

Article

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Language production experiments as tools for corpus construction: A contrastive study of complementizer agreement

<https://doi.org/10.1515/cllt-2019-0075>

Abstract: The investigation of linguistic phenomena in corpora of spontaneous speech is sometimes hindered by corpus size or by the complexity of the factors influencing their occurrence. Language Production Experiments (LPEs) can specifically elicit such phenomena and can therefore be used to build corpora that allow for their investigation. Yet experiments are a wide category that covers very different tasks, and there is little empirical research that compares speakers' response behavior to different task types. In this paper, we compare the responses of a group of 22 speakers to a translation task and a completion task, both of which target the syntactic phenomena complementizer agreement (CA). The results indicate that both experimental methods offer legitimate ways to investigate the phenomenon with specific advantages and disadvantages. However, a comparison of results from both tasks allows for insights that a single task could not have provided.

Keywords: syntax, language production experiments, complementizer agreement, corpus construction

1 Introduction

Investigation of specific phenomena in corpora of spontaneous speech often meets hurdles, as they may be limited to specific interactive or linguistic contexts or of a

The research for this publication took place in the context of the SFB “German in Austria” FWF F060 in the in the Project Part “Speech Repertoires and Varietal Spectra” (FWF F06003, principal investigator: Alexandra N. Lenz). The SFB is funded by the Austrian Science Fund.

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generally low frequency (Lenz 2008: 163; Seiler 2010: 513). Therefore, corpora need to reach a certain size to contain these comparatively rare phenomena. In practice, the corpus size required to investigate a feature in particular varieties, such as local dialects, is not always achievable. Methods such as translation tasks may specifically elicit such rare phenomena. While there is a general awareness about the influence of different research methods and tasks in the collection of linguistic data in general, and of syntactic data in particular, research has rarely investigated this influence. This article provides an example of such an analysis based on the phenomenon of complementizer agreement (CA) in Bavarian.

As we will explain in further detail, CA appears to be governed by complex syntactic factors (see Fingerhuth and Lenz 2020). The study compares the responses of 22 speakers using two different elicitation techniques, both of which we understand to be language production experiments (LPE). While one is a translation task, the other task prompts the respondents to complete a sentence, subsequently referred to as a completion task. As we discuss in more detail shortly, both approaches are experimental, in that they target the appearance of the two syntactic phenomena in specific contexts in order to assess the impact of certain linguistic factors. Comparison of results from both tasks may reveal more about the phenomena than analysis of data from only a single task type. This underscores the importance of methodological reflection and the empirical comparison of research methods and tasks. It further illustrates how researchers can use different tasks to construct corpora of spoken language to research syntactic variation in particular.

This article begins with a brief review of experimental methods in linguistics that highlights the lack of research explicitly comparing speakers' responses to different research methodologies. We then present a brief description of CA and the related phenomenon doubly-filled COMP (DFCOMP). This is followed by a description of the two experimental tasks we compare, which leads to the comparison of the results and a discussion of their implications for corpus linguistic methodology. We end with a summary of the findings and an outlook on how these results may be significant particularly for the construction of linguistic corpora that target syntactic variation.

2 Elicitation methods for the investigation of syntactic variation

Before diving into a discussion of elicitation methods for corpus construction, we want to provide a brief definition of what we understand to be a linguistic corpus. In order to do this, we rely on a very fundamental definition. A corpus is thus

“simply any collection of written and spoken texts” (Lüdeling and Kytö 2008: v). By understanding corpus linguistics as a corpus-based approach to linguistic inquiry that makes use of these collections to test and improve theories and assumptions (Gries 2010: 328), we here want to connect corpus linguistics to an experimental approach.

There are a number of examples where the term *experiment* was used to describe different linguistic methods, ranging from the manipulation of casual and careful speech production to grammaticality judgments (see Cornips and Poletto 2005; Greenbaum and Quirk 1970; Kristiansen 2010). A distinction repeatedly found in approaches to linguistic experiments is the previously mentioned separation of experimental data from corpus data (Cornips and Poletto 2005: 941; Greenbaum and Quirk 1970: 2; Mönnink 1997: 229). Such statements suggest that experimental data is unfit to build linguistic corpora. We want to contradict such an understanding and suggest that experimental data is in fact a very suitable method of corpus construction.

In particular, we advocate the use of computer supported LPE in particular as an experimental method that combines the abundance of data on rare phenomena offered by grammaticality judgments, and also allows researchers to construct language corpora that enable the investigation of language production data. We draw on Breuer and Bülow (2019: 256) to define the LPE¹ as “quasi-experimental settings which use standardized (often multi-modal) stimuli.” These stimuli are used in standardized sequences evoking (spoken or written) language production data and thereby testing specific linguistic factors” (Breuer and Bülow 2019: 256). Compared to oral questionnaires administered by a field worker, computer supported LPEs offer a markedly higher degree of repeatability.² At the same time, they allow for the targeted elicitation of phenomena in specific linguistic contexts, and are thus particularly useful for the variationist investigation of syntactic phenomena (Breuer and Bülow 2019; Lenz et al. 2019). Through the selection of speakers, such an investigation may be connected to extra-linguistic factors for variation, e.g., social demographics or region. By conducting the experiments with the help of computers, researchers can maximize the comparability between different participants. While it holds true that production tasks may not provide negative evidence (unless they contain metalinguistic commentary), as argued by Cornips and Poletto (2005), they have their own benefits over grammaticality judgments. Lenz (2016: 198) argues that

¹ Breuer und Bülow (Breuer and Bülow 2019) use the term *Language Production Test*. We here use the term experiment in line with other recent publications without a distinction from tests.

² We use the established term CA although it has been described as somewhat unfitting. Technically, it is not the complementizer itself that agrees, but rather the syntactic position (see Weiß 2005: 148–149).

they not only provide positive evidence for existence of variants, but can also indicate preference. It is conceivable that this preference of variants in language production is different from preferences articulated in a judgment task. Rather than exploring linguistic possibility, we argue that an investigation of language production more specifically targets the realm of linguistic probability, i.e., which choices speakers are likely to make and which variants they prefer over others, which constitutes a legitimate field of study as much as possibility.

It could be argued that corpora created through LPEs are different from “regular” corpora of recorded or written language, e.g., corpora composed of conversations or collections of texts of a certain genre. LPE data could be accused of being less authentic, as they emerge from a communicative context that is different from that of these more common approaches to corpus construction. This difference, however, does not diminish their value for specific uses. The way LPEs are set up certainly limits their applicability to answer questions concerning matters like discourse pragmatics. However, in their capability to target specific phenomena within a short time span, they are efficient tools for the targeted elicitation of grammatical phenomena. They can e.g., target phenomena that have low frequencies in communication, that would not likely co-occur in a communicative setting, or target different registers that may be hard to elicit otherwise. Therefore, they add to the corpus linguistic toolkit.

We want to draw particular attention to the distinction between elicitation methods and task types. The broad definition by Breuer and Bülow (2019) describes the LPE as a general method that can cover a number of different task types. As they elaborate, these tasks can have different degrees of openness and include e.g., requests to describe actions or processes, to answer questions, or to complete sentences (Breuer and Bülow 2019: 257). However, these task types differ in the range of openness they give speakers in their responses. Their connecting element is the goal of language production dependent on specific factors. We therefore also consider the translation task presented below an LPE. The difference between the two tasks investigated here (translation and completion) lies in their task type and, as a consequence, in their openness.

A number of recent studies illustrate the applicability of particularly computer supported LPEs (Breuer and Wittibschlager 2020; Fingerhuth and Lenz 2020; Korecky-Kröll 2020; Lenz 2016, 2018). The versatility of such LPEs is highlighted particularly by Lenz et al. (2019), who describe their application to diverse syntactic phenomena ranging from the variation in the use of: determiners (determiner doubling), variation in the C-domain (discussed here) as well as final infinitival and passive constructions. Korecky-Kröll’s (2020) study of adjective gradation in German provides a study that further shows that LPEs also provide ways to investigate morphological variation.

The effects of specific task types on the elicited data have been discussed frequently. Cornips and Poletto e.g., (2005) point to a repetition effect occurring when participants translate a sentence from the standard variety to a local dialect, resulting in the copying of constructions found in the stimulus. While such an effect is intuitive and plausible, to date there is little research that actually compares the influence a given research methodology has on the results. While there are some isolated studies comparing elicitation methods (e.g., Lenz 2016; Pröll and Kleiner 2016), they are by far insufficient to allow generalizations. Instead, the scarcity of such research underscores the necessity for further work devoted to the question of methodological influence, and for the construction of corpora that enable such research. In what follows, we present a case study that addresses this question and outline the project context that allowed for the creation of the underlying corpus.

3 Building a corpus for the investigation of syntactic and other phenomena using different methods and task types

We begin our discussion of data elicitation methods with an outline of the wider project context. We then provide a brief description of CA and DFCOMP. We follow this with an outline of the two different tasks used for elicitation, the translation task and the completion task. This is the foundation for the subsequent comparison of the data from both settings.

3.1 Project context, scope, and elicitation settings

The corpus used in this study is collected through the special research programme (SFB) “German in Austria: Variation – Contact – Perception” (DiÖ). The SFB consists of eight thematic project parts pursuing different specific research questions concerning the German language in Austria with according specific methodologies (Budin et al. 2019) and the creation of a multi-faceted corpus of German in Austria. The present study stems from PP03, “Speech repertoires and varietal spectra”, which investigates individual linguistic repertoires of speakers in rural Austria and to this end has built a corpus of spoken German from 13 rural locations spread across Austria. As shown in Figure 1, these are situated in different dialect (sub-) areas. Each location has about 500 to 2000 inhabitants and is not in the immediate vicinity of a larger city.

In each location, the project interviewed at least 10 speakers which represent an older generation (60+) and a younger generation (18–35) of different educational backgrounds. Speaker selection further aimed at equal representation of male and female speakers, although concessions were made when the targeted speaker groups could not be recruited. Field workers recorded the participants in several different settings in a standardized procedure that spanned from more conventional conversational settings to tasks with an experimental (in the sense discussed above) settings and generally lead to between 3 and 4 h of recorded data for every speaker. These settings target different sections of the speaker’s linguistic repertoires. Additionally, the speakers answered post-interview questionnaires. However, grammaticality judgments are not collected. This study therefore only relies on a fraction of the corpus collected. From this broad description of the data collected for the corpus, we now focus on the phenomena of CA and DFCOMP. We first provide an outline of the phenomena. This builds the foundation for explaining the factors considered in creating the translation and completion tasks.

3.2 Complementizer agreement and doubly-filled comp

To prepare the discussion of elicitation methods, we briefly describe CA and DFCOMP. CA is a phenomenon at the intersection of syntax and morphology that occurs in many (non-standard) varieties of Continental West Germanic in different paradigms (for a detailed discussion, see Fingerhuth and Lenz 2020; Weiß 2005).²

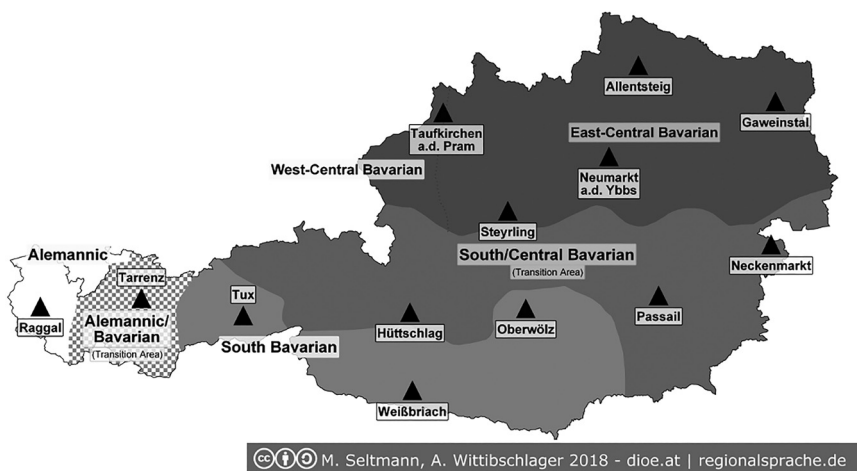


Figure 1: Map of the 13 research locations within the Austrian dialect areas (based on Wiesinger 1983).

It refers to the appearance of morphemes on subordinate clause introducing elements in dependence of the sentence subject that in many instances mirrors verb inflection. The following examples from the previously outlined corpus were recorded in Neckenmarkt and Neumarkt an der Ybbs (see Figure 1) and illustrate the phenomenon. In (1), the *-s*-morpheme next to the subordinating conjunction *ob* ‘if’ indicates CA. This morpheme only appears when the subordinate clause has a 2PL subject. Also note the 2PL pronoun *es*, which appears in many Bavarian varieties. For comparison, (2) shows a response by the same speaker to a similar stimulus, targeting their Standard German repertoire. Here, the *-s*-morpheme is absent, and also the 2PL pronoun is *ihr*. (3) shows a further response by the same speaker with a sentence with a 1PL subject that shows not a *-s* but a *-ma*-morpheme. The absence of the *-s*-morpheme indicates that its appearance is dependent on the sentence subject. Interpretation of CA is complicated by the Bavarian pronominal system. For varieties of German, we can assume different pronominal systems that may include full, reduced, clitic, and null pronouns. In most dialects, these are represented in only two segmentally different forms (Weiß 2015). In many Bavarian varieties, e.g., the 2PL subject pronoun can appear as either *es* (full), *-s* (clitic) or as a null form. Clitic pronouns have been argued to be the foundation for the emergence of CA and new verb inflectional endings (Weiß 2018). This intermediary position between pronouns and inflection has consequences for the interpretation of data on CA. In example (1) an *-s*-morpheme occurs in combination with the full 2PL pronoun *es*. The combined occurrence of both pronoun and *-s*-morpheme allows for confident interpretation of *-s* as a CA-morpheme. Yet considering that Bavarian also allows for null subjects, in absence of such a full pronoun, morphemes like the *-ma* (which may be both a clitic 1PL subject pronoun or CA-morpheme) in (3) or the *-s*-morpheme in (4) may be interpreted both as a clitic pronoun and as a CA-morpheme, and are thus ambiguous (see Fingerhuth and Lenz 2020 for discussion of data that speaks against an interpretation as CA for the 1PL in many varieties of German in Austria, because co-occurrence of 1PL CA-morphemes and full pronouns appears only regionally limited and with a small number of speakers).

- (1) CA with a simple subordinating conjunction *ob* ,if‘ (2PL)
 ob-s Es morgen orbeiten tui-ts.
 if-2PL you.2PL tomorrow work do-2PL
 ‘if you will work tomorrow’
- (2) non-CA with a simple subordinating conjunction *ob* ,if‘ (2PL)
 ob Ihr morgen arbeiten wird-et.
 if you.2PL tomorrow work will-2PL
 ‘if you will work tomorrow’

- (3) ambiguous instance of CA with a simple subordinating conjunction *ob* ,if' (1PL)

ob-ma	morgen	in	die	stodt	fohren.
if-1PL	tomorrow	into	the	town	drive

'if you will drive into town tomorrow'

- (4) ambiguous CA with a simple subordinating conjunction *ob* ,if' (2PL)

ob-s	morgen	orbeiten	werdts.
if-2PL	tomorrow	work	will

'if you will work tomorrow'

For 2SG subjects, a similar alternation occurs. (5) shows the morpheme *-st* attached to the subordinating conjunction, whereas (6) shows the complex *-stu*. A likely interpretation of *-stu* reads it as a combination of a CA-morpheme *-st/d* and a clitic pronoun. Although the morpheme *-st/sd* in the literature is sometimes referred to as a 2SG clitic pronoun (Bayer 1984: 230; Weiß 1998: 87), it is also frequently considered to be an indication of CA (see discussion in Weiß 1998: 116–133.; and examples in e.g., Weiß 2005: 151; Fuß 2008: 81). While we generally follow this interpretation as a CA morpheme, in our subsequent analysis, we will distinguish instances where only a *-st*-morpheme appears from those where both CA morpheme and clitic pronoun (i.e., *-stu*) occur.

- (5) *-st*-morpheme with a simple subordinating conjunction *ob* ,if' (2SG)

ob-st	morgen	in	die	schuin	geh	wirst.
if-2SG	tomorrow	in	the	school	go	will

'if you will go to school tomorrow'

- (6) CA with a simple subordinating conjunction *ob* ,if' (2SG)

ob-st-u	morgen	in	die	schul	gehen	wirst.
if-2SG-2SG	tomorrow	in	the	school	go	will

'if you will go to school tomorrow'

Early dialectological work already documents CA (e.g., Weise 1907), but systematic variationist inquiry only began rather recently and has so far only addressed certain regions of the German speaking area, namely Hesse (Bohn and Weiß 2016), the Bavarian dialect area (Lenz et al. 2014), or Austria (Fingerhuth and Lenz 2020). However, from the 1980s on, the phenomenon has repeatedly been the object of syntactic research (Bayer 1984; van Koppen 2017), some of it, in the case of CA in Dutch, connected to the large scale dialectological project *Syntactic Atlas of the Dutch Dialects*. In the empirical research, reliance on corpora of spoken language has been the exception. To date, the only such study is that of Fingerhuth and Lenz 2020, which builds on parts of the corpus also used in the present study.

CA is closely related to DFCOMP, shown in (7). It is characterized by the presence of a second C-element *ois* in an addition to the first element *wie viele Diebe* ‘how many thieves’.³ Previous work has found an inversed probability of CA and DFCOMP for C-elements of different complexity. CA seems to appear more frequently with simpler C-elements like *ob* and *wann* than with more complex ones like *wie viele + NP*. At the same time, DFCOMP appears more frequently with more complex C-elements (Bayer 2015; Bayer and Brandner 2008; Fingerhuth and Lenz 2020; Schallert et al. 2018).⁴ However, instances of both CA and DFCOMP do occur. It is assumed that the CA-morpheme attaches to the rightmost C-element, as is the case in (8).⁵

- (7) DFCOMP without CA including a complex *wh*-phrase (2SG)
 wie viel diebe ois du gsgeng host.
 how many thieves COMP you seen have
 ‘how many thieves you have seen’
- (8) DFCOMP with CA including a complex *wh*-phrase (2SG)
 wia viel diab dass-t gsgeng host.
 how many thieves COMP-2PL seen have
 ‘how many thieves you have seen’

As our experimental setup targets both phenomena, and the data therefore allows for the investigation of both phenomena, in the following analysis we will focus only on the CA. Aside from aiding the general understanding of CA and the experimental data may be particularly interesting from an angle of obligatoriness. CA is described as an obligatory feature of Bavarian varieties (Fuß 2004: 59–60).

3 Our data shows use of different C-elements. While generally the second element is *dass*, in one location, *ois* appeared as the second element. The C-element *ois* appeared in only one investigated location and appears to be connected to standard German *als*. Mention of similar use of *als* in the *Wörterbuch der bairischen Mundarten in Österreich* (Kranzmayer 1970) suggests that it may occur in the larger Bavarian dialect area, yet we are not aware of any further documentation.

4 For the investigation of C-elements, there are different approaches to defining linguistic complexity (see e.g., Bayer and Brandner 2008: 89; Schallert et al. 2018: 28). For the distinction of the three C-elements at hand here, the syntactic complexity of the head and complement structure of *wie viele + NP* appears as a valid distinction from *ob* and *wann*. However, we do not want to rule out that other factors as e.g., phonological complexity could explain the data.

5 A reviewer noted that the CA with a complex *wh*-phrase should only occur with DFCOMP. However, our data suggests, that CA-morphemes also can combine with complex *wh*-phrases. Consider the CA-morpheme *-ets* (for further description, see Fingerhuth and Lenz 2020) in the example “*wia viel leit-ets eß nächschts jahr helfets am hof*” (‘how many people-2PL you.2PL next year help on the farm’). While these occurrences may constitute the fringe of grammaticality, they do appear. We think occurrence of such unexpected forms strengthens our point on the value of eliciting rare phenomena in large quantities.

DFCOMP, on the other hand, has been described as an optional feature (Bayer and Brandner 2008: 87). While we limit ourselves to observations on the obligatoriness of CA, a comparison with DFCOMP remains an outlook for future work.

3.3 Elicitation

In the corpus, CA and DFCOMP are targeted with two distinct experimental task types: translation tasks and completion tasks. Participants complete these in two blocks. The first block targets speakers' (representation of) Standard German, while the second block targets their (representation of their) local dialect (or non-standard repertoire). This allows for comparative investigation of speakers' individual registers and by extension of regional differences not only in dialects but also in the use of standard German. Both translation task and completion task are administered using computers that provide the auditory and, in the case of the completion task, visual stimulus, and also document the order in which the stimuli are presented. In both methods the audio stimuli differ in the two blocks: Targeting Standard German the audio stimuli of the completion tasks are recordings from a newscaster from Austrian state TV, whereas the dialect stimuli that speakers translate into Standard German are recordings of a speaker of the local variety (see Lenz et al. 2019). In the task sets targeting the speakers' dialect, the speakers in the stimuli are reversed, of course. In the subsequent analysis, we will only consider responses targeting the speakers' dialect, as our data indicates that speakers generally do not exhibit CA when targeting standard German, which is in line with previous work (Fingerhuth and Lenz 2020). We now describe both tasks in further detail.

3.3.1 Task type 1: Translation task

The translation tasks used in our setup build on the tradition of German dialectology that dates back to the 19th century and connect to the work by Georg Wenker. As early dialectology focused on phonology, the creators of the sentences did not intend for the investigation of grammatical variation. Nonetheless, more recently, researchers have used the materials to investigate syntactic or morphological variation (e.g., Rabanus 2008; Fleischer 2017). To ensure comparability with the earlier work, the project decided to adhere to the original 40 sentences used in the earlier data collection in Austria. To investigate CA and DFCOMP specifically, nine further sentences were added. Guided by previous research, sentence subject and complexity of the C-element appear as the primary factors that influence the (non-)occurrence of CA. The sentences alternate the subordinate

clause subject between 2SG, 1PL, and 2PL, and at the same time involve three different C-elements, all of which are also targeted in the LPE: *ob* ‘if’, *wann* ‘when’, and *wie viele +NP* ‘how many +NP’ (e.g., *Ihr fragt euch sicher, ob ihr mitkommen dürft* ‘You certainly wonder if you can come along’, for all sentences, see online appendix 1). In their content and feel, they are designed to blend in with the original sentences also used in the survey. The 49 sentences are presented to the participants as an auditory stimulus using laptop computers. Each sentence is played separately and, in case of longer sentences, is broken down into up to three smaller segments in order to reduce the effects of the potential cognitive burden of memorizing longer sentences (see Pröll and Kleiner 2016: 311 and discussion above). If participants nonetheless encounter difficulties in translating the sentences, interviewers have the option to repeat a stimulus. Relying on computers not only enables field workers who are not competent in the local dialect to conduct the translation tasks. It also maximizes the identity of stimuli between different participants.

3.3.2 Task type 2: Completion task

Before describing the details of the completion tasks, it is worth emphasizing that they represent only part of a larger setup that (primarily) targets 13 distinct morphological and syntactic phenomena in 109 individual prompts (for further details, see Lenz et al. 2019). In the interviews, this task set immediately follows the corresponding translation tasks targeting Standard German or the speakers’ local dialect. Generally, these tasks consist of an auditory stimulus that in many instances is combined with a visual stimulus that is either an image or a video. While the targeted phenomena are identical between the standard and the dialect task setting, slight variation (e.g., different persons performing actions in the video stimulus) is included in many of the prompts between the standard and dialect runs to avoid speakers disengaging from the tasks.

Of the 109 prompts in each set, 12 target CA (see also Fingerhuth and Lenz 2020; Lenz et al. 2019). They appear in pseudo randomized order with the prompts targeting the other phenomena to avoid task serialization effects (Lenz et al. 2019). As in the translation task, these prompts try to elicit subordinate clauses with 2SG, 1PL, and 2PL subjects and the C-elements *ob* ‘if’, *wann* ‘when’ and *wie viele + NP* ‘how many + NP’. All 12 prompts consist of a combined auditory and visual stimulus. The visual component is split into three segments that contain a written component, as is exemplified in Figure 2, which shows a prompt targeting *ob* ‘if’. Each stimulus consists of a series of events. A narrating voice provides a context of a past and a present event that are depicted in two images in the visual component of the stimulus. These are labeled with single words that correspond to the time of

the narrated events. In the example, these are *gestern* ‘yesterday’ and *heute* ‘today’, which are crossed out to indicate that the events did not take place. The third event is labeled with a question mark. This mirrors the auditory component of the prompt. The recorded voice says *Ihr habt gestern nicht gearbeitet, ihr habt heute nicht gearbeitet. Ich frage mich...* ‘you didn’t work yesterday, you didn’t work today. I wonder ...’, and breaks off, thus leaving participants to complete the sentence, e.g., by saying *ob ihr morgen arbeitet* ‘if you will work tomorrow’. (For an overview of targeted responses – the exact form of the response would, of course, represent the speaker’s dialect – see online appendix 2). As CA can only appear in subordinate clauses, the field worker may ask the speaker for additional responses if they do not use the intended sentence structure. To avoid influenced the participant in the (non-)use of CA in their response, they would however refrain from uttering the intended C-element, but instead e.g., suggest to the participant that they rephrase the sentence such that the verb would be at the end of the clause. However, this strategy was not always successful, as will be evident from the occurrence of irrelevant responses in the following analysis.

4 Analysis

In the following analysis, we consider data from 22 speakers recorded in two locations where previous research suggests that CA is generally a feature of the local dialect (see Fingerhuth and Lenz 2020): Neumarkt an der Ybbs, located in the central Bavarian dialect area, and Neckenmarkt, located in the transition area between South and Central Bavarian (see Figure 1). As Fingerhuth and Lenz (2020) further indicate, speakers in both locations broadly use CA with 2SG and 2PL sentence subjects. Unlike in other locations, there further appears to be no

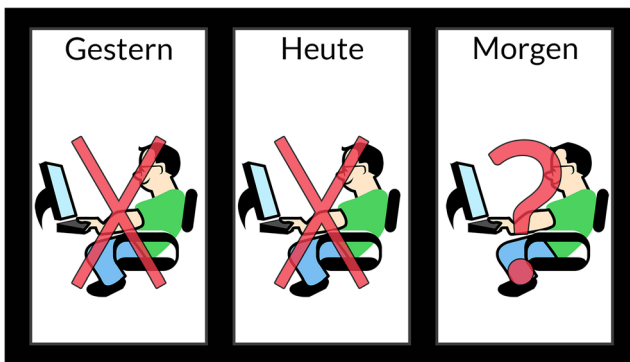


Figure 2: Sample prompt targeting the C-element *ob* ‘if’. The captions read “yesterday”, “today”, and “tomorrow”.

intergenerational difference in the use of CA that could indicate an intergenerational shift in regard to CA. These locations therefore appear comparable regarding this grammatical feature. Results for 1PL subjects are generally ambiguous (as discussed in Section 3 above) or show only full pronouns. Therefore, we will only consider 2SG and 2PL sentence subjects here. As outlined in the introduction, the focus of the analysis will be on determining to what extent the task types produce relevant linguistic data and influence speaker responses. The analysis begins with a discussion of elicitation success, moves towards an analysis of whether speakers repeat syntactic patterns from the translation stimulus, and ends on a comparison of speakers' behavior in both settings, asking whether they behave consistently. We consider the observations from this analysis in the subsequent discussion to assess the value of both task types for the construction of linguistic corpora.

4.1 Elicitation success

A fundamental question for considering whether an elicitation method is valid concerns its general success. Breuer and Bülow (2019) suggest that the degree of openness influences the elicitation outcomes: “A more open task is less suggestive and more authentic, while a more closed task leads to more desired responses (e.g., expected variants) and to lower naturalness. At the same time, a more open task leads to longer responses or to undesirable ones.” (Breuer and Bülow 2019: 257). Contrasting the response rates from both settings therefore allows us to test this prediction, as the completion tasks are more open than the translation tasks. As CA can only appear in verb final subordinate clauses, we consider only responses that contain such a subordinate clause as relevant. Responses with anything but final verb placement or entirely unrelated responses are considered unsuccessful, e.g., “wann triffst in Martin” (‘when meet the Martin’). Table 1 gives an overview of the number of speakers with whom the two elicitation methods were successful (for an overview of encountered responses, consider online appendix 3).

In every instance, the translation tasks successfully elicit subordinate clauses that could potentially show CA. With the completion task, elicitation success rates range from 45 to 77%. In both locations, success rates are higher for the experiments targeting *ob* (73%/77%) than for those targeting *wann* (45%/55%) and *wie viele* + NP (50%/59%). We find a reason for this difference in the syntactic properties of the different C-elements. While *ob* can only function as a subordinate clause introducing element, *wann* and *wie viele* can introduce verb-second sentences where CA does not appear (e.g., verb-second: *wann gehst du* “when go you”, as opposed to verb-final *wann du gehst* “when you go”). However, the relevant answers in the completion task generally elicit the intended C-elements.

Table 1: Elicitation success of clauses that offer environment for potential CA (22 speakers).

C-Element		Elicitation success	
		Completion	Translation
Ob	2SG	17 (77%)	22 (100%)
	2PL	16 (73%)	22 (100%)
Wann	2SG	12 (55%)	22 (100%)
	2PL	10 (45%)	22 (100%)

Table 2: Responses to translation tasks targeting *ob* and *wann*.

		CA + FP	CA/Cl (no FP)	FP	Other
2SG	Ob	8 (36%)	8 (36%)	5 (23%)	1 (5%)
	Wann	5 (23%)	11 (50%)	6 (27%)	0 (0%)
2PL	Ob	4 (18%)	15 (68%)	1 (5%)	2 (9%)
	Wann	3 (14%)	19 (86%)	0 (0%)	0 (0%)

Considering only the relevant responses, a speaker uses an alternative construction *um wie viel Uhr* ‘at what time’ instead of the targeted *wann* in only one instance. While unintended, such responses are nonetheless relevant and provide an opportunity to investigate further related phenomena. In the given instance, the speaker e.g., uses *ois* as a second C-element, which constitutes an example of DFCOMP, supporting previous observations that associate the phenomenon with more complex C-elements. The data generally confirms that more closed tasks may elicit a targeted phenomenon with a higher success rate. However, there is a suspicion that translation tasks provide speakers too much guidance in their responses. To assess this, we now investigate the specific response behavior in more detail.

4.2 Translation task: Blueprint effects and pro-drop

As discussed above, translation tasks are suspected of influencing speakers’ syntactic, morphological or lexical choices by providing a blueprint for the responses. For the investigation of CA, such an influence could manifest in different ways. Speakers may refrain from using CA morphemes because the stimulus does not show an according morpheme, and they may instead be encouraged to use full

pronouns, as these are present in the stimulus. Table 2 groups the speakers' responses to the different translation tasks targeting *ob* and *wann*. As shown, a mere repetition of the full pronoun (FP) that was presented in the stimulus is not the rule. It appears only in about a quarter of the 2SG responses (*ob* 5; 23%, *wann* 6; 27%), and only as a single exception in the 2PL translations. While a combination of CA-/clitic morpheme without a pronoun (CA/Cl (no FP)) appears as the most frequent variant for the 2SG (*ob* 8; 36%, *wann* 11, 50%), it appears even more frequent for the 2PL translations (*ob* 15; 68%, *wann* 19; 86%). A combination of CA-morpheme and full pronoun (CA + FP) appears in all tasks, yet more frequently with the 2SG (*ob* 8; 36%, *wann* 5; 23%). An interpretation of the CA-/clitic morphemes will only become possible after consideration of the response behavior in the completion task, which follows shortly. Yet these data already suggests a first result: If the full pronoun in the stimulus does affect speakers' linguistic choices, only with a minority of speakers this leads to a mere repetition of this full pronoun from the stimulus. The following comparison with data from the completion task will provide a more detailed insight into individual speaker's behavior.

4.3 Translation and completion task: Speaker consistency and response patterns

A fundamental question regarding methodological comparison concerns whether speakers are consistent in their use of a specific phenomenon or not. Table 3 compares the amount of consistent and inconsistent responses by individual speakers in the completion task and translation task for the different C-elements and sentence subjects. Each cell indicates the number of speakers showing a particular behavior at the intersection of both task types. Approximately half (35; 49%) of all responses to both tasks are consistent between both experiment settings. Despite some fluctuation in the number of speakers who successfully responded to both prompts, some further tendencies appear in the comparison between the different targeted combination of subjects and C-elements. On the one hand, there appears a difference between 2SG and 2PL responses for *ob* and *wann*. While a majority of speakers (*ob* 10; 67%, *wann* 7; 67%) responds inconsistently in the 2PL tasks, in the 2SG task targeting *wann*, the majority of speakers (8; 73%) gives consistent responses. Yet for *ob*, again the majority of responses (11; 65%) to the 2SG tasks are inconsistent. In contrast, the responses for *wie viele* + NP show a tendency towards consistency in both the 2SG (7; 78%) and the 2PL (7; 64%). We now investigate these patterns of consistency and inconsistency in more detail.

Tables 4–7 group participants' responses to the completion and translation tasks according to whether they show use of CA in combination with a full pronoun

Table 3: Speaker response consistency between completion and translation task (excluding speakers with irrelevant responses in the completion task).

		Consistent responses	Inconsistent responses	Sum
Ob	2SG	6 (35%)	11 (65%)	17
	2PL	5 (33%)	10 (67%)	15
Wann	2SG	8 (73%)	3 (27%)	11
	2PL	3 (33%)	6 (67%)	9
wie viele + NP	2SG	7 (78%)	2 (22%)	9
	2PL	7 (64%)	4 (36%)	11
Sum		35 (49%)	37 (51%)	72

Table 4: Response patterns to task targeting 2PL sentences with *ob* (n = 15).

Ob	Translation task			Sum	
	CA + FP	CA/Cl (no FP)	FP		
Completion task	CA + FP	3 (20%)	9 (60%)	1 (7%)	13 (87%)
	CA/Cl (no FP)	0 (0%)	2 (13%)	0 (0%)	2 (13%)
	FP	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Sum		3 (20%)	11 (73%)	1 (7%)	15

Table 5: Response patterns to task targeting 2PL sentences with *wann* (n = 9).

Wann	Translation task			Sum	
	CA + FP	CA/Cl (no FP)	FP		
Completion task	CA + FP	2 (22%)	6 (67%)	0 (0%)	8 (100%)
	CA/Cl (no FP)	0 (0%)	1 (11%)	0 (0%)	1 (11%)
	FP	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Sum		2 (22%)	7 (78%)	0 (0%)	9

(CA+FP), instances where only a CA/clitic pronoun morpheme appears (CA/Cl (no FP)), and instances where only a full pronoun appears (FP). The response patterns are rather heterogeneous. Generally, there is a difference between 2SG and 2PL responses. We now focus on the 2PL responses first, shown in Tables 5 and 6, as

Table 6: Response patterns to task targeting 2SG sentences with *ob* (n = 17).

Ob		Translation task			Sum
		CA + FP	CA/Cl (no FP)	FP	
Completion task	CA + FP	1 (6%)	2 (12%)	0 (0%)	3 (18%)
	CA/Cl (no FP)	3 (18%)	2 (12%)	2 (12%)	7 (41%)
	FP	2 (12%)	2 (12%)	3 (18%)	7 (41%)
Sum		6 (35%)	6 (35%)	5 (29%)	17

Table 7: Response patterns to task targeting 2SG sentences with *wann* (n = 11).

Wann		Translation task			Sum
		CA + FP	CA/Cl (no FP)	FP	
Completion task	CA + FP	1 (9%)	0 (0%)	1 (9%)	2 (18%)
	CA/Cl (no FP)	0 (0%)	5 (45%)	1 (9%)	6 (55%)
	FP	1 (9%)	0 (0%)	2 (18%)	3 (27%)
Sum		2 (18%)	5 (46%)	4 (36%)	11

they reveal a much clearer pattern. For the 2PL, in all but one instance with *wann* (8; 89%) and in the majority of instances with *ob* (13; 87%) at least the completion task shows both a CA-morpheme and a full pronoun. However, only a small number of responses to the translation task (*ob* 3; 20%, *wann* 2; 22%) show the same combination of CA-morpheme and full pronoun. Instead, the majority of respondents (*ob* 9; 60%, *wann* 6; 67%) shows CA and a full pronoun in the completion task, but only a CA-morpheme/clitic in the translation task. With *ob*, there are a further 2 (13%) respondents who only use CA-morphemes/clitic pronouns in both tasks, and a single respondent who used CA in combination with a full pronoun in the completion task, but used only a full pronoun in the translation task. With *wann*, one speaker (11%) uses CA-morphemes/clitic pronouns in both tasks. This reveals a rather striking pattern for the 2PL-tasks. The C-element itself does not appear as a major factor in determining the participants' responses. Speakers' behavior instead appears to differ markedly dependent on the task type: While speakers have a strong preference for using both CA-morphemes and full pronouns in the completion task, their responses primarily exclude full pronouns in the translation task. Looked at independently, the two sets of data indicate very

different patterns. In the completion task, the data shows little ambiguity. With few exceptions, the presence of both *-s*-morpheme and full pronoun allows an interpretation that the *-s*-morpheme is not a mere clitic pronoun but indeed an indication of CA. In contrast, the translation task on its own provides a different picture. Here, the majority of speakers only shows the *-s*-morpheme, which could be interpreted as a clitic pronoun (see example (4)). Yet considering both data sources, an interpretation as clitic pronouns appears less plausible. If speakers show CA in the completion task, to us it appears unlikely that the morpheme with identical form in the translation task would be a clitic pronoun.

However, the pattern of pronoun use in both tasks requires specific discussion as it may appear surprising. We already mentioned the concern that translation tasks may unduly influence respondents' lexical and syntactic choices. As previously discussed, it appears appropriate to interpret the equivalent morphemes in the translation task also as CA-morphemes, not as clitic pronouns, and thus to assume instances of *pro*-drop. If this is the case, the speakers investigated here show somewhat unexpected behavior. Although the completion task suggests that the combination of CA-morpheme and full pronoun is generally legitimate, during the translation task, which features a full pronoun in the stimulus, speakers predominantly chose not to use this full pronoun, but instead limit themselves to the CA-morpheme. The fact that speakers go against the syntactic blueprint of the translation prompt suggests that a factor in the prompt itself accounts for this behavior. While phonology may be a determining factor, we want to explore a potential syntactic explanation. In the translation task targeting 2PL subjects, embedded clause and matrix clause have identical subjects. The completion task differs from this in two ways. First, during the completion task, the auditory stimulus provides the matrix clause and speakers generally only respond with an embedded clause. Second, the subject given in the matrix clause stimulus is a 1SG subject, whereas the subject of the embedded clause in the response is a 2PL subject. This difference in the clause subject appears as a possible factor that may determine the overt realization of the full pronoun: If the pronoun is expressed overtly in the matrix clause, this may favor dropping of an identical subject pronoun in the embedded clause.

However, investigation of participants' responses in the matrix clauses further complicates this hypothesis. Overt realization in the matrix clause does not appear as a sufficient explanation because matrix clauses may themselves show *pro*-drop. A comparison of the sentences targeting *ob* and *wann* illustrates this. As shown in Table 8, *pro*-drop occurs in about two thirds (15; 68%) of the sentences in the case of a V2 matrix clause (*Ihr fragt euch sicher, ob ihr mitkommen dürft* 'You are certainly wondering if you can come along'), where null subjects are not permissible. Speakers show an overt subject in both clauses in about a quarter of the

Table 8: Realization of subjects in translations including *ob* after V2 matrix clause.

		Matrix clause			Sum
		Overt 2PL pronoun	2PL Pro Drop	Other subject	
Embedded clause	Overt 2PL pronoun	5 (23%)	0 (0%)	0 (0%)	5 (23%)
	2PL Pro Drop	15 (68%)	0 (0%)	0 (0%)	15 (68%)
	Other subject	2 (9%)	0 (0%)	0 (0%)	2 (9%)
Sum		22 (100%)	0 (68%)	2 (9%)	22

Table 9: Realization of subjects in translations including *wann* after V1 matrix clause.

		Matrix clause			Sum
		Overt 2PL pronoun	2PL Pro Drop	Other subject	
Embedded clause	Overt 2PL pronoun	3 (14%)	0 (0%)	0 (0%)	3 (14%)
	2PL Pro Drop	12 (55%)	7 (32%)	0 (0%)	19 (86%)
	Other subject	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Sum		15 (68%)	7 (32%)	0 (0%)	22

instances (5; 23%), in two instances (9%) they use a non 2PL subject in the matrix clause. In contrast, the sentence targeting *wann* contains a V1 matrix clause (*Wisst ihr denn schon, wann ihr wieder kommt?* ‘Do you already know when you will be back’). As Table 9 shows, this sentence allows for pro-drop in the matrix clause, which happens in about a third (7; 32%) of the responses show pro drop in the matrix clause, all of which also show pro-drop in the subordinate clause. More than half (12; 55%) of the responses show an overt pronoun in the matrix clause and drop in the subordinate clause, while only 3 (14%) of the responses show overt pronouns in both clauses. These data suggest that the use of null subjects is in no way preconditioned by the presence of an overt pronoun in the matrix clause. Null subjects in subordinate clauses seem to appear independent of an over identical subject in the matrix clause. The formulated hypothesis that the observed difference between task types depends on the matrix clause or its subject therefore

appears void. The question of what guides the use of null subjects in the experimental settings therefore at this point remains unclear, and we leave it as a question that future research may pursue. As it is, the comparison of both data illustrates the potential of hypothesis testing offered by the experimental setup of the completion and translation tasks.

We leave the discussion of 2PL subjects at this point and move on to 2SG CA. As previously mentioned, speakers' responses to these tasks are markedly different from the 2PL. Tables 6 and 7 again subdivide the responses to the two task types. For the 2SG, the distinction is whether speakers' responses include only a full pronoun *du* (FP), a CA-/clitic pronoun morpheme *-st* (CA/Cl (No FP)), or both a CA-morpheme and a full pronoun of the form *-stu* (CA + FP). As discussed, previous work frequently assumes that *-st* is not a clitic pronoun but an indication of CA. We use our classification not to contradict this earlier work, but for sake of systematic comparison with the results from the 2PL. We may expect similar patterns of (non) pro-drop from the 2SG in dependence of the syntactic environment.

In contrast to the data from the 2PL, there are speakers whose responses to the 2SG tasks that show only full pronoun for both *ob* (3; 18%) and *wann* (2; 18%), and thus give no indication that these speakers use CA in these contexts. Generally, responses to the 2SG prompts are much more heterogeneous than those given to the 2PL prompts. With *ob*, all but one possible combination of responses to the completion and the translation task appear. In the translation task for *ob*, all three options appear with almost equal frequency (CA and full pronoun = 6; 35%, CA/clitic = 6; 35%, only full pronoun = 5; 29%). In the completion task, the combination of CA and full pronoun appears dispreferred (3; 18%), yet nonetheless appears next to the other two options that appear with equal frequency (7; 41%). The responses that include *wann* show a different picture. Here, almost half of the responses (5; 45%) show only the *-st* morpheme in both completion and translation task. Use of both CA and full pronoun appears equally rare in both tasks (2; 18%), and use of only full pronouns appears somewhat more frequent (completion = 3; 27%, translation = 4; 36%).

These findings differ from those from the 2PL. First, unlike with the 2PL, in the 2SG there are speakers who do not show any indication of 2SG CA. This is a fundamental difference to the 2PL tasks, where CA appeared with all speakers that provided responses to both tasks. The two speakers who show this behavior with *wann* are among the three speakers that do so with *ob*. Second, the sheer variation in the 2SG responses does not fit the pattern of CA and full pronoun appearance observed in the 2PL tasks. If the task-dependent pattern of 2PL responses held for the 2SG, we should have seen an abundance of responses involving *-stu*. However, in the completion task, where these responses were the rule for the 2PL, such responses are the exception for the 2SG, although they do appear somewhat

frequently in the translation task targeting *ob*. Both observations suggest that 2SG and 2PL CA to some extent may be distinct phenomena that are not governed by the same rules. We now discuss the findings in further detail.

5 Discussion

Before we discuss the findings of our methodological comparison in more detail, we want to highlight some of the circumstances this study of CA encountered in order to better illustrate the potential for corpus construction held by completion and translation tasks. CA is a phenomenon that shows marked regional variation and the factors determining its appearance seem complex. While some patterns have been described, their empirical foundation is often limited. In open conversations, it may be rare or unevenly distributed, as e.g., conversations among two speakers may frequently show subordinate clauses with 2SG subjects rather frequently, while such clauses with 2PL subjects may be virtually absent from these same conversations (see Fingerhuth and Lenz 2020). Conversations involving more than two participants may ameliorate this data problem in this particular instance, but this is not the case for all phenomena (e.g., it would not help the elicitation of GET passives as investigated in Lenz et al. 2019). Furthermore, adding speakers may have its own pitfalls, e.g., when it comes to transcription. The phenomenon is also limited to specific registers. Under these circumstances, the goal of the research project is the construction of a corpus that features speakers of narrowly defined demographic groups in specific locations. The pool of possible participants is limited and not all valid speakers are willing to participate in a multi-hour survey.

The different task types showed different degrees of success: The translation tasks provided the targeted responses consistently, whereas the completion tasks provided a sometimes considerable amount of responses that did not allow for the investigation of the targeted phenomenon. While the study of CA presented here still leaves some questions unanswered, it is still worth noting its successes. For the 2PL, the completion task provided crucial data that suggests that the *-s*-morpheme, which appears as ambiguous in much of the translation task data, can actually be interpreted as a CA-morpheme. Yet interpreting these results in a way that sees the completion task as “better” would overgo the benefits of the translation task. As the study also showed, the translation task shows a higher degree of elicitation success and thus provides a more certain foundation for quantitative investigation. Where the in some cases low numbers of successful responses in the completion task can make it hard to generalize the observations, the translation task offers a considerably better foundation for such statements. While exercising

caution, we may transfer the general results from the completion task to those of the translation task, even in instances where the speakers gave no relevant response to the completion task.

Taking the circumstances and outcomes of this study, these observations may recommend both task types as being particularly useful tools for the construction of linguistic corpora, when a number of factors come together. These are (1) low frequency phenomena that may also have (2) a complex set of factors determining their expression, (3) the goal of obtaining data from a narrowly defined and finite group of speakers.

It is further worth highlighting that our data suggested that translation tasks do not necessarily produce what we termed a “blueprint effect” that predetermines syntactic structures in participants’ responses. The occurrence of what appears to be pro-drop in the face of the appearance of pronouns in the translation stimuli speaks to this. While utmost caution should be applied in carrying over these observations to other contexts, it does suggest that translation stimuli not necessarily predetermine speakers’ responses unduly and thus, against all prejudice, may well be appropriate tools for the elicitation of syntactic phenomena. As was the case here, their validity may be confirmed through further data, e.g., through completion tasks, as is the case here, or other appropriate means.

The data further highlighted differences in the occurrence patterns of 2SG and 2PL that suggest that despite their similarities, it may be beneficial to treat them as distinct phenomena, at least in Bavarian. Whereas 2PL CA did appear very consistently, suggesting obligatoriness, speakers’ use of 2SG CA appeared much more volatile.

6 Summary and conclusion

This contribution made a case for the use of experimental research methods in the construction of linguistic corpora. They allow for the investigation of phenomena that are rare in more conventional corpora. As described, experiments can be understood broadly and different tasks may constitute experiments. Using multiple task types may prove to be a particularly productive approach to researching complex syntactic phenomena like CA. The data from both elicitation settings confirms findings from earlier work that concern the interaction of CA and DFCOMP, in that CA generally appears with the simpler C-elements *ob* and *wann*, while DFCOMP is generally absent.

The juxtaposition of data from both experimental elicitation tasks allows insight that transcends previous work. The elicitation success rates confirm that compared to translation tasks, completion tasks, by virtue of the freedom they

provide participants, hold the risk of producing unintended or irrelevant responses understood as responses do not allow for the occurrence of the intended linguistic phenomena (see Breuer and Bülow 2019: 257). In some ways, this makes them less efficient than the translation tasks that in our study consistently provided the targeted responses. On the other hand, this openness leaves room for linguistic creativity and may yield data that could provide insight into preferred linguistic choices and allows for further insights that are not intended in the design. Depending on the research question subsequently pursued with the collected corpus, this may ultimately prove to be an advantage. The assumed determining factors for a phenomenon considered in the experiment design may not be the only factors, and unintended responses may hold a key to deeper understanding.

We further empirically investigated the suspicion that translation stimuli may unduly influence speakers by providing a blueprint for their response. Yet the speakers' response behavior (particularly for the realization of overt 2PL subjects) did not appear to follow the prompt strongly. These findings, of course, cannot be generalized and therefore need further confirmation or falsification with other syntactic phenomena. The prompts may influence different phenomena very differently. However, the data indicates that translation tasks may very well be a legitimate method for the investigation of syntactic variation.

Despite the benefits that lie in the reliability of translation tasks, completion tasks may be an equally important tool. In our study, they serve as a benchmark that allows us to judge whether the translation prompts influence speakers' responses in the first place. Furthermore, it is only by extending the results from the 2PL completion task, which shows parallel use of CA-morpheme and full pronouns, that we could assume that the *-s*-morphemes in the translation task are also CA-morphemes and not clitic pronouns. In addition to this, for the 2PL, combined results from the two task types point to a pattern governing the overt expression of 2PL subjects in the context of CA, although the causes for this pattern could not be identified. For 2SG subjects, however, no comparable pattern emerged. This in itself offers an important insight for the investigation of CA, as it suggests that there are distinct syntactic factors influencing 2SG and 2PL. Combined with observations on their obligatoriness, this suggests that despite all similarity, we may to some extent consider them independent phenomena.

While we discussed the results from both task types for two particular syntactic phenomena, we want to suggest that they provide valuable insights for the investigation of grammatical variation more generally. Both translation tasks and completion tasks are ways to investigate phenomena that occur only rarely in spontaneous speech. These tasks thus provide alternatives to the use of grammaticality judgments and can be used to construct corpora for variationist linguistic purposes. The findings highlight in particular the value that a combination

of methods may have for the investigation of grammatical variation. While completion tasks are less reliable than translation tasks in eliciting a targeted construction, they may validate the results from translation tasks or provide a different perspective on the results. The observations and findings presented here point to the value of further comparative methodological research, which should also include data from further settings or tasks, e.g., conversation or grammaticality judgments. Considering methodological diversity in the construction of corpora therefore holds great potential for future research.

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Supplementary material: The online version of this article offers supplementary material (<https://doi.org/10.1515/cllt-2019-0075>).

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DOI: 10.1515/cilt-2019-0075

URN: urn:nbn:de:hbz:465-20231116-163927-4

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