specific functions in heritage German *so*, heritage Turkish *yani* and *işte*, heritage Greek *lipon* and *etsi*, pointing to convergence with the functional spectrum of a counterpart DM in the majority language (either *so* in English or *so* or *also* in German). This might point to a shared pool of functions in the bilingual mind with stronger activations of additional or overlapping functions of the (societally) dominant language when the heritage language is used than vice versa. Additionally, we find tendencies for language internal developments for Turkish *yani* and *işte*, and Greek *etsi* which seem to be especially dynamic in contact situations. As for graphic DMs, specifically the three-dot sign, we observed language-specific trends, which we found particularly interesting given its translinguistic status. For this graphic DM, we also observed a tendency for the majority language to influence heritage language use, even though graphic markers have no specific language affiliation and exhibit common functions across languages (such as structuring discourse in the case of the three-dot sign).

The observed influence from the majority onto the heritage language might be on one hand favoured by the dominance of the majority language in countries with a strong monolingual bias such as Germany and the US. On the other

hand, innovations in heritage languages might be generally favoured because of the lower presence of normative authorities such as school education in that language. Our findings indicate that this might be especially true for less salient phenomena, such as pattern replication. In contrast, more noticeable phenomena, like matter replication or the use of informal register markers such as the three-dot sign, might be used more carefully, at least in the context of a monolingual mode, which is a condition of the elicitation method (see also Wiese et al. 2025 [this volume]). This, in turn, might indicate that in a communicative situation characterised by a monolingual mode, HS might not only be careful in their choice of shared language resources, but also in their use of salient graphic register markers in their heritage language.

6 Conclusion

This chapter has shed light on the dynamics of DMs in language contact situations, both in formal and in informal-spoken discourse as well as in informal-written texts. By exploring the graphic domain through the inclusion of informal-written messages, we underline the crucial role of informality in DM usage, demonstrating its presence beyond spoken language.

Our key findings reveal similar trends in language contact for both verbal and graphic DMs. First, the societal status of a language has an impact on pattern replication and/or frequency in use of DMs. Secondly, pragmaticalisation processes can be accelerated in specific language contact scenarios.

These two findings are highly relevant for persistent issues in the field. First, by addressing functional convergence in the discourse domain, we have ventured into a less explored aspect of DMs in language contact, which complements the extensively studied area of borrowings (see also Wiese et al. 2025 [this volume] for borrowed or translanguaged DMs in the RUEG data). The fact that HS replicated relatively few actual word forms might be due to the monolingual mode deliberately induced by the RUEG setup. This suggests that in situations with monolingual interlocutors, HSs are more likely to resort to pattern replication than to matter replication, since matter replication is more salient and may not be perceived as appropriate by the speakers themselves in such contexts (cf. Matras 2010). This is also supported by the fact that translanguaging of DMs only occurred in the informal data, a communicative situation in which speakers are less exposed to normative pressures than in a more formal situation (see Wiese et al. 2025 [this volume]). Moreover, in our examination involving the majority language and the heritage language of bilingual speakers, we were able to

distinguish the effects of bilingualism in general from the societal status of the languages: While we found no effects of bilingualism in the use of the majority language, we found an influence of the majority language on bilingual speakers' use of the heritage language.

Second, we identified a link between societal status and the process of pragmaticalisation, observing two tendencies in heritage languages. The first tendency exemplifies a typical path of pragmaticalisation: From an adverbial and/or semantically transparent connective through a process of semantic bleaching into uses with mere discourse functions. This trend holds for both majority and heritage languages. Notably, Greek *etsi* is of particular interest as it appears to be in the early stages of this process, assuming a new function as a semantically transparent consecutive connector. In heritage Greek, this process seems to have progressed further, as more DM functions can already be found here. The second tendency is the transformation of relatively opaque DMs into more transparent connectors indicating an inverted pragmaticalisation process, a phenomenon primarily observed in language contact situations. This is in line with Matras (Matras & Sakel 2007, Matras 2010), who claims that "[…] a model of convergence must also be able to account for potential exceptions to the unidirectionality of grammaticalization" (Matras 2010: 71). In our data, Turkish in contact with German and English showcases this development, potentially influenced by typological differences between Turkic and Indo-European languages: German and English typically rely on finite clauses with pre-posed subordinating connectors, while in Turkish, non-finite subordination is preferred, without the employment of connectors with word status. Finite subordination with pre-posed or circumconnectors is possible; however, in the heritage varieties we note an increase in this pattern of subordination. DMs like *işte* and *yani* belong to the pool of words from which the language recruits new connectors following this dynamic. This leads to an inverted pragmaticalisation path from DMs to connectors, particularly in the contact situations.

Taken together, our findings point to three main factors important for studies on the dynamics of discourse markers: 1) contact scenarios, offering insights into their functional convergence, 2) the influence of societal language status, and 3) the impact of informality beyond spoken language. The study of both verbal and graphical DMs in different language contexts and contact scenarios contributes to a more comprehensive picture of the dynamics and evolution of these linguistic phenomena.

As a last point, we want to discuss the observed unidirectional influence of the majority language on the heritage language use of verbal and graphic DMs. This may be due to the dominant monolingual bias in Germany and the United States.

In such societal settings, heritage languages are challenged by strong hegemonial majority languages. In contrast, in multilingually oriented societies (for instance, in many Asian and African countries), crosslinguistic influences may be more fluid, allowing for bidirectional pattern replication. In future research, it would be interesting to build on our results in comparative studies that include heritage languages from such settings.

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