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Argument Drop in Swiss WhatsApp Messages

A Pilot Study on French and (Swiss) German

RÉSUMÉ : Cette contribution vise à analyser l'omission d'arguments verbaux dans la communication par WhatsApp, sur la base d'un corpus nouvellement établi en Suisse. Dans une approche contrastive, dix facteurs structuraux et fonctionnels sont pris en compte pour vérifier l'influence de la syntaxe et de facteurs extralinguistiques sur les omissions. Les omissions s'avèrent assez rares (4–18 %), et l'influence des facteurs extralinguistiques limitée. La distribution des omissions est contrainte par les régularités syntaxiques observées par Haegeman (2013) pour les *diary subject omissions* et l'omission des sujets dans les SMS par Robert-Tissot (2015).

Mots-clés: omission du sujet – omission de l'objet – omission du topique – communication médiée par ordinateur (CMO) – WhatsApp – périphérie gauche – syntaxe

ABSTRACT: This contribution aims at describing argument drop in WhatsApp chats, based on the newly established Swiss reference corpus of WhatsApp messages. In a contrastive approach, we examine ten syntactic and functional factors as potential triggers for argument drop of either a syntactic or an extralinguistic nature. Overall, argument drop is quite rare in WhatsApp messages (4–18 %) and the influence of extralinguistic factors seems to be rather limited. What is attested instead are structural constraints on argument drop such as those identified by Haegeman (2013) for *diary subject omissions* as well as those identified by Robert-Tissot (2015) for subject drop in French text messages.

Keywords: subject drop – object drop – topic-drop – computer-mediated communication (CMC) – WhatsApp – left periphery – syntax

1. Introduction

The aim of this contribution is to present the results of our pilot study investigating argument drop in French and (Swiss) German WhatsApp (in the following: WA) messages. It is, to our knowledge, one of the first investigations on the *linguistic* properties of this relatively new, but already omnipresent form of mobile electronic communication (see Ueberwasser/Stark 2017 for a short state-of-the-art of WA research) that has practically replaced the older text message (SMS), especially among younger people (see Dürscheid/Frick 2014, also for a comparison between SMS and WA messaging). We will describe both the syntactic and the pragmatic conditions under which verbal arguments can be omitted in WA messages in the two languages in order to determine the nature of these omissions. We take a contrastive point of view, as French and German,

although being both non pro-drop languages¹ differ with respect to licensing argument drop in main clauses in the initial position. While standard French does not tolerate *topic drop*, (Swiss) German does. We will focus on subject drop in what follows, as this phenomenon has already been investigated in non-standard varieties of English and French and led to some interesting hypotheses to test (see the work by Liliane Haegeman cited in the references section) but **will** also have a short look at object (complement) drop.

Since Ferguson (1982), at the latest, “simplified registers” have become an object of investigation of systematic linguistic research in order to understand fundamental regularities of language and to identify the limits of variation (see Stark/Robert-Tissot 2017). Incomplete utterances (here: a case of omission of the subject pronoun *je* ‘I’) like

- (1) __ Suis en retard
 ‘ __ Am late’

are frequently found in ‘abbreviated registers’ such as notes taken at school or university, diaries, or text messages (cf. e.g. Weir 2012, Haegeman 2013, 106 sq., Stark/Robert-Tissot 2017 for syntactic approaches; see also Schlobinski et al. 2001, Fairon/Klein/Paumier 2006, Frehner 2008, Thurlow/Poff 2013 for overall descriptions of linguistic and other features of different genres of computer-mediated communication [CMC], especially text messages [SMS]). In registers where concision is mandatory (because of a lack of time or space) and where information structure is not that complex (especially in **monological** registers such as school/university lecture notes or diaries) and topics are mostly continuous, we expect arguments to be dropped, especially for given referents. This might lead to register-specific omission patterns, reflected in a register-specific syntactic structure, especially in the left periphery (see the studies by Haegeman presented in greater detail below). Additionally, mobile electronic communication is costly, because it is written in nature – writing linguistic elements is always slower than pronouncing them. Register-specific cases of subject drop contradict the necessity of having an overt subject in every grammatical clause in languages such as English, German or French (as non pro-drop languages; see Haegeman 1990, 1997, 1999, 2013 against an analysis of sequences like (1) as a case of pro-drop). The overall question is therefore whether they are simply ungrammatical, caused by extralinguistic needs and tolerated in specific registers (in the sense of Biber 1995), or whether they are compatible with universal syntactic regularities that might have remained unnoticed up until now. Mobile electronic communication still obeys beyond any doubt the “three maxims of texting” (“brevity and speed; paralinguistic restitution; phonological approximation”) (Thurlow/Poff 2013, 176). Therefore, an explanation frequently offered is that all kinds of omissions of otherwise obligatory elements such as verbal arguments, determiners etc., are due to time pressure, especially in highly dialogical forms of communication such as WA messages (cf. Schlobinski et al. 2001 for German, Fairon/Klein/Paumier 2006, 42–44 for French text messages). Evidence against a purely extralinguistic explanation of such

1 Note that the second person singular pronoun *du* is optional in inverted position in Swiss German dialects (cf. Cooper 1994).

omissions would be the observation of syntactic constraints e. g. on the distribution of argument omissions, such as the main restriction for “diary subject omission” (Haegeman 2013) to appear only in main clauses. Our pilot study has therefore been designed to answer, in a preliminary way, two fundamental questions:

1. Are there syntactic constraints on the distribution of verbal argument omission in WA messages parallel to those identified by Haegeman (2013) or Robert-Tissot (2015)?
2. What are the functional, information-structure driven conditions for verbal arguments in WA messages to be dropped?

The latter question is related to the discourse status of verbal arguments, roughly to the opposition between *given* and *new*. The referent which the predication relates to will be called *topic* in this work, in line with Jeanette Gundel’s (1977) seminal work on topicality in discourse (see Stark 1997, chapter 4; see also Reinhart 1981, Krifka 2008). Ever since Givón’s (1976, 1983) work, we have known that given topic referents tend to be verbalized cross-linguistically by very little, or even null morphological material. See e. g. Givón’s (1983, 17) “topicality scale”, with the most accessible or continuous topic referents at the left and the least accessible, new topic referents at the right:

zero anaphora < unstressed-bound pronouns and grammatical agreement < stressed-independent pronouns < right-dislocated definite noun phrases (NP) < neutral-ordered NPs < left-dislocated NPs < Y-moved NPs (or “contrastive topicalisation”) < left and focus constructions < referential indefinite NPs

WA messages, which are parts of longer chats between two or more participants, provide us with the preceding and following context of (dropped) verbal arguments, contrary to traditional text messages, and thus represent an ideal new form of graphic mobile communication for gaining insight not only into the syntactic limits of argument drop, but also into which conditions favour it. We can measure whether a topic referent of a dropped argument is given in the preceding discourse, e. g. in the directly preceding sentence, message or more distally in the preceding messages in the respective chat.

In order to answer our overall research question, we conducted a quantitative analysis based on (Swiss) German (i. e. non-dialectal German messages with nevertheless strong interferences with local Swiss German dialects) and French WA chats containing 1,000 arguments each. Our results provide some evidence for the fact that the argument omissions in both languages might be cases of topic-drop. There are, however, also data contradicting this hypothesis, which will require further investigation.

Below, we shall first provide a brief state-of-the-art of different analyses of dropped arguments in French and German, with a focus on specific registers and subjects, in Section 2. We will then turn to the description of our data and our method of investigation in Section 3. In Section 4, we present an overview of the results from the statistical data analysis which will then be discussed in detail in Section 5. A summary of our findings as well as concluding remarks can be found in Section 6.

2. (Register-specific) argument drop: a brief state-of-the-art

Only a few studies have investigated the syntax of argument omission in different registers. We understand the term *register* as “situationally defined varieties” (Biber 1995, 1). Important extra-linguistic factors defining registers and triggering variation between different registers are, following Biber (1995), communicative intention, interaction, conditions of use, and the type of relation between the respective communication partners. In the present section, we provide an overview of existing approaches to register-specific argument omission that are relevant to our study, starting out with two approaches to subject omission (Haegeman 2013, Robert-Tissot 2015) before looking at approaches on object² omission (Cummins/Roberge 2004 and others).

2.1 Diary subject omission (Haegeman 2013)

In her description of diaries written in French and English – both European SVO languages with obligatory subjects – Liliane Haegeman (1990, 1997, 1999, 2013) reports that the subject can be omitted in this register, as is shown in the examples below:

- (2) ___ M'accompagne au Mercure. (Haegeman 2013, 90)
'___ Accompanies me to Mercure.'
- (3) Jamais ___ ne se serait attendue à cela. (Haegeman 2013, 91)
'Never would ___ have expected that.'
- (4) ___ Dreamt that I picked up a New Yorker. (Haegeman 2013, 94)

Haegeman shows convincingly that these omissions in French and English diaries are subject to syntactic constraints: Subject omissions cannot occur in subordinate sentences (such as in (5)), despite their recoverability:

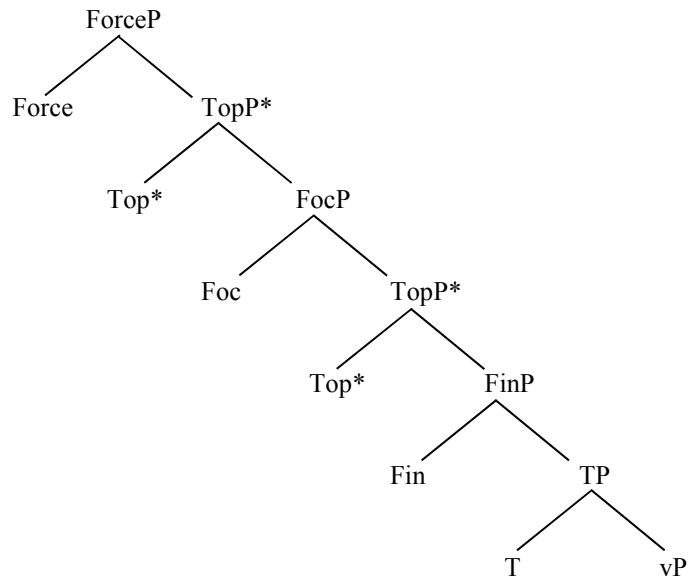
- (5) ___ Says he has been struck by the number of more of less ordinary Conservatives he has met who are becoming perturbed by the Government's foreign policy. (Haegeman 2013, 94)

While the recoverability of the first pronoun *he* is not fully given, the second occurrence of *he* is fully recoverable and yet cannot be omitted. Furthermore, subject omissions can only occur in the sentence initial position of main clauses (as in examples (1) to (5)), except for preposed adverbials which may precede them (as in (3)). In light of such examples, Haegeman (2013) emphasises that one should refrain from a purely functional explanation (time pressure, recoverability or redundancy, especially for the first person pronoun in a register such as diaries; cf. Haegeman 2013, 90). In order to explain the syntactic constraints observed, Haegeman resorts to core principles of universal grammar in a cartographic approach to the left periphery of main clauses.

2 In this paper, we use the term *object* as a cover term to describe all internal verbal arguments, in contrast to subjects, the external arguments of verbs.

Based on the theory of the articulated subject field (Rizzi/Shlonksy 2007 and Cardinaletti 1997, 2004), as well as the phase-based theory of truncation (Rizzi 2002, 2006), Haegeman presents an account for the phenomenon described above which she calls *diary subject omission*. Described in simple terms, phase theory holds that in the derivation of a clause, different parts of the clause called *phases* are sent to spell-out successively (Chomsky 2001, 2008, cf. also Gabriel/Müller 2013, 119). More precisely, as soon as a phase category is formed, the phase head's complement is sent to spell-out and is thus no longer accessible to syntactic operations. One of these phases is the complementiser phrase (CP), also called the *left periphery* of a clause, the part of the sentence encoding relations between the clause and the linguistic and non-linguistic context, mainly that which has traditionally been called (marked) information structure. Haegeman adopts the articulated CP approach of Rizzi (1997), who assumes that the left periphery consists of several functional projections, as illustrated below:

(6)



Gabriel/Müller (2013, 57)

In this articulated left periphery, ForceP encodes the illocutionary force of the sentence, TopP (which is marked by an asterisk since it is recursive) and FocP are the loci of the sentence's topic(s) and focus, respectively. Lastly, FinP defines whether the following TP (tense phrase) is finite or non-finite (Rizzi 1997, 325). That is to say, it is responsible for the choice of the complementiser and the properties of the verbal system, such as *that* in combination with a finite form or *for* in combination with an infinitive in English (cf. *ibid.*, 283).

Haegeman's hypothesis – based on Rizzi (2002, 2006) – is that in some cases, a projection lower than ForceP can qualify as the root (= highest) phase of a clause. In order

to account for subject omission in early child production, Rizzi (2006) applies the concept of phase theory to his data, assuming that, while the complement of a head (= phase domain) is sent to spell-out and is subsequently inaccessible to syntactic operations, the edge of a phase (= the specifier of the phase head) escapes spell-out and can and will usually be elided, provided that the respective functional projection is not the complement of a higher phase (see Haegeman 2013, 98 f.). If we assume that in some cases, TP (roughly the finite verb and all verbal adjuncts, arguments plus negation) qualifies as the root phase, its specifier ([spec,TP]), which canonically hosts the subject of the clause, cannot be spelt out. Haegeman applies Rizzi's truncation approach to her diary data (see examples (1), (2), (4) and (5) above). As the subjects described by Haegeman can also be omitted after sentence-initial adverbials (adjuncts), Haegeman has to assume that the subject of sentences such as (3) is located in a phrase higher than TP, adverbials like *jamais* ('never') in (3) being analysed as adjoined to TP. Indeed, evidence for a subject field located on a structural level above TP has been put forward by Cardinaletti (1997, 2004) as well as by Rizzi/Shlonsky (2007). The latter have shown that instead of a single subject position (at least) two positions should be assumed: [spec,SubjP] and [spec,TP]. The former is positioned higher than TP and linked to semantic and information-structure dependent features such as (weak) topicality, as illustrated below:

$$(7) \quad [_{\text{SubjP}} \dots [_{\text{TP}} \text{pro}_i \text{Vfin} [\dots [_{\text{VP}} \text{t}_i]]]]^3$$

Those two subject positions, [spec,SubjP] and [spec,TP], encode two different properties attributed to (preverbal, i. e. moved) subjects: the first or lower one acts as the grammatical subject according to morphosyntactic criteria, and the second or higher one acts as the semantic subject (cf. Cardinaletti 2004, 121). These two properties can be expressed in two different constituents, as the following sentences show:

$$(8) \quad \text{Agli studenti } \text{pro}_i \text{ piaceva molto la musica. (Cardinaletti 2004, 122)}$$

‘The students liked the music very much.’

Whereas the semantic subject of the sentence above is *agli studenti* in the dative form, the grammatical subject is *la musica*, bound via a chain with the preverbal expletive *pro* in [spec,TP]. Cardinaletti explains: “The dative argument moves to the preverbal position spec,SubjP to check the subject-of-predicate feature. Nominative case and ϕ -features are checked by the postverbal theme” (ibid.). Most important for Haegeman's argumentation is the fact that the fully articulated left periphery and the criterial position SubjP is available only in main clauses (cf. Rizzi/Shlonsky 2007).

If we consider French subjects, we observe that nominal subjects at least can be separated from the finite verb by a temporal adverbial, as example (9) shows:

$$(9) \quad \text{Jean, la semaine prochaine, partira en Italie. (Rizzi/Shlonsky 2007, 139)}$$

‘Jean, next week, will go to Italy.’

3 As the assumption of AgrSP (agreement subject phrase) in Cardinaletti's (2004) original analysis is not necessary for our analysis, it has been replaced here and in what follows by TP.

If we assume that the subject can be positioned higher than in TP (namely, in [spec,SubjP]) and that SubjP can qualify as the root phase in some main clauses in the diary register, then we can explain the distribution of the diary subject omissions (only in main clauses, but after initial adjuncts). In contrast, according to Cardinaletti (2004) and Rizzi/Shlonsky (2007), clitic subjects in French or other weak subjects cannot be located in [spec,SubjP], as the relative ordering of subject clitic and adverbial adjunct in example (10) shows:

- (10) *Il, la semaine prochaine, partira en Italie. (Rizzi/Shlonsky 2007, 139)
Literally: ‘He, next week, will go to Italy.’

For highly continuous (*given*) subject referents, e. g. those verbalised by clitics as in example (10), therefore, the application of Haegeman’s truncation analysis is not obvious, at least not immediately so (see notes 19–21 in Haegeman 2013, 103).

In order to verify whether Haegeman’s account of null subjects in diaries can also be applied to null subjects in WA messages, we shall investigate the following factors in our data:

- Do the dropped subjects occur only in main clauses, or also in subordinate clauses?
- Do the dropped subjects occur in pre-verbal or post-verbal position?
- Do the dropped subjects occur only in initial or also non-initial position of the clause?
- Which kind of element may precede the dropped subject (argument or adjunct)?

2.2 Subject drop as topic drop in French text messages (Robert-Tissot 2015)

A related, though substantially different analysis to subject omission in specific registers is Robert-Tissot’s (2015) analysis of subject omissions in Swiss French text messages (SMS). The distribution of these omissions is at first glance similar to the diary subject omission described by Haegeman for English and French diaries. Dropped subjects in French text messages only occur in the initial position of main clauses but can be preceded by adverbials. In addition, in text messages, clitic subjects can also be omitted after co-referential strong pronouns, as illustrated in the following example, i. e. after preposed arguments, a phenomenon not found in diaries:

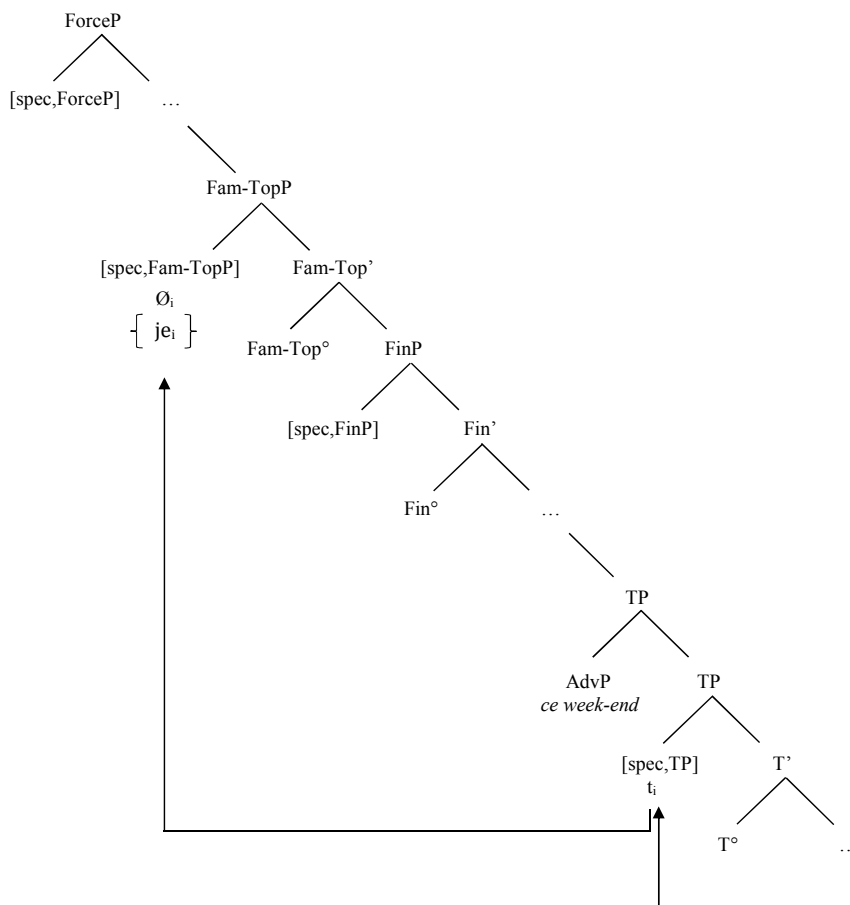
- (11) Bref ben moi mtn __ me suis organisé différemment [...] (Robert-Tissot 2015, 152)
‘In short, well, me, now __ organised myself differently [...]’

On the basis of such examples, one has to conclude that these cases cannot be truncated sentences (SubjP), since the strong pronoun *moi* is certainly located higher than TP or SubjP, most probably in a high (contrastive) topic or focus position inside the articulated left periphery. Furthermore, Robert-Tissot observes dropped objects in her corpus, such as the one in (12) below:

- (12) Hello!non papa m'a donné ____, donc pas dproblème!ptetre à tout!:) (Robert-Tissot 2015, 152)
 'Hello! No, dad gave ____ to me, so no problem! See you later maybe!'

Robert-Tissot therefore adopts another hypothesis: the dropped subjects and objects in Swiss French text messages are in her view *familiar topics* (cf. Frascarelli/Hinterhölzl 2007), relatively low above FinP. When moved to the left periphery, they leave an empty category in their base position inside vP and in the intermediate position ([spec,TP] in the case of subjects). Thus, the dropped constituents are syntactically present (in the shape of traces or copies). This results in the following derivation for example (13):

- (13) Ce WE [je] suis 4 jours à Nice pour ravitailler Patrick qui a une course de vélo.
 'This weekend, [I] spend 4 days in Nice in order to supply Patrick who has a bicycle race.'



(Cf. Robert-Tissot 2015, 176)

Spelling out such familiar topics requires the presence in the language of (weak) personal pronouns, a class of pronouns that does not exist in French, unlike Italian (see Cardinaletti/Starke 1999 for the three classes of personal pronouns, strong, weak and clitic). Clitic subject pronouns like *je* in example (13) cannot be realized independently from their host (cf. Zwicky 1977), in contrast to strong pronouns which can appear in the higher left periphery and are sometimes used to introduce a new topic, a so-called aboutness-shift topic, or to contrast a given topic, a so-called contrastive topic (Robert-Tissot 2015, 179). Once a topic has been introduced by a strong pronoun (or a nominal phrase), it can be continued over several sentences, a phenomenon called *topic chain* (see Givón 1983, quoted in Krifka 2008, 267). In a topic chain, the topic does not need to be reintroduced each time by a strong pronoun, rather it is realised by some kind of (clitic or null) weak pronoun. Given the fact that (standard) French only has clitic pronouns available for continuous topics, which obligatorily need an adjacent verbal host to be realised, those elements cannot be spelt out once they are moved to the left periphery, e.g. to the position of familiar topics (FamTopP) in Robert-Tissot's view, because they would be separated from the verb (for example by the adverbial *mtn* = *maintenant*, 'now' in (11)). Based on this reasoning, Robert-Tissot (2015) assumes that the absence of such subjects is a postsyntactic phenomenon – in the relevant position (FamTopP), Swiss 'SMS-French' subjects are allowed to be dropped on PF instead of the respective φ feature bundles being spelt out as overt subject clitics.⁴ She thus presents an account of null subjects in French that not only explains their constraint to the initial position of main clauses and their compatibility with sentence-initial adverbials, but which also accounts for the possibility of having them after preposed arguments – a phenomenon that Haegeman's (2013) approach fails to explain. Although this analysis has several shortcomings (e.g. a general ban on short topicalization for subjects, see Lasnik/Saito 1992; moreover, SubjP is the position for weakly topical subjects, the assumption of a movement higher up is thus not necessary), the observation and idea to explain the absence of subject clitics in contexts of a certain topicality might be correct – French lacks a suitable class of lexical elements, i.e. weak pronouns, to spell them out.

It is important to state here that this case of 'topic drop' is not to be confused with the Germanic topic drop type (cf. e.g. Sigurðsson 2011, Trutkowski 2016), i.e. the drop of the first constituent in a sentence in front of the finite verb with subsequent verb-subject inversion in cases of complement drop. Germanic V₂ languages like German or Dutch have an initial position in assertive main clauses available for topic constituents that may

4 French subject clitics are often considered phonological clitics (see Sportiche 1999 for discussion).

be dropped when given or inferable, typically (first) person pronouns and subjects in general (cf. Sigurðsson 2011, 289), but also objects (see example (15)):

- (14) ___ komme später. (ich = 'I')
'___ will arrive later.'
- (15) ___ Kenne ich. (e. g. das = 'that' or die/den = 'her/him')
'I know ___.'

Topic omission is not available in Germanic V2 languages when the initial sentence position is filled with e. g. adverbial adjuncts, in interrogative or in subordinate clauses:

- (16)a *Heute ___ komme später. (ich = 'I')
'Today ___ will arrive later.'
- (16)b *Warum komme ___ später? (ich = 'I')
'Why do ___ arrive later?'
- (16)c *Ich kann nicht teilnehmen, weil ___ später komme. (ich = 'I')
'I cannot participate, because ___ will arrive later.'

The syntactic distribution of Germanic topic drop is thus different from the cases observed by Robert-Tissot (2015), with one exception: in neither language type can we have dropped arguments in interrogatives with initial *wh*-elements.

In order to test whether Robert-Tissot's observations on null subjects (and objects) in French text messages can also be applied to null subjects and null complements in WA messages, we shall add the following factors to those mentioned above to be investigated in our data:

- Which grammatical persons are omitted (i. e. are the omissions pronouns or nominals)?
- Are there any cases of complement omissions?
- Do the omitted verbal arguments have an antecedent in the previous discourse (i. e. are they familiar topics)?

2.3 Accounts of dropped objects

The preceding sections have focused on the omission of subjects. The following section will discuss approaches to the omission of objects, with a focus on French. In French, transitive verbs frequently occur without any overtly realized object as is illustrated in the sentences below:

- (17) Maîtrisez-vous vos interviews? C'est capital, les interviews. – Je ___ maîtrise. (Larjava-
ara 2000, 50)
'Do you master your interviews? Interviews are crucial. – Yes, I master ___.'

- (18) The detective in a crime movie looking at the body of the victim: “*Qui ___ a trouvé ___?*”
(cf. Fónagy 1985, 15)
‘Who has found ___?’
- (19) La magie des séries, c’est de surprendre ___, de dépayser ___. (Cummins/Roberge 2004, 127)
‘The magic of series is to surprise ___, to give ___ a change of scenery.’

One approach to sentences lacking object arguments like the ones above is presented by Cummins/Roberge (2004). In their qualitative analysis of object drop in French, they distinguish two types of null objects (NOs): “internally-licensed Null Objects” and “referential” Null Objects. Examples of the first type would be featured in sentence (19). The particularity of this type of NO is that it “does not refer; it is not an anaphora and it is not in a relationship with a [+specific] nominal; [...] moreover, there is no contextually available referent” (ibid., 128). We would not say that this type of null object does not refer or is not referential, but rather that its referent is non-specific, arbitrary or even generic (e.g. *surprendre les spectateurs*, ‘surprise the public’ in (19), for example). The referents of the null objects in question are inferred, usually on the basis of contextual information or general world-knowledge. This kind of null object can be modified by an adjective or can bind an anaphora, as the sentences below illustrate:

- (20) Ce gouvernement rend ___ malheureux. (Cummins/Roberge 2004, 125)
‘This government makes ___ unhappy.’
- (21) Une bonne bière réconcilie ___ avec soi-même. (Cummins/Roberge 2004, 125)
‘A good beer reconciles ___ with one self.’

This type of object omission has also been described by Fónagy (1985) and Larjavaara (2000). Fónagy explains this phenomenon in the following words: “[I]’objet direct est régulièrement et nécessairement absent dès que le verbe se rapporte globalement au monde des objets qui pourraient être visés par le verbe en question” (1985, 23). In our paper, we will use the term *generic null object* to describe the kind of null objects which do not have a specific referent but which are still understood to refer.

The second type of null objects introduced by Cummins/Roberge (2004) is referential null objects, that is to say, object omissions for which a specific referent can be identified (see examples (17) and (18) above). Here, we would like to further distinguish two subtypes of this category: referential NOs identified by the linguistic context (like example (17)) and referential NOs identified by the extra-linguistic context (like example (18)). This distinction is necessary since in the case of the referential NOs identified by the linguistic context, the referent is mentioned in previous discourse. We can therefore infer that the dropped object is most probably a (clitic) pronoun, based on Givón’s (1983) topicality scale mentioned in the introduction. In contrast, the referential NOs identified by the extra-linguistic context could also take the form of a quantifier phrase or a determiner phrase, if one reconstructs it. This distinction is illustrated in the following examples (the possibility of clitic pronoun realization not being excluded, see example (18)):

- (17)' Maîtrisez-vous vos interviews? C'est capital, les interviews. – Je **les** maîtrise.
'Do you master your interviews? Interviews are crucial. – Yes, I master **them**.'
- (18)' The detective in a crime movie looking at the body of the victim: "*Qui a trouvé le corps*"?
'Who found **the body**'?
- (18)'' Qui l'a trouvé?
'Who found **him/her/it**'?

The reconstruction of both types of NOs is not quite as straightforward as it seems. In fact in the case of referential NOs identified by the extra-linguistic context, one can identify the referent, however, one cannot determine with certainty with which expression the speaker would have designated the referent. The policeman in example sentence (18) for instance could have used the terms *le corps* ('the body')/*la victime* ('the victim')/*le cadavre* ('the corpse') or only *le* ('it') etc. Moreover, even for the referential NOs that have an antecedent in previous discourse, it is possible to refer to the latter by means of a determiner phrase or a demonstrative pronoun. Therefore, for both types of NOs, the respective linguistic category (especially full nominal vs. pronoun) cannot be reconstructed with absolute certainty. According to Cummins/Roberge (2004) and Raposo (1986) for Portuguese, both kinds of referential NOs are syntactically active, and according to the former, both types of referential NOs are instances of clitic drops.

In Romance, object drop is attested most frequently in Portuguese, an SVO language, especially in its Brazilian varieties (for European vs. Brazilian Portuguese see Raposo 1986 and in general the overview in Sitaridou 2017, section 5). There is considerable cross-linguistic variation as to the referential properties (most Romance varieties allow only non-specific or generic object referents to be dropped) and syntactic distribution of object drop (only in root clauses or also in embedded clauses as in the following example):

- (22) Eu disse ao António que pedise ao Manel que gardase Ø no cofre de sala de jantar.
'I told Antonio to ask Manel to keep Ø in the box of the dining room.' (cf. Raposo 1986, 381)

This kind of null topic is controlled pragmatically according to Raposo (1986, 375), i. e. it has either to be given linguistically, in the preceding context, or extralinguistically, in the situational context.

Most recently, Andrew Weir (2017) showed convincingly for English object drop, especially frequent in recipes and only grammatical with a c-commanding dropped subject, that it cannot be an instance of topic drop, i. e. movement-based, because of the absence of island-sensitivity of **the** null objects. He proposes a correlation with the availability of article drop in the respective registers of English, an idea we will not pursue in what follows.

In summary, we distinguish 3 types of dropped objects in this paper, the first being generic null objects, which do not refer to a specific referent, the second being referential null objects identified by the linguistic context and the last one being referential

null objects identified by the extra-linguistic context. We will therefore incorporate the following parameters into our analysis:

- Is there any specific referent identifiable for the dropped object?
- Is the identifiable referent linguistically or extralinguistically retrievable?

3. Data and Methodology

The data on which we base our analysis are drawn from the newly created Swiss WhatsApp corpus,⁵ i. e. from 766,837 messages collected in Switzerland between June and July 2014. During this period, people were encouraged to send in copies of their WA chats in order to make them available for research. At the end of the collection, a total of 619 chats, 766,837 messages, and 5,731,430 tokens that can be used for linguistic research (i. e. where participants gave their explicit consent) had been gathered in all four national languages of Switzerland. The present analysis is based on two sub-corpora, one containing (Swiss) German chats, the other one French chats. The (Swiss) German sub-corpus comprises 7 different chats with 488 messages in total which account for 4,680 tokens. The French sub-corpus is made up of 12 different chats with a total of 357 messages and 4,357 tokens. Each corpus contains 1,000 arguments which have been annotated manually for the purpose of our analysis. The annotation itself includes several syntactic and several functional variables which are summarised in the table below:

Table 1: Variables of the statistical analysis

Dependent variable
1) Is the argument realised or omitted?
Independent syntactic variables
2) Does the argument occur in a main clause or in a subordinate clause?
3) Does the argument occur in initial or non-initial position of the clause?
4) Does the argument occur in pre- or postverbal position?
5) What element is in the left periphery of the clause in which the argument occurs?
6) In which grammatical person does the argument occur? (only for subjects)
Independent functional variables
7) Does the argument have an antecedent in the previous clauses of the same message?
8) Does the argument have an antecedent in the previous message?
9) Does the argument have an antecedent in one of the previous messages with a thematic link?
10) Does the argument have an antecedent at all?

5 Cf. <<http://www.whatsup-switzerland.ch/index.php/fr/>>, date of access: April 13, 2018.

The independent syntactic variables test whether the omission of arguments is restricted to specific positions, which indicates that the omissions follow syntactic regularities and cannot be explained by purely extralinguistic factors. Variables 2–4 are nominal variables. If the distribution of subject and object omissions follows the same pattern as the diary subject omissions described by Haegeman (2013) or the subject and object omissions described by Robert-Tissot (2015), the dropped arguments would be restricted to the initial, preverbal position of main clauses (with the exception of sentence-initial adverbials which can precede dropped arguments in French). Variables 5 and 6 are categorical variables. The first is important since it indicates whether the omissions involve a syntactic movement or not. Elements in the left periphery of the sentence blocking movement of topical constituents like familiar topics (because of intervention effects) should be impossible with attested omissions of arguments following Robert-Tissot's approach. At the same time, the presence of elements other than sentence-initial adverbials in the left periphery would contradict Haegeman's approach as well, since this would imply that the derivation has not stopped at e.g. SubjP as a root phase. Variable 6 gives more information about the grammatical person of dropped elements, in order to see whether our data are in line with pragmatic observations seeing the first and second person pronouns as highly topical and therefore frequently dropped.

As for the independent functional variables, these are designed to test the presence or absence and – most importantly – the accessibility of a topic which can be dropped in the following sentences (if the syntactic rules, should there be any, allow this). The closer the antecedent, the higher the accessibility of the topic and, therefore, the less syntactic material would be used to realise it as described by Givón (1983). If our data follow this pattern, then the omissions of arguments are not just arbitrary but they follow the rules of information structure.

By proceeding in such a way, the syntactic and functional distribution of each argument can be described. In a second step, statistical tests (t-tests) were conducted in order to determine which of the independent variables show a significant influence on argument omission. The tests were conducted with the software R (R Development Core Team 2008). The results of these analyses will be presented in the following section.

4. Results

We now turn to the empirical evidence on argument omission in French and (Swiss) German WA messages. Overall, our results show a comparable distribution of subject and object omissions in both languages. There are, however, some differences, which we shall try to explain in the course of the discussion. Below, we will first look at the results regarding objects before subsequently turning to the results on subject omissions.

4.1 Object drop

In this section, we look at object omissions in the two sub-corpora. We have found omissions of the direct object, the indirect object, the prepositional object, as well as the adverbial complement. However, quantitative analyses were only conducted for the direct object and the adverbial complement because of an insufficient number of examples and doubtful cases for the other two types of objects. Comparing the omissions in the two corpora, we observe a similar pattern in both languages.

Table 2: Object omissions in (Swiss) German and French WA messages

French	Direct object		Adverbial compl.	
Object type	N	%	N	%
Referential null objects identified by the linguistic context	17	7	11	12
Referential null objects identified by the extra-linguistic context	11	4	6	6
Generic null objects	14	6	1	1
Realised objects	205	83	78	81
Total	247	100	96	100
(Swiss) German	Direct object		Adverbial compl.	
Object type	N	%	N	%
Referential null objects identified by the linguistic context	19	7	6	7
Referential null objects identified by the extra-linguistic context	9	3	0	0
Generic null objects	7	3	7	8
Realised objects	233	87	71	85
Total	268	100	84	100

Our data show object omissions of all three types in both the (Swiss) German and the French sub-corpus, the referential null objects identified by the linguistic context being the most common. The French data show a considerable amount of generic null objects compared to the (Swiss) German data, in which these are the least common type of object omission.

Let us now consider the distribution of these omissions, restricting ourselves only to referentially specific null objects in what follows since it is impossible to reconstruct generic null objects and therefore to set the values for the different variables (such cases would need to be investigated further in a qualitative study). The syntactic distribution of these null objects, subsuming both direct objects and adverbial complements, is not as straightforward as that of the null subjects (see below, section 4.2). Indeed, there do

not seem to be any syntactic constraints on referential null objects in either (Swiss) German or French WA messages according to our data, which speaks against a movement-based analysis of these elements (i. e. they are most probably not instances of movement-based topic-drop and may be similar to null object in Brazilian Portuguese; see Reich 2002 and Sitaridou 2017, 136–138). In both sub-corpora, referential objects are omitted in both main and subordinate clauses (pre- and post-verbal position, initial and non-initial position) and in sentences with adverbials and preposed *wh*-elements. There are some syntactic variables (initial position, preverbal position, see table 1) which exert a significant influence on the omissions. For instance, omissions of the direct object are significantly favoured by the initial position in both the French and the (Swiss) German corpus, which indicates their higher topicality. However, some omissions of the direct object also occur in non-initial position, albeit less frequently. Therefore, we can merely observe a few tendencies as opposed to strict constraints.

Table 3: Referential null objects (direct objects, DO; adverbial complements, AC) identified by the linguistic context in French and (Swiss) German WA messages

Formal constraints on object omissions in French and (Swiss) German				
Category	French DO	(Swiss) German DO	French AC	(Swiss) German AC
Clause type (main/subordinate)	–	–	–	✓
Pre-/postverbal position	✓	∅	–	✓
Initial/non-initial position	✓	✓	–	–
Elements in the left periphery	–	–	–	–

As regards the functional parameters, our results indicate that the presence of a close antecedent favours omission.⁶ Indeed, the presence of an antecedent in the preceding clauses of the same message shows a significant influence on both French and (Swiss) German adverbial complement omissions as well as French direct object omissions. Furthermore, having an antecedent in the previous message favours the omission of all null objects under investigation, except for the French adverbial complements. The latter, however, are the only verbal complements whose omission is significantly influenced by antecedents in previous messages with the same topic. These results are summarised in the table below:

6 It must be noted that for the statistical tests concerning the influence of antecedents, we only included referential null objects identified by the linguistic context, since, by definition, those identified by the extra-linguistic context do not have any antecedents in previous discourse.

Table 4: Referential null objects (direct objects, DO; adverbial complements, AC) identified by the linguistic context in French and (Swiss) German WA messages

Functional constraints on object omissions in French and (Swiss) German				
Category	French DO	(Swiss) German DO	French AC	(Swiss) German AC
Antecedents in the previous clauses of the same message	✓	–	✓	✓
Antecedents in the previous message	✓	✓	–	✓
Antecedents in the previous messages with the same topic	–	–	✓	–

Regarding the influence of functional variables, we can therefore say that French and (Swiss) German object omissions are significantly influenced by the presence of a close antecedent in the previous discourse.

4.2 Subject drop

In the (Swiss) German sub-corpus, the subject omission rate is considerably higher than that in the French sub-corpus (18% compared to 4%), as one can see from the table below:

Table 5: Subject omissions in (Swiss) German and French

Subject omissions	N/total	%
French	20/488	4
(Swiss) German	92/518	18

This is most certainly due to the topic-drop character of (Swiss) German, allowing a null topic in sentence-initial position, unlike French. It is worth noting, however, that the omissions in both corpora are subject to the same overall syntactic constraints, with some exceptions (highlighted in grey) to be discussed below. Consider the following two tables:

Table 6: Influence of syntactic variables on French subject omission

Syntactic constraints on subject omissions in French		
Variable	Influence	Constraint
Person	✓	Omissions only occur with 1 st person singular and plural as well as with the expletive. The majority of omissions (45 %) occur with 1 st pers. sg.
Clause type (main/subordinate)	✓	Omissions only occur in main clauses.
Pre-/postverbal position	✓	Omissions only occur in preverbal position.
Initial/non-initial position	✓	Omissions only occur in sentence-initial position. Exception: 2 omissions after an adverbial, 1 omission after a coordinating conjunction.
Elements in the left periphery	✓	Omissions are only possible in sentences without further elements in the left periphery, especially without fronted <i>wh</i> -elements.

Table 7: Influence of syntactic variables on (Swiss) German subject omission

Syntactic constraints on subject omissions in (Swiss) German		
Variable	Influence	Constraint
Number	✓	Subject omissions occur with 1 st , 2 nd and 3 rd person singular as well as with the expletive. The majority of omissions (73.9 %) occur with 1 st pers. sg.
Clause type (main/subordinate)	✓	Omissions only occur in main clauses.
Pre-/postverbal position	✓	Omissions preferably occur in preverbal position. Exception: 6 subjects, 5 of which are the 2 nd person singular <i>du</i> .
Initial/non-initial position	✓	Omissions preferably occur in sentence-initial position. Exception: 6 subjects, 5 of which are the 2 nd person singular <i>du</i> .
Elements in the left periphery	✓	Omissions are preferably possible without any elements in the left periphery. Exception: 6 subjects, 5 of which are the 2 nd person singular <i>du</i> .

Generally speaking, our results show that subject omission in French and (Swiss) German is mostly restricted to the initial (and therefore preverbal) position of the main clause:

- (23) [ich] Wollte nur wissen ob du ne Idee hast, wie ich am besten meine Möbel von Deutschland nach Bern bekomme.
 ‘[I] Just quickly wanted to ask you whether you have any idea on how I can best get my furniture from Germany to Bern.’
- (24) [je] Suis en route pour l’aéroport:) Bizz
 ‘[I] Am on my way to the airport. Kisses’

This is true with, however, two exceptions. Firstly, Swiss German dialects allow subject pronoun omissions in interrogative structures, more precisely in post-verbal (and therefore non-initial) position for the second person singular pronoun *du* (cf. Cooper 1994). This is also found in our non-dialectal (Swiss) German WA messages, most likely a grammatical interference from dialectal to non-dialectal language varieties of German in Switzerland:

- (25) Kennst [du] jemanden mit Hänger?
 ‘Do [you] know anyone with a trailer?’
- (26) Bleibst [du] denn in Züri Bene?
 ‘Will [you] stay in Zurich, Bene?’
- (27) Arme siech! Brauchst [du] etwas? Suppe oder so?
 ‘Poor guy! Do [you] need anything? Soup or anything?’
- (28) Ist [es] doof mit deinen Kollegen?
 ‘Is [it] bad with your colleagues?’

Surprisingly, one example (28) shows omission of the third person singular pronoun *es* (‘it’) in postverbal position, something not attested for (Swiss) German in the literature.

Secondly, French subject drop can be preceded by coordinating conjunctions as well as adverbials, as shown in the two examples below:

- (29) Grosse panne de voiture en arrivant ici et [nous] avons du changer les amortisseurs!
 ‘Serious breakdown of our car when arriving here and [we] had to change the shocks!’
- (30) Ce WE [je] suis 4 jours à Nice pour ravitailler Patrick qui a une course de vélo.
 ‘This weekend, [I] spend 4 days in Nice in order to supply Patrick who has a bicycle race.’

However, in contrast to (Swiss) German, subject drop in French is not found in interrogative structures.

In terms of functional parameters, the picture is less clear:

Table 8: Influence of functional variables on French subject omission

Functional constraints on subject omissions in French		
Variable	Influence	Constraint
Antecedent in the previous clauses of the same message	–	Those antecedents do not have a significant influence on subject omissions.
Antecedent in the previous message	–	Those antecedents do not have a significant influence on subject omissions.
Antecedent in one of the previous messages with a thematic link	–	Those antecedents do not have a significant influence on subject omissions.
No antecedent at all in the previous discourse	–	Omissions without any antecedent in the previous discourse do exist in our data.

Table 9: Influence of functional variables on (Swiss) German subject omission

Functional constraints on subject omissions in (Swiss) German		
Variable	Influence	Constraint
Antecedent in the previous clauses of the same message	–	Those antecedents do not have a significant influence on subject omissions.
Antecedent in the previous message	✓	Those antecedents influence subject omissions positively but are not a prerequisite for subjects to be dropped.
Antecedent in one of the previous messages with a thematic link	–	Those antecedents do not have a significant influence on subject omissions.
No antecedent at all in the previous discourse	–	Omissions without any antecedent in the previous discourse do exist in our data.

Our data show that French and (Swiss) German subjects can be omitted in some cases without any antecedent in previous discourse. Subject drop in the (Swiss) German sub-corpus is favoured by the presence of antecedents in the preceding message. The same influence, however, cannot be observed for subject drop in the French sub-corpus. For the latter, significance tests indicate that the presence or absence of antecedents in previous discourse do not have any influence on the subject omissions. The implications of these results will be addressed in our discussion section (Section 5).

To summarise, our results show different patterns for subject and object drop in French and (Swiss) German WA messages. While the subject omissions in both languages show a straightforward syntactic distribution with clear constraints, the object omissions seem to occur almost anywhere in the sentence. In turn, with respect to the influence of functional variables, the object omissions (for specific referents) are clearly favoured by the presence of a close antecedent. This influence is also crucial for the (Swiss) German subject omissions. The French subject omissions, however, do not

seem to be influenced by the presence or absence of any antecedents. Having described the results of our quantitative analyses, we shall now turn to their discussion.

5. Discussion

Our results provide evidence for the fact that (Swiss) German and French subject and object omissions are most probably subject to different constraints. In the following sections, we shall first discuss the results regarding the object omissions before turning to those regarding the subject omissions.

As for object omissions, more precisely the omissions of direct objects and of adverbial complements, they seem to be triggered by high topicality. The presence of a highly accessible antecedent, i. e. one in the previous sentences of the same message and/or in the previous message, significantly favours object drop. There are indeed passages of conversations in our corpus in which an argument, once it has been introduced (and therefore established as the aboutness-topic) is omitted on several consecutive occasions in the following discourse. Consider the example below:

- (31) A: **Pour frauenfeld** vous avez pris quels tickets? Ceux ou tu peux déjà aller le mercredi soir ou les autres du jeudi matin?
 B: Moi j'ai pris a 199.- comme tu m'as dit [...]
 A: Ah beau, psq je [y] vais avec Françoise et sa Collègue et du coup elles ont pas pu pour le mercredi soir ... [...] Tu crois que je peux [y] venir avec vous le mercredi [...]?
 B: Ben les autres viennent le jeudi
 B: Mais on peut [y] aller juste les deux le mercredi?
 A: Oui! [...]
 B: Mais tip tooop! Faudra juste regarder si y'a une heure de fermeture au camping
 A: On peut [y] aller a partir de 20h le mercredi
 B: Ah ben parfait!
 B: J'avais peur qu'à partir d'une certaine heure on puisse plus [y] rentrer
 A: '**As for Frauenfeld** [Music Festival], what tickets did you take? The ones which you can enter on Wednesday night or the other ones for Thursday morning?'
 B: 'Me, I took the ones for 199.- like you told me [...]'
 A: 'Oh well, since I'm going [**there**] with Françoise and her colleague and they couldn't make it for Wednesday night ... [...] Do you think I could go [**there**] with you on Wednesday [...]?'
 B: 'Well, the others are coming on Thursday'
 B: 'But we could go [**there**] on Wednesday just the two of us?'
 A: 'Yes! [...]'
 B: 'Well great! We just have to check whether there is a closing time for the camp site'
 A: 'One can go [**there**] from 8 pm onwards on Wednesday'
 B: 'Well, that is perfect!'
 B: 'I was afraid that we would not be able to enter [**there**] from a certain time onwards'

What we observe in this passage is a case of a continuous topic chain, in which the topic constituent (*Frauenfeld*) can be omitted several times. Moreover, there are also some results regarding the syntactic variables, which indicate high topicality of the dropped arguments, at least as far as the French referential null objects identified by the linguistic context are concerned. Our results for the French dropped direct objects indicate that the latter are more likely to be omitted in preverbal position. Since those direct objects have an antecedent, it follows that the preverbal object omissions must be object clitics. However, they seem to be possible also in syntactic islands (see example (32) below), which makes it impossible to assume a movement (= topic drop) analysis for them (cf. Weir 2017 for a similar argument for English object drop). We have identified 11 object omissions in French in subordinate clauses with overt complementisers (out of 70 objects in subordinate clauses; 5 out of 54 objects in subordinate clauses are not realised in the German sub-corpus). The following sentences illustrate this phenomenon:

- (32) puis chuis allé au Biocoop je sais pas si tu [**le**] connais ils ont que des produits bio à moitié du prix en Suisse
 ‘Then I went to Biocoop. I do not know if you know [**it**]. They have organic products only at half the price in Switzerland’
- (33) Ich komme heute nicht **in die Schule** weil ich krank bin. Ich denke aber, das ich Morgen wieder [**in die Schule**] kommen kann.
 ‘I will not come **to school** today because I am sick. But I think that I will be able to come [**to school**] tomorrow.’

As we can observe in (32) and (33), there are also null objects in subordinate clauses that clearly show an antecedent in previous discourse (in this case *Biocoop* and *in die Schule*) and which are therefore identified by the linguistic context. Some French null objects identified by the linguistic context cannot be dropped clitics. There are some direct objects that would need to be taken up by the demonstrative pronoun *ça*, as illustrated in the following example from our corpus:

- (34) A: Bon courage! À quelle heure arrives-tu du coup?
 B: Attends je regarde [**ça**]. / ?Attends je [**le**] regarde.
 A: ‘Good luck! What time will you arrive then?’
 B: ‘Wait, I’ll look [**that**] up’

Now, if we were to assume that the dropped *ça* is a familiar topic and that it is moved, for example, to the position of FamTopP, there is no reason for it not to be spelt out. The pronoun *ça* is not a clitic and does not need a verbal host. It would therefore have to be realised phonetically, after being moved to the left periphery.

To summarise, our results regarding object omissions point to a complex phenomenon that still needs to be elucidated. Maybe we have to assume, as Weir (2017) does for English recipes, the existence of a null determiner combined with NP-ellipsis, to account for our instances of object drop, but much further research is needed on these instances of object drop in French mobile writing.

Turning to subject omissions, on the whole, (Swiss) German and French subject omissions in our data show a fairly parallel distribution. The subject omissions almost exclusively occur in affirmative main clauses. We can therefore forego a pro-drop analysis, since the languages that have *pro* also show this element in subordinate clauses or questions. Furthermore, (Swiss) German subject omissions are confined to the absolute initial (and therefore preverbal) position of the main clause, with the six exceptions mentioned above (see examples (19)–(22)). Five out of six of these non-initial, post-verbal omissions occur with the second person singular pronoun *du*. As Cooper (1994) has shown, Swiss German dialects, as well as e.g. Bavarian dialects or the Meran dialect, allow omissions of the singular pronoun *du* in post-verbal position (cf. Cooper 1994, 96) and can thus be considered as partial pro-drop languages. Cases of this kind in our corpus are structurally different from the other ones, as they are bound to a specific position (postverbal in interrogative constructions) and only concern the 2nd person singular pronoun. As for the post-verbal omission of the expletive in (28), we consider it to be most likely a performance error. In summary, the six post-verbal subject omissions in our sub-corpus do not undermine an analysis of (Swiss) German subject omissions as topic drop.

The results regarding further overt elements in the left periphery provide evidence for a topic drop analysis for our Germanic data. (Swiss) German subject omissions in our data only occur in sentences in which the position immediately preceding the finite verb in C° is not occupied by any other element. We simply do not observe any omissions in sentences with sentence-initial adverbials, question words, in subordinate clauses introduced by overt complementisers or after preposed arguments. This distribution clearly reflects the distribution of topic drop of the Germanic type. French subject omissions, in turn, *can* be preceded by adverbials. In contrast, they are not found in interrogative sentences, relative clauses, subordinate clauses introduced by a complementiser, and clauses in which another argument is topicalised. This corresponds to the distribution of “diary subject omission” (Haegeman 2013). Dropped subjects in our data are in fact frequently highly topical, which can be shown very well by the following example:

- (30) Coucou **moi** j y vais ce soir. À l'intérieur je pense vu le temps! Ce WE [**je**] suis 4 jours à Nice pour ravitailler Patrick qui a une course de vélo. À+
 ‘Hi. **Me, I** will go there tonight. Inside, I think, in light of the weather! This weekend, [**I**] spending 4 days in Nice in order to supply Patrick who has a bicycle race. See you later.’

It should be noted that the topic (the speaker, talking about him- or herself) is first introduced by a strong pronoun (*moi*), which starts a new topic chain (perhaps contrastively introducing him-/herself against somebody not going to the event in question that evening). Since the topic in the third sentence is the same as in the first two, it does not need to be reintroduced since it constitutes a familiar topic. It is therefore realised by means of as little morpho-phonological material as possible, that is to say null, in parallel to the data discussed by Robert-Tissot (2015). We would refrain, however, from claiming a topic-drop analysis for our data, as there are two problems with this analysis. The first is the fact that the subject omissions in both the French and the (Swiss) German

sub-corpus also include expletives. As explained earlier, expletives cannot be the topics of an utterance, since they are merely structural elements that do not refer. Hence, the omission of expletives cannot be a case of topic drop (cf. Haegeman 2013). However, our results show that these elements are dropped on several occasions (4 out of 12 expletives are omitted in the French sub-corpus, compared to 7 out of 30 in the (Swiss) German sub-corpus). Consider the following examples:

- (35) Hey Monique je rentre à l’instant de l’aéroport, les bagages pleins de bières à partager avec toi! [**il**] Faut qu’on aille grimper un de ces jours que je te raconte! Je t’embrasse
 ‘Hi Monique. I’m on my way home from the airport, my luggage full of beers to share with you! [**it**] Is imperative that we go climbing one of these days so that I can tell you about it! Big hug’
- (36) [**es**] Wird elf
 ‘[**it**] Will be eleven’
- (37) [**es/das**] wird nichts mit grillen heute
 ‘[**it**] will not be possible to have a barbecue today’
- (38) A propos: will jemand 6 Wochen gratis WOZ? [**es**] Gibt mal wieder empfehlaktion.
 ‘On that note: Does anyone want to have the WOZ [journal] for 6 weeks for free? [**it**] Exists a special offer again.’

Whereas the omission of French expletive *il* in non-standard registers is widespread under certain syntactic conditions (see e.g. Kaiser 2008, 315 and literature therein), the German results are particularly surprising considering that “German require[s] overtly realised expletives in clause-initial position: in neutral declaratives in which no XP has been focused or topicalised, expletives fill the preverbal slot, which we assume to be [spec,CP]” (Biberauer 2010, 157). We wish to avoid offering an *ad-hoc* explanation for the puzzling German data and will therefore refrain from providing any explanations for this phenomenon for the moment. This issue does, however, require more thorough investigation in further research.⁷

The second problem regards the influence of the antecedent. If one argued that the dropped subjects in our data were dropped *familiar* topics, one would have to account for the fact that some of the dropped subjects in the French and (Swiss) German WA messages *do not have an antecedent in the previous discourse*. In the (Swiss) German sub-corpus, 28 out of 202 subjects without an antecedent in the previous discourse are omitted. In the French sub-corpus, there are 5 omissions out of 176 subjects without an antecedent. Some examples of these omissions are provided below:

7 See Zimmermann/Kaiser (2014) and Robert-Tissot (2015) with an explanation based on verb focalisation, which we do not have space to discuss here.

- (39) Hoi zäme. [**ich**] Musste unbedingt noch waschen und schaffe es nicht mehr rechtzeitig.
‘Hi everyone. [**I**] Really needed to do some laundry and will not make it on time.’
- (40) [**ich**] Bin dabei
‘[**I**] Am in’
- (41) [**du**] Hast also nix verpasst
‘[**you**] Did not miss anything’
- (42) [**nous**] Sommes arrivés ce matin à Samarcande après 3 jours perdus dans la campagne.
‘[**we**] Arrived this morning in Samarkand after 3 days lost in the countryside.’
- (43) [**nous**] Sommes dans le train de retour [...]
‘[**we**] Are on the train home [...].’

None of the above subject omissions have an antecedent in the previous discourse; note, however, that they are 1st or 2nd person subjects, which are topical *per se*, denoting automatically given discourse participants (cf. Givón 1983, Sigurðsson 2011). Interestingly, in almost all these cases, the subject can be identified unambiguously by the verbal morphology (except for the first case in example (4), which is, however identified *ex post* by coordination with *schaffe*, ‘make_{PRS,1SG}’, unambiguously inflected for the 1st person singular).

7. Conclusion

In this pilot study on argument drop in a small sample of 357 French and 488 (Swiss) German WA messages (4,357 and 4,680 tokens respectively), to our knowledge one of the first such studies on the linguistic properties of this new form of graphic mobile electronic communication, we have revealed strong syntactic constraints on subject drop. Dropped subjects are found almost exclusively in affirmative main clauses, the few exceptions being due to an available *pro* in Swiss German for the second person singular pronoun (*du* ‘you’). As expected, (Swiss) German, being a topic-drop language, allows subject drop only in absolute initial position, unlike French where subject drop is also found after preceding adverbials (and coordinating conjunctions). Functional parameters, such as an available antecedent in the previous sentence or message, favour subject drop at least in (Swiss) German WA messages.

Our first question in Section 1 was whether there are syntactic constraints on the distribution of verbal argument omission in WA messages, parallel to those identified for subject drop by Haegeman (2013) and Robert-Tissot (2015). Overall, whatever analysis one wishes to adopt, at least for subject drop, we can now answer this question in the affirmative. This is an important result, as it confirms the syntactic nature of subject drop in an abbreviated register such as WA messages – if it were to save time or effort, subjects with retrievable referents would be dropped everywhere, which is clearly not the case. As regards our second research question (What are the functional, information-structure driven conditions for verbal arguments in WA messages to be dropped?), we have found evidence of functional parameters influencing argument

drop in the field of dropped objects especially. Object drop in French does not seem to be as strictly syntactically constrained as subject drop, as it is also found in some subordinate clauses, in interrogative structures (*wh* in situ) and in postverbal position. These few occurrences, like the drop of expletives, need further analysis – the French register used in WA messages seems to behave partially like Brazilian Portuguese. Object drop is found preferably in initial, preverbal position. However, objects are not dropped everywhere just in order to save time or effort, but rather follow linguistic constraints.

In summary, argument drop in WA messages does not seem to depend overly on extralinguistic factors such as technology or specific communicative needs. It is either strongly syntactically constrained (subjects), or functionally favoured by information structural regularities – both completely compatible with general findings on the syntax of natural languages. Admitting a relatively high number of dropped subjects in French WA messages, a phenomenon attested, but less frequent in oral non-standard varieties (see Koch/Oesterreicher 1990, 146 for Canadian French or Meisenburg 2000, 232), is maybe originally due to the costly production of text messages (recall Biber's [1995] 'conditions of use' parameter, see chapter 2), but it has become nowadays one of the register-specific features, together with others (see André 2017), of written mobile communication independently of technical affordances.

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