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RESEARCH

Object marking in German Sign Language (*Deutsche Gebärdensprache*): Differential object marking and object shift in the visual modality

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This article discusses differential object marking and object shift in German Sign Language (DGS). Although there is already some literature discussing the existence of differential object marking in sign languages, this article provides the first in-depth description of the phenomenon in a visual language. It will be shown that the sign PAM, previously categorized as an agreement auxiliary, is in fact a differential object marker with adposition-like properties—at least in the Southern variant of DGS with which this article is concerned. Additionally, it will be shown that definite objects move into a structurally higher position in DGS. This behavior is well-known from spoken languages, but is not well-documented for sign languages.

Keywords: sign language; German Sign Language; differential object marking; object shift; object marking; person agreement marker

1 Introduction

1.1 General introduction

This article discusses the behavior of objects in Southern DGS, a variant of German Sign Language (*Deutsche Gebärdensprache*, DGS). Two related phenomena are described and analyzed in detail: differential object marking and object shift. Differential object marking, (i.e., the fact that some objects are overtly marked differently from other objects) is a well-described phenomenon among spoken languages (e.g., Bossong 1983–1984; 1985; 1991; Aissen 2003). The main motivation of differential object marking is markedness or prominency. This means that semantically marked objects (e.g., animate or definite objects) receive an additional morphological or syntactic marking in the grammar of many languages (e.g., Bossong 1983–1984; Comrie 1989; Aissen 2003). It was also recently noted that differential object marking exists in sign languages. Börstell (2017; 2019) argues that a number of unrelated sign languages make use of specialized signs that are only used with [+HUMAN] or [+ANIMATE] objects instantiating cases of differential object marking. For Swedish Sign Language, Börstell (2017; 2019), for example, shows that a dedicated object pronoun exists which is used to pronominally replace the object NP (a similar pronoun has been shown to exist in Israeli Sign Language; cf. Meir 2003). This sign is not only restricted to animate (or precisely human) objects but also to a certain class of verbs "rang[ing] from prototypically transitive verbs taking patients (e.g., MURDER) to verbs of information transfer (e.g., ADVISE and TEACH)" (Börstell 2017: 141). In this paper, I will show that (Southern) DGS also exhibits differential object marking and describe its triggers in detail. I will argue that differential object marking is achieved through the insertion of a sign labeled PAM—a sign which has previously been linked to

differential object marking (Börstell 2017). PAM is traditionally categorized as an agreement auxiliary that has to be used due to phonological restrictions of the main verb. Instead, I will argue that PAM cannot be an auxiliary, but is a prime example of a differential object marker with adposition-like properties. The animacy of the direct object, its definiteness, and affectedness will be identified as triggers for the use of PAM. Additionally, I will show that DGS exhibits object shift and will argue that the structural position of direct objects differs as a function of definiteness. Finally, I will show that differential object marking and object shift often go hand in hand.

The structure of the article is as follows: The following three subsections consist of a brief overview of DGS and its structure as well as a description of notational conventions, and the data elicitation method. Section 2 provides a general overview of differential object marking and its triggers in spoken languages. Section 3 introduces the basic DGS data on the sign PAM and its distribution. In Section 4, reasons are put forward why the sign should be analysed as a differential object marker instead of an auxiliary. Section 5 then features discussion of object shift in spoken and signed languages and the reasons why definite objects DPs overtly have to leave the VP in DGS. Finally, it is argued that there is a relation between PAM-marking and object shift because differentially marked objects in DGS always receive a definite interpretation. The findings are concluded in Section 6.

1.2 German Sign Language

German Sign Language (*Deutsche Gebärdensprache*, DGS) is a sign language mainly used in Germany. There are estimated to be approximately 80 000 deaf people living in Germany (e.g., Deutscher Gehörlosenbund 2019). While this is often assumed to equate to number of deaf sign language users in Germany (Herrmann 2007; Schwager & Zeshan 2014) the number of signers is much higher according to some estimates. For example the Ethnologue (Simons & Fennig 2018) and the European Union of the Deaf (Wheatley & Pabsch 2012), assume that there are approximately 200 000 deaf signers in Germany.

As with many other sign languages, DGS is a full-fledged natural language, with most of its users having experience with written German (Grosjean 1996). DGS is a SOV language (Keller 1998; Steinbach & Herrmann 2013) with right-headed functional projections. It was, for example, proposed that NegP is right-headed (Pfau 2002; Pfau & Quer 2002) or that the head of TP is to the right (Pfau & Quer 2002; 2007). As is expected of a head-final language, modal verbs usually occur in a clause-final position in DGS (Pfau & Quer 2007; Bross & Hole 2017).

1.3 Notational conventions

Sign languages are natural languages produced with the hands, the fingers, the torso, the head, and the face. Manual signs are written in small caps using English translations (e.g., SIGN). Sometimes one manual sign translates into several English words. This is indicated using hyphens. For example, the sign LOOK-AFTER is one manual sign. The combination of a noun sign and the agentive suffix PERSON are denoted by a hash (e.g., POLICE#PERSON meaning 'police officer'). Reduplications of signs are marked by plus signs. One plus sign indicates performing a sign once (plus signs are only present when there is reduplication; a sign which is not reduplicated, i.e., a sign which is performed once is, of course, not marked). The gloss BOOK++ is to be interpreted as the sign BOOK produced two times and the sign BOOK+++ as the sign BOOK produced three times. Sign languages make heavy use of index-finger pointings which are glossed INDEX. These INDEX signs are combined with subscripts indicating locations in space. The subscripts used are: one (INDEX_1), two (INDEX_2), and three (INDEX_3), meaning first, second, and third person refer-

ence, respectively. INDEX$_1$ is to be interpreted as a signer pointing towards him/herself, INDEX$_2$ as a signer pointing to an addressee, and INDEX$_3$ as a signer pointing towards some ipsi- or contralateral location is space where an absent or present referent is located.

The same numbering system is used for possessive pronouns: POSS$_1$ 'my', POSS$_2$ 'your', or POSS$_3$ 'his/her'. Additionally, the subscripts are used to indicate where referents are located in space or to indicate movement paths of (verb) signs. The example in (1) is then to be interpreted in the following way: The signer produces the name sign referring to Katie (in this study, the consultants were instructed to use the first letter of the names, represented by a handshape from the manual alphabet, as name signs) which is not produced in neutral signing space (i.e., not in front of the signer, but on the ipsi- or contralateral side). Then, the signer produces the name sign referring to Todd which is produced in another location in signing space. This sign is then followed by the sign BOOK which is produced in neutral signing space and therefore not marked by a subscript. Finally, the signer produces the verb sign GIVE which starts at the location in which KATIE was produced and ends in the location in which TODD was produced.

(1) KATIE$_{3a}$ TODD$_{3b}$ BOOK $_{3a}$GIVE$_{3b}$
'Katie gives Todd a book.'

Non-manual markers (e.g., eyebrow movements) produced simultaneously with manual signs are indicated by overline glosses. The start of the line indicates the beginning of the non-manual markings and the end of the line indicates that the non-manuals do not spread further. *Wh*-questions, for example, are accompanied by lowered brows and by putting the head forward and tilting it to the side in DGS. This is illustrated in the example in (2) with the non-manuals being glossed 'wh' spreading over the whole clause.

(2) $\overline{\text{PAUL BUY WHAT}}^{\text{wh}}$
'What did Paul buy?'

Many signs in DGS are accompanied by a special mouthing (partially) borrowed from spoken German. Although these mouthings are often considered to be performance phenomena that have emerged through language contact (e.g., Hohenberger & Happ 2001 for DGS) their spreading behavior is sometimes relevant as it can be regarded as an indication of clitization (e.g., Sandler 1999). When relevant, mouthings are indicated in a similar way to other non-manual markers by using a phonological transcription. An example is given in (3). The example shows a special DGS construction indicating that the signer is unsure of the truth value of the proposition expressed. First, the propositional context is signed (PAUL LOTTERY WIN) and then the manual sign WHETHER is produced three times. This sign is accompanied by the mouthing /ɔpɔpɔp/ which is related to German *ob* 'whether'.

(3) PAUL LOTTERY WIN $\overline{\text{WHETHER}+++}^{\text{/ɔpɔpɔp/}}$
'I don't know whether Paul has won the lottery.'

1.4 Data elicitation

The data discussed in this article was elicited with thirteen native speakers of DGS who were all born and raised in Southern Germany (Munich, Stuttgart, and Heidelberg). Nine of the signers were female. Their mean age was 30.21 (SD = 7.61). Twelve consultants

were deaf from birth, one consultant was a CODA (a hearing child of deaf adults) who acquired DGS as her native language from birth. Seven consultants were early learners of DGS defined here as having acquired the language before the age of four whereas one consultant was not. The other five participants were native signers in the most narrow sense, their parents having been deaf sign language users as well.

All consultants had received at least secondary education and had proficient written language abilities. Data were elicited in face-to-face interactions and recorded on video. The resulting videos were cut using Adobe Premiere Pro for later qualitative analysis. The procedure was incremental: The analysis of data from one session (or the comparison of multiple sessions) often raised questions that were addressed in subsequent sessions with the same and/or other consultants. All glossed examples and examples in figures for which no reference is given are taken from these videos.

At the elicitation sessions, consultants were presented with written sentences that they were asked to translate into DGS. Each sentence, often with contexts, was presented on a sheet of paper and consultants were asked to read and memorize the meaning of the sentence. The sheet was then covered up in order to reduce bias due to the sentence's written structure. Then, the consultants were instructed to take some time to consider the sentence and then sign what they considered to be the best translation. In many cases this also lead to discussion of alternate translations and their acceptability. For the sake of concreteness, I will give an example of how the elicitation proceeded: I asked the signer how s/he would express the sentence in (4). (The example sentences were, of course, written in German). The question in this case was whether the signer would use the sign PAM (discussed later in detail) and if yes, where in the sentence it could appear.

(4) Paul likes Otto.

After the sentence was covered up, the signer thought about the sentence for some seconds before signing the sentence. The result, for example, looked liked the one in (5).

(5) PAUL_{3a} PAM_{3b} OTTO_{3b} LIKE

I then asked whether it was possible to sign the sentence without PAM:

(6) y/n question
CAN ALSO WITHOUT PAM *pause* LIKE: PAUL_{3a} OTTO_{3b} LIKE
'Can you also sign (this sentence) without the sign PAM? Like:' *repeats the sentence without PAM*

To this, the signer responded (the gloss 'hs' represents a headshake):

(7) *short thinking pause … signer shakes her head* BETTER WITH PAM *pause*
hs
PAUL_{3a} OTTO_{3b} LIKE *pause* CAN-NEG *pause* PAUL_{3a} PAM_{3b} OTTO_{3b} LIKE
'No, it's better with PAM' *signer repeats the sentence without PAM* 'This is not possible.' *repeats the sentence with PAM*

In cases in which a consultant accepted a proposed structure s/he was asked to sign it. This was done not only to enable recording of the relevant structure, but also to ensure that the consultant was certain that the structure was well-formed (in my experience, sentences are often initially deemed acceptable when a signer is asked about them, but

then judged to be incorrect upon production of the structure). Signers also spontaneously repeated questionable sentences to test their intuitions in most cases. The resulting video clips were labeled according to the studied phenomena and stored together with notes regarding non-acceptable structures to facilitate further analysis.

Of course, the issue of bias due to the grammatical structure of the presented German sentences persists despite the preventative measures taken. Although the issue still warrants attention, many of the elicited translations diverge drastically from the structure of spoken German. In the case of example (5), for example, the German sentence involves an SVO structure without an additional marker corresponding to PAM. However, the consultants did not produce patterns similar to German and did, for example, not accept leaving out PAM. This can be taken as a strong indication that the influence from the written sentences was not very substantial (cf. Cecchetto, Geraci & Zucchi 2009 for a similar argument).

Additionally, I consulted two native Turkish speakers (29 and 31 years old). Both speakers were female, born and raised in the area of Istanbul.

2 Differential object marking in spoken languages

In this section, I will first spend some space to introduce the phenomenon under discussion and its triggers in some detail as it has not been widely discussed in sign language linguistics. Besides the main triggers, namely definiteness, animacy, and affectedness, I will also briefly discuss distinguishability, topichood, and telicity as additional triggers that have been mentioned in the literature on differential object marking.

2.1 The phenomenon

Variation in the realization of case-marking on direct objects according to semantic, pragmatic, and possibly syntactic factors is found in many of the world's languages. The phenomenon that some languages mark some direct objects differently from others is known as "differential object marking" (Bossong 1983–1984; 1985; Comrie 1989). Thus, while some languages, such as English or German, mark all objects in the same way, other languages add additional markers to some objects. This marking is achieved either by morphological case-marking on the direct object itself (e.g., in Turkish, cf. Enç 1991), by verbal agreement morphology (e.g., in many Bantu languages; cf. Morimoto 2002), or by inserting an adposition (e.g., Spanish which makes use of the preposition *a*; cf. von Heusinger & Kaiser 2007). What follows is an illustration of this fact. The examples in (8) show the case-marking strategy in Turkish, a language which marks specific objects by accusative case and leaves nonspecific objects unmarked. The examples in (9) illustrate a verbal-agreement strategy used in Swahili. In this language, animate objects trigger object agreement while inanimate objects do not (SM means "subject marking" and OM means "object marking"). Finally, the examples in (10) show differential object marking in Spanish, a language in which specificity and animacy triggers the insertion of an adposition (cf. (10a)). Note that cross-linguistically, the adpositions used in differential object marking are often locative adpositions or goal markers.

(8) *Turkish* (Enç 1991: 4–5)

a. Ali bir piyano-yu kiralamak istiyor.
Ali one piano-ACC to-rent wants
'Ali wants to rent a certain piano.'

b. Ali bir piyano kiralamak istiyor.
Ali one piano to-rent wants
'Ali wants to rent a (nonspecific) piano.'

(9) *Swahili* (Vitale 1981: 123–124)

a. Juma a-li-m-piga risasi tembo jana usiku.
Juma SM.PST.OM.hit bullet elephant yesterday night
'Juma shot an/the elephant last night.'

b. risasi i-li-pigamti karibu na sisi.
bullet SM.PST.hit tree near us
'The bullet struck the tree near us.'

(10) *Spanish* (Rodríguez-Mondoñedo 2007: 91)

a. Veo a Juan.
see.1SG to Juan
'I see Juan.'

b. Veo un árbol.
see.1SG a tree
'I see a tree.'

The properties that influence whether an object receives differential object marking or not are primarily the animacy of the object referent, its definiteness, referentiality as well as properties of the predicate itself, such as, the degree of transitivity and affectedness (e.g., Bossong 1983–1984; 1985; 1991; Aissen 2003; Escandell-Vidal 2009).

2.2 Triggers related to the direct object

Not only the ways in which differential object marking is achieved, but also the factors triggering differential object marking are subject to cross-linguistic variation. In some languages, the driving force of this kind of object marking is animacy (e.g., Sinhalese; Kamper 2006), whereas in others it is specificity or definiteness (e.g., Hebrew; Kamper 2006). Differential object marking is also optional in some languages and obligatory in others. In Sinhalese, for example, only objects referring to animate objects are marked, but this is not obligatory. In Hebrew only definite objects receive a special case marking but this is obligatory. In other languages, a combination of animacy and definiteness (e.g., Romanian; Onea & Hole 2017) or a combination of animacy, definiteness, and specificity determine this behavior (e.g., Spanish; von Heusinger & Kaiser 2005).

Pottier (1968) and Aissen (2003) attempt to capture the object-marking triggers related to the object via the use of two scales. The first scale refers to the animacy of the object referent and the second scale refers to its definiteness. The two scales are given in (11) and (12).

(11) **Animacy scale:**
Human > Animate > Inanimate

(12) **Definiteness/specificity scale:**
Proper name > Definite NP > Indefinite specific NP > Non-specific NP

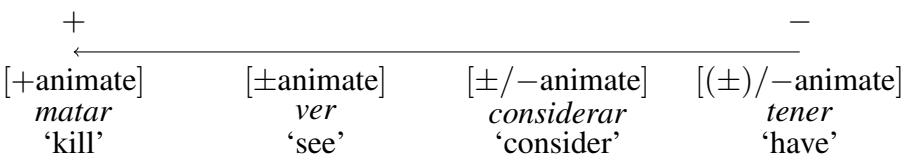
The relation between differential object marking and the scales is assumed to be the following: Differential object marking is more likely when an object referent is high on one or both scales. While some languages, as already mentioned, have grammaticalized only one of the two scales, some languages make use of both. Additionally, the exact cut-off points on the scales vary. Thus, in a language using only the definiteness scale it could be the case that, only pronouns receive differential object marking, while proper names,

definites, indefinite specifics, and non-specific objects do not whereas in a different language, the cut-off point may be lower down on the definiteness scale and could thus mark pronouns, proper names and definites, but not indefinite specifics and non-specifics.

2.3 Triggers related to the verb and the notion of 'affectedness'

Another property which is assumed to be a trigger of differential object marking is the degree of affectedness of the direct object by the event (e.g., Pottier 1968; Torrego 1999; von Heusinger & Kaiser 2007). Affectedness is not a homogeneous notion, but rather an umbrella term comprising different "subproperties such as the animacy of the object, the agency of the subject, the involvement of the object, and the aspect or aktionsart of the verb" (von Heusinger & Kaiser 2007: 92). Pottier (1968) was probably the first to classify verbs based on the degree to which their direct objects are affected. He ranks these classes on an affectedness scale ("un axe sémantique verbal") in order to predict which objects receive differential object marking in Spanish: the higher the verb is on the scale, the likelier differential object marking should be (see also von Heusinger & Kaiser 2007). Pottier's scale, extended by the expected animacy of a typical object (cf. von Heusinger & Kaiser 2007: 92) is shown in (13).

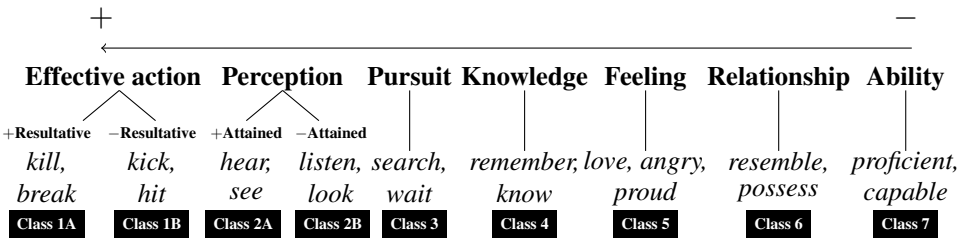
(13)



Verbs on the affectedness scale are ordered according to how affected the direct object is. While the Spanish verb *matar* 'kill' is restricted in that it only takes animate objects, *ver* 'see' does not have such restrictions. Verbs in the class of *considerar* 'consider' mainly take inanimate objects and, finally, verbs in the class of *tener* 'have' usually do not take animate objects (as this class mainly consists of existential verbs).

A more detailed affectedness hierarchy is found in Tsunoda (1985: 388). His hierarchy is shown in (14). Tsunoda's hierarchy is soley based on empirical data from an array of geographically and genetically unrelated languages and is not concerned with differential object marking (see also Malchukov 2005). While he does not cite Pottier (1968), the similarity of Pottier's scale in (13) and Tsunoda's scale in (14) is stunning.

(14)



Tsunoda argues that the different verb types are correlated with different case frames cross-linguistically: if a verb type on Tsunoda's affectedness scale has a case frame (e.g., nominative-accusative or ergative-absolutive) in a given language, then the verb types to the left on the hierarchy have the same case frame. Thus, the hierarchy is empirically based on the behavior of case marking in different languages (rather than on some semantically based notion of affectedness). As Tsunoda's scale in (14) is simply a more detailed version of Pottier's scale in (13), Tsonoda's scale should also be able to predict which verb types influence the use of differential object marking, at least in Spanish. Based on

diachronic data von Heusinger & Kaiser (2011) show that this is indeed correct (again, the higher a verb is on the scale, the more likely the object will receive *a*-marking).

While for Spanish, being higher on the hierarchy means a higher chance that the object will receive a special marking, it is unclear whether this only holds true for Spanish or if Tsunoda's scale can also be used to predict differential object marking in other languages. What is clear, however, is that not all languages behave in the same way Spanish does. In other languages, like Turkish, differential object marking is triggered not by animacy but by definiteness/specificity (e.g., Enç 1991; Key 2012), and is optional for the higher classes, obligatory for intermediate classes, and disallowed for the lower classes. In Turkish differential object marking is achieved by the accusative case, and verbs of the two highest sub-classes on the scale leave the option of marking the object as being specific/unspecific (or: definite/indefinite), see (15) and (16), while in the lower classes all objects obligatorily receive differential object marking, as seen in (17) to (20). The cut-off point seems to be class number 5 (feeling) as the objects in this class and lower classes receive ablative, dative, or locative marking, cf. (21), (22), and (23).[1]

(15) a. Paul polis öldür-dü-Ø.
Paul policeman kill.PFV.3
'Paul has killed a policeman/policemen.'

b. Paul polis-i öldür-dü-Ø.
Paul policeman.ACC kill.PFV.3
'Paul has killed the policeman.' **Class 1A**

(16) a. Paul polis tekmele-di-Ø.
Paul policeman kick.PFV.3
'Paul has kicked a policeman/policemen.'

b. Paul polis-i tekmele-di-Ø.
Paul policeman.ACC kick.PFV.3
'Paul has kicked the policeman.' **Class 1B**

(17) a. *Paul polis duy-du-Ø.
Paul policeman hear-PFV-3
'Paul has heard a policeman/policemen.'

b. Paul polis-i duy-du-Ø.
Paul policeman.ACC hear.PFV.3
'Paul has heard the policeman.' **Class 2A**

(18) a. *Paul polis dinle-di-Ø.
Paul policeman listen.PFV.3
'Paul has listened to a policeman/policemen.'

b. Paul polis-i dinle-di-Ø.
Paul policeman.ACC listen.PFV.3
'Paul has listened to the policeman.' **Class 2B**

[1] Note that the judgments presented here come from native speakers of Turkish from Istanbul. The pattern slightly changes in other varieties of Turkish where class 3 and class 4 can be optionally left unmarked. However, nothing hinges on this.

(19) a. *Paul polis ara-dı-∅.
Paul policeman search.PFV.3
'Paul has looked for a policeman/policemen.'

b. Paul polis-i ara-dı-∅.
Paul policeman.ACC search.PFV.3
'Paul has looked for the policeman.' **Class 3**

(20) a. **Paul polis tan-ıyor-∅.*
Paul policeman know.IPFV.3
'Paul knows a policeman/policemen.'

b. *Paul polis-i tan-ıyor-∅.*
Paul policeman.ACC know.IPFV.3
'Paul knows the policeman.' **Class 4**

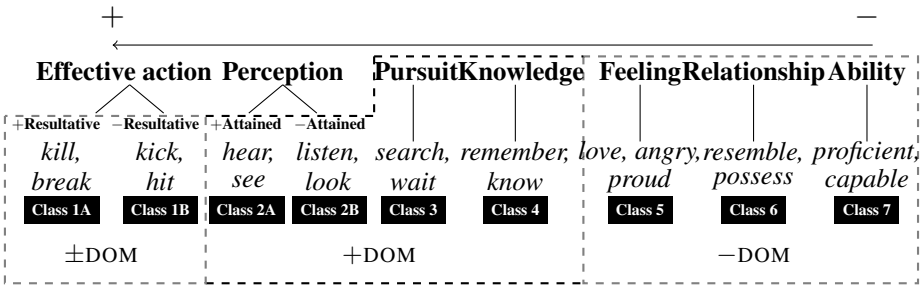
(21) *Paul polis-ten nefret et-ti-∅.*
Paul policeman.ABL hate do.PFV.3
'Paul has come to hate the policemen.' **Class 5**

(22) *Paul polis-e benz-iyor-∅.*
Paul policeman.DAT resemble.IPFV.3
'Paul resembles a/the policeman.' **Class 6**

(23) *Paul (bu) spor-da iyi-∅.*
Paul this sports.LOC good.3
'Paul is good at (this) sport(s).' **Class 7**

The distribution of differential object marking in Turkish with regard to Tsunoda's affectedness hierarchy is illustrated in (24) (with DOM being the abbreviation for differential object marking).

(24)



This pattern suggests that the probability that a verb will receive differential object marking is, at least to some extent, indeed tied to Tsunoda's verb classes, as specific referents/definite objects in Turkish only receive differential object marking when the verb belongs to a higher class. For the two highest subclasses, 1A or 1B, the speaker can overtly mark whether the referent s/he is talking about is specific/referential/definite or not. For the intermediate classes (2 to 4) only referential readings are available because differential object marking is obligatory.[2] For the lower classes (5 to 7) differential object

[2] An indefinite marking can nevertheless be achieved by inserting an indefinite determiner into the sentences.

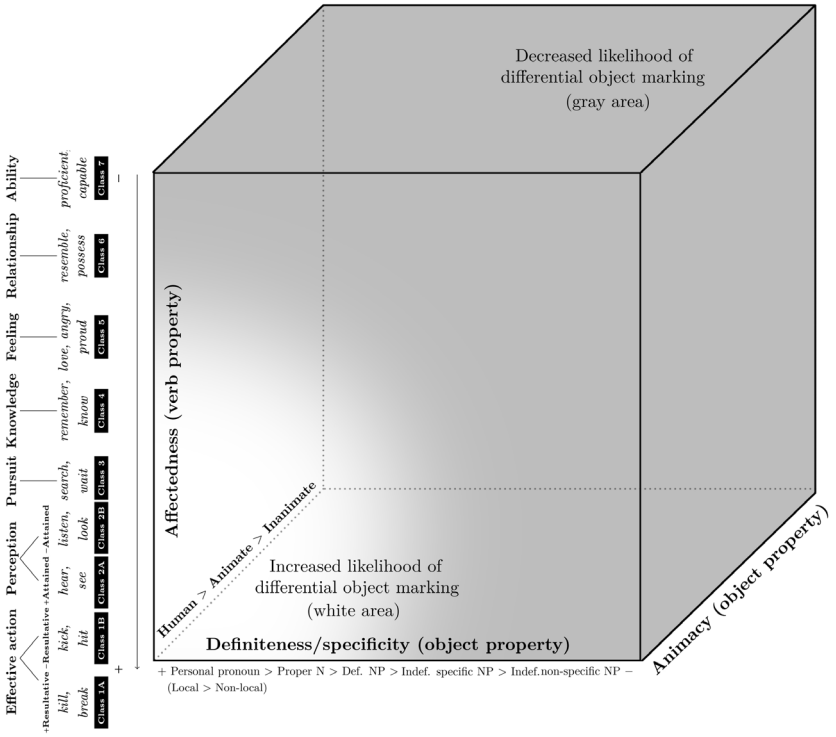
marking is disallowed. While this distribution is in line with Heusinger & Kaiser's idea that Tsunoda's affectedness hierarchy is linked to the distribution of differential object marking, there is no answer as to why only the higher classes leave the speaker with the option to either mark the object as definite or not (or *vice versa*: why it is not possible to get a non-specific/non-referential/indefinite reading in the classes from 2 to 4).

2.4 Interim summary: What triggers differential object marking?

As has been described so far, there are different factors, some related to the direct object and some to the verb, which trigger differential object marking: cross-linguistically, more definite, more specific, more animate, and more affected objects are overtly marked while less definite, less specific, less animate, and less affected objects stay unmarked—and interestingly, no language which marks only indefinite, unspecific, non-animate, and/or non-affected objects appears to exist.

The discussion is complicated by the fact that some languages differentially mark their objects based on one scale (e.g., animacy) while other languages do so based on an an interplay of several different scales. This can be summarized as seen below (25).

(25)



On the bottom face of the cube, (i.e., on the x-axis), a slightly more fine-grained version of Aissen's (2003) definiteness/specificity scale is depicted. The lower (i.e., the more indefinite/unspecific) an object on this scale can be located, the less likely it is to receive differential object marking, provided it is in a language which has grammaticalized this scale. This is denoted by the gray (decreased likelihood of differential object marking) and white (increased likelihood of differential object marking) areas in the diagram. Tsunoda's verb classes are depicted on the y-axis. As previously, the lower on Tsunoda's affectedness scale a verb class is found, the less likely the direct object of the verb is to receive differential object marking (note that the lower classes in the figure are on the top in the figure). Finally, on the z-axis, the animacy scale is depicted and again, the less animate an object referent is, the less likely it is to receive a special marking.

Before turning to the DGS data, I will briefly address some other properties which have been discussed as possible differential object marking triggers in the literature as some of them will play a role in the analysis of the DGS data.

2.5 Even more triggers? Distinguishability, topichood, and telicity

As I will argue later (in Section 5), there is cross-linguistic evidence that another difference between objects that are high on the definiteness (or specificity) scale versus those that are low on the scale is that definite objects have to move out of the VP, while indefinite objects can remain inside the VP.

Interestingly, a similar claim, namely that differentially marked objects leave the VP and move into higher position, has been made, although this higher position is usually taken to be one inside the vP (e.g., Brugè & Brugger 1996; Torrego 1998; Lidz 2006; Rodríguez-Mondoñedo 2007). This claim captures the intuition that objects that receive differential object marking are very similar to a prototypical subject: while the prototypical subject is definite and animate, the prototypical object is inanimate and indefinite (e.g., Keenan 1976; Hopper & Thompson 1980; Givón 1985; Jakobson 1991; Tsunoda 1985; 1999). Thus, the more an object departs from its prototype and the more similar it becomes to the prototypical subject, the more likely it is to receive differential object marking because of "the pressure to maximally differentiate subject and object" (Aissen 2003:438). While Aissen (2003) takes this to be an iconic principle, I believe it can also be argued that it is (also) syntactic in nature: while "good" (i.e., prototypical) objects stay inside the VP, "bad" objects need to leave the VP or require some other marking.

This distinguishability claim (see also Morimoto & Swart 2006) fits in well with the idea advocated by some authors that discourse-related functions also play a role in differential object marking. Leonetti (2003; 2004), for example, argues that differential object marking in Spanish is a kind of topic-marking. Without delving into the details, this observation supports the notion that differential object marking has the function of clearly distinguishing subjects from objects because the prototypical topic is the subject (e.g., Langacker 2001).[3]

The last differential-object-marking trigger mentioned in the literature that I would like to briefly discuss is telicity. According to some authors (e.g., Torrego 1998; 1999; García García 2005; Rodríguez-Mondoñedo 2007), telic predicates, such as *to insult*, are more likely, at least in Spanish, to take marked objects than non-telic ones. This tendency is easy to demonstate by using predicates that have both a telic and a non-telic interpretation, such as *to kiss*. While *to kiss a child* in its atelic interpretation denotes a time-interval in which the kissing-relation holds true at any given part of the interval, the telic interpretation is one with an end-point. The condition that has to be fulfilled to make the telic interpretation true is one in which the kissing-event has culminated. In Spanish, *a*-marking leads to a telic interpretation, thus *besar un niño* 'caressing a child' is atelic and *besar un niño* 'give a child a kiss' is telic (García García 2005: 26).

In the following, I will describe the function and use of the sign PAM in German Sign Language and present its traditional analysis as an agreement auxiliary. Then, I will defend the idea that PAM is not an auxiliary, but a differential object marker. I will show that its behavior is astonishingly similar to the described behavior of differential object marking in spoken languages—at least in the Southern variety of DGS.

[3] Additionally, there is a strong link between topicality and definiteness, as topics are usually definite (Givón 1984; 1985).

3 The data: The "agreement auxiliary" PAM

In this Section I will discuss the agreement system of sign languages in general, followed by the agreement system of DGS. This discussion of the agreement system will lay the foundation for the introduction of the sign PAM.

3.1 Agreement in sign languages

The sign language literature, following the seminal work of Padden (1983) on American Sign Language, usually distinguishes between three classes of verbs based on their agreement behavior: agreement verbs, spatial verbs and plain verbs. While agreement in spoken languages mainly consists of agreement between the verb and its highest argument (i.e., the subject) in properties such as person, number, or gender, agreement in sign language is the agreement between spatial locations (e.g., Pfau, Salzmann & Steinbach 2018). If discourse participants are not present in context they are assigned unique loci in space after which agreement relations can be indicated by path movements of the verb sign and/or hand orientation (e.g., Mathur & Rathmann 2012).

Agreement verbs are verbs inflecting for subject and object agreement. Spatial verbs agree with locatives. They denote a motion from one place to another place. An example of a spatial verb in DGS is PUT (something from one place to another). Similarly, agreement verbs show agreement between two points in space, a point in which the sign starts and a point in which the sign ends. While these two points denote locations in the case of spatial verbs (i.e., the source and the goal of a motion), they denote the subject and the object in the case of agreement verbs (see also Meir 2002). The arguments of agreement verbs are said to be syntactic and consist of person and number features. The fact that agreement in DGS is said to be subject-object agreement is illustrated for the agreement verb GIVE in (26), taken from Steinbach & Pfau (2008).

(26) POSS_1 MOTHER INDEX_{3a} BOOK+++ LIKE. YESTERDAY INDEX_{3a} BOOK $_{3a}\text{GIVE}_1$
'My mother likes books. Yesterday she gave me a book.'

The signer in the example assigned the mother a unique point in signing space by pointing to it. This is glossed POSS_1 MOTHER INDEX_{3a} in the signer's first sentence. This location, glossed 3a, is re-used in the second sentence. As indicated by the glosses, the verb sign GIVE starts at the location associated with the mother and ends at the signer's location, i.e., the sign exhibits subject-object agreement.

The third traditionally distinguished class of verbs in the sign language literature is the class of plain verbs. This class of verbs does not exhibit any agreement at all as the places of articulation and the movement paths of these verbs are fixed. An example of a plain verb in DGS is LIKE. This verb is signed by sliding the hand from the top part of the chest towards the abdomen, as illustrated on the left of Figure 2. Deviations from the places of articulation and the movement are not allowed, thus making spatial agreement impossible.

Note that a verb's membership of these classes seems not to be, or at least not only, determined by its semantics, but is often arbitrary. For example, a verb may require agreement in one sign language, but not in another—in fact, verb class membership is also subject to dialectal variation in DGS (Happ & Vorköper 2014: 142; see also Pfau, Salzmann & Steinbach 2018 for examples from DGS or Fischer 1996 for examples from Japanese Sign Language).

This classic tripartition of verbs, however, is very coarse as there are sub-classes of verbs that systematically show different agreement behavior. Two such classes of verbs which I will now discuss are the so-called "backward verbs" and "single agreement verbs".

Backward verbs are a sub-class of agreement verbs and consist of verbs showing agreement between the location of the object and the location of the subject, rather than the other way around (Meir 1998; de Quadros & Quer 2008). An example of a backward verb in DGS is INVITE, as illustrated in (27).

(27) $_{3a}$INVITE$_{1}$
'I invite him/her.'

As shown in the example, the sign starts with the hands facing towards the point in space the object referent is located and ends at the subject (in this case the signer) and not *vice versa* as with regular agreement verbs. A photographic illustration of the verb is found in the middle of Figure 2. The second class of verbs I briefly want to introduce are the "single agreement verbs" (Meier 1982), also known as "defective agreement verbs". They are defective in that it is possible to indicate some agreement relations through the path movement of the sign, while others are not permitted. An example of such a single agreement verb in DGS is HATE. This verb starts at the signer's head and ends at the object's location. The starting point of this sign is fixed as is the case with plain verbs. The end point of the sign, however, is able to agree with the object. The sign starting close to the signer's body and ending at the object's location does not cause any problems so long as the subject is first person and the object is second or third person, but requires special markings when the subject is non-first person and/or the object is non-third/non-second person (strategies include a shift in body position or, as will be described, the insertion of PAM). See also the right picture in Figure 1.

3.2 The sign PAM

Whether a verb agrees, is plain, or is single agreeing is, as mentioned, often arbitrary. Therefore, the agreement properties are often interpreted to be a phonological phenomenon (e.g., Rathmann 2003). When the object of a plain or single agreement verb is animate (and preferably human) DGS grammar requires the use of the sign PAM (shorthand for "person agreement marker", cf. Rathmann 2003). This is exemplified in (28a) using examples from Southern DGS. The direct object in (28b) triggers PAM insertion as it is an animate referent, the direct object in (28b) is inanimate (a city) and does not allow the use of PAM.

(28) a. PAUL$_{3a}$ *(PAM$_{3b}$) MARIA$_{3b}$ know
'Paul knows Maria.'

b. PAUL$_{3a}$ (*PAM$_{3b}$) CITY$_{3b}$ KNOW
'Paul knows the city.'

Figure 1: The plain verb LIKE, the backward verb INVITE, and the single agreement verb HATE.

The sign is produced with a small C-handshape (i.e., the thumb and the index finger form a C). With this, it resembles the sign for PERSON (Pfau & Steinbach 2006a) from which it is believed to have developed (Steinbach 2011). However, in contrast to the noun sign PERSON, PAM exhibits directional movement that is described in the literature as starting from the subject's location and moving towards the object's location (e.g., Steinbach 2011). Due to the fact that this resembles the agreement behavior of "regular" agreement verbs, PAM is traditionally described as being an auxiliary: "Like agreement verbs, agreement auxiliaries express subject and object agreement by means of path movement and hand orientation" (Steinbach & Pfau 2008: 4). Note that similar agreement auxiliaries, i.e., signs derived from the noun PERSON used for agreement purposes, have been described for different sign languages. Besides DGS, Börstell (2017), for example, mentions Austrian Sign Language (see also Krebs, Wilbur & Roehm 2017), Catalan Sign Language (see also Pfau & Steinbach 2013), Spanish Sign Language (see also Costello 2016), and Swedish Sign Language. In all cases, these signs appear in contexts with animate direct objects and Börstell (2017) and Börstell (2019) already suspects these signs to be cases of differential object marking—mainly because of the fact that they require an animate (and preferably human) direct object.[4]

Taken together, PAM is described as being an agreement auxiliary indicating subject-object agreement that is triggered by (at least) the following two conditions (cf. Keller 1998; Rathmann 2003; Pfau & Steinbach 2006b; Murmann 2012; Happ & Vorköper 2014):

i. **Phonological constraint condition:** Verbs that are, due to their phonology, not able to express full agreement (i.e., either plain verbs unable to show agreement at all or single agreement verbs unable to show first-person agreement) trigger the insertion of PAM.
ii. **Animacy condition:** PAM is inserted if the object is high on the animacy scale (i.e., preferably human).

Before turning to the positional properties of PAM I will briefly mention some other characteristics described in the literature. First, PAM has been described as being accompanied by the mouthing /auf/ which is the German equivalent of the English preposition *on* or *upon*. While Keller (1998) claimed that /auf/ accompanies PAM, Rathmann (2003) claimed that it may be accompanied by the mouthing, and Steinbach & Pfau (2007) speculate that the mouthing seems to disappear. Second, while verbs in DGS are able to inflect for lower aspectual categories as, for example, frequentative aspect II (Bross 2020), PAM does not inflect for aspect (Steinbach & Pfau 2007). Third, PAM can be used in reciprocal constructions (29a) and can be productively used to extend the argument structure of a verb (29b). The example in (29a) is taken from Steinbach & Pfau (2007), the example in (29b) from Steinbach (2011).

(29) a. WE-TWO HATE $_{1}$PAM$_{2rec}$
'We two (dual) hate each other.'

b. INDEX$_{1}$ LAUGH $_{1}$PAM$_{2}$
'I laugh at you.'

The last three properties I want to mention before turning to the structural position of PAM in the DGS clause are (i) that while PAM is generally said to mark subject-object agreement it has been observed that it is sometimes possible to omit the subject, but not

[4] For a general overview of agreement auxiliaries in sign languages, see Sapountzaki (2012).

the object agreement and (ii) that PAM is able to locate a referent in signing space, i.e., to assign a spatial locus to a referent (Pfau & Steinbach 2013: 208; Happ & Vorköper 2014: 102). Finally, (iii) there are reports that PAM can sometimes be used with agreeing verbs and, in some rare cases, even with non-inflected agreement verbs (e.g., Murmann 2012). This is especially clear when considering backward verbs (e.g., INVITE). When using PAM with INVITE, PAM clearly marks the syntactic object, as illustrated by (30a) from Steinbach & Pfau (2008: 6) (for a similar point see also Quer 2011). This is also the case when INVITE shows overt object-subject agreement as illustrated in (30b) from my own data. Note that the distribution of PAM differs in the examples; this variation will be described in the next section. Also note that there is no index sign introducing the object in (30b). This is because PAM can be used, as mentioned previously, to locate a referent in signing space.

(30) a. INDEX_{3a} INDEX_{3b} INVITE $_{3a}\text{PAM}_{3b}$
'She invites him.'

b. INDEX_{3a} PAM_{3b} $_{3b}$INVITE$_{3a}$
'She invites him.'

The fact that PAM combines with agreement and backward verbs concurs with my own observations, although my consultants unanimously rejected examples with non-inflected agreement or non-inflected backward verbs. Note that PAM in the example in (30b) is only marked for object and not for subject agreement. The reasons for this are examined in greater detail in the following discussion (especially Section 4.3).

3.3 The position of PAM—two patterns

There are two recognized patterns describing the positions that PAM can take in the clause: The first pattern (Steinbach & Pfau 2007; Steinbach 2011) consists of a clause-final use of PAM. Examples of this include (31a) from Pfau (2006: 10) and (31b) from my own data.

(31) a. INDEX_1 POSS_1 BROTHER INDEX_{3a} $\overline{\text{PROUD}\ {}_1\text{PAM}_{3a}}^{\text{/ʃtɔlts/}}$
'I'm proud of my brother.'

b. PAUL INDEX_{3a} MARIA INDEX_{3b} $\overline{\text{MARRY PAM}_{3b}}^{\text{/haɪra:t/}}$
'Paul marries Maria.'

Note that in the clause-final pattern PAM phonologically merges with the lexical host (i.e., the verb) in that the mouthing of the verb sign (in the examples /ʃtɔlts/, the German equivalent of 'proud' and /haɪra:t/, the German equivalent of 'to marry') spreads not only over the verb, but over the verb and PAM (as indicated by the line in the gloss). While Steinbach & Pfau (2007) describe this clitization pattern as occurring frequently, the consultant who used the pattern during the data collection reported the spread of the mouthing to be obligatory.

The second pattern described in the literature is the pre-VP usage (e.g., (32) from Rathmann (2003: 182)). As I will explain in Section (4.2), I will mainly concentrate on this clause-internal pre-VP usage pattern in the remainder of this article.

(32) HANS_{3a} $_{3a}\text{PAM}_{3b}$ MARIE_{3b} LIKE
'Hans likes Marie.'

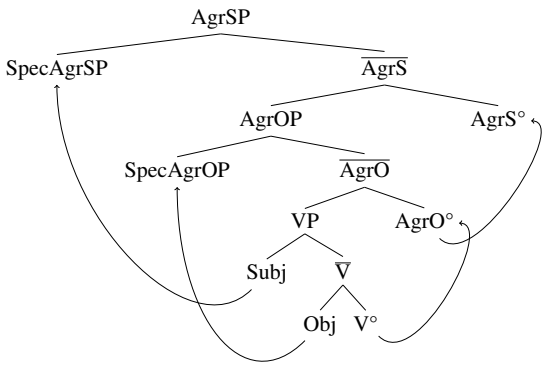
For this use of PAM, Rathmann (2003: 186) claims that PAM clitizises with the object—a property it does not share with agreement verbs.[5]

3.4 A syntactic analysis

Before I argue that PAM is not an agreement auxiliary, but rather resembles a predicative preposition, I will outline two examples of syntactic analyses of PAM as an auxiliary advocated in Steinbach & Pfau (2008) and Pfau, Salzmann & Steinbach (2018), both of which only discuss the clause-final pattern. For other examples of syntactic approaches dealing with PAM as an auxiliary, see Rathmann (2003) who discusses the clause-internal use of PAM and also Steinbach (2011).

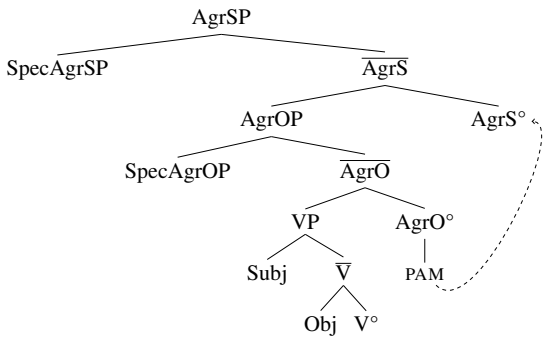
Steinbach & Pfau (2008) assume that agreement verbs move from their base position in V° to AgrO° and AgrS° to check subject and object agreement features as shown in (33a) adapted from Steinbach & Pfau (2008: 10). At the same time, the subject moves to SpecAgrSP and the object to SpecAgrOP.

(33) a.



Agreement verb

b.



PAM insertion

In the case of a plain verb, however, this agreement cannot be expressed anymore (due to the phonological restrictions of the verb). Then, on this account, PAM is inserted into AgrO° to check the agreement features and the non-inflected verb stays in-situ, as shown in (33b). Steinbach & Pfau (2008) assume that movement of PAM into AgrS° is optional, which would model the mentioned possibility that PAM sometimes only agrees with the object (for this reason, the arrow in (33b) is dashed).

[5] Although Rathmann does not specify what this clitization may look like, that PAM and the object often form a phonological unit is confirmed by my data. The transition between PAM and the object is blurred in these cases (and the position in which PAM ends is the same as the location in which the object is signed).

It has to be noted, however, that while this model can account for the data presented so far, it has two disadvantages. Besides the disantvantage of using AgrPs that are not used anymore in the Minimalist Framework (Chomsky 1995: 355), Steinbach & Pfau's (2008) model cannot explain why PAM is only used with animate objects. Another analysis was proposed by Pfau, Salzmann & Steinbach (2018) who, combining insights from Minimalism and Distributed Morphology, assume that v always moves to T. With agreement verbs, V moves to v forming a complex head V + v and this complex head finally moves to T, again forming a complex head. This is understood to be different in plain verbs, which stay put in V while v still moves to T forming a v + T complex. Pfau, Salzmann & Steinbach (2018) propose that this structural difference leads to a difference in the insertion of lexical material at PF: in a case in which V is part of a complex head v is zero and otherwise PAM-insertion takes place. A problem with this proposal is, again, that it cannot capture the fact that PAM-insertion only takes place with animate objects, although the authors briefly mention several technical implementation possibilities to address this issue (Pfau, Salzmann & Steinbach 2018: 32).

In the following, I will present several arguments supporting the notion that PAM is not an agreement auxiliary, but a differential object marker (at least in the Southern variant of DGS using the clause-internal pattern).

4 Why PAM is not an auxiliary: Differential object marking in DGS

In this section, I will present evidence for the view that PAM is not an auxiliary (or other kind of verb), discuss the position of PAM in the clause as it is used in Southern Germany and then argue that PAM-insertion does not take place due to phonological requirements, but only to mark affected, animate objects (for a more detailed discussion of the connection between PAM and animacy see, for example, Murmann 2012).

4.1 Evidence against an auxiliary analysis: PAM in nominalizations

As mentioned in the previous section, PAM is generally analyzed as an auxiliary or dummy verb that is "used to express morphosyntactic features" (Steinbach & Pfau 2007: 325). In contrast, I will argue that PAM is a preposition-like element (in that it has the formal properties of a preposition, but is not used as a preposition) with predicative properties and that it is used as a differential object marker. The strongest argument against the traditional analysis are nominalizations. Analyzing PAM as an auxiliary verb predicts that it should not appear in nominalizations. A preposition, however should surface in nominalizations. This is illustrated by the following examples (34).

(34) a. Paul is searching for a book.
b. *Paul's is search for a book.
c. Paul's search for a book.
d. *Paul's search a book.

The sentence in (34a) serves as a comparative example with an auxiliary taking over the morpho-syntactic agreement features. (34b) shows that an auxiliary is not allowed in nominalizations and (34c) and (34d) demonstrate that prepositions survive nominalizations.

The same test can be applied to PAM-marking. If PAM functioned as an auxiliary, we would expect it to disappear in a nominalization. If PAM functions as a preposition (or preposition-like element) we would not expect it to disappear in a nominaliaztion. PAM's preposition-like behavior is illustrated by the minimal pair in (35) wherein a nominalized version of the verb sign TO-LOVE obligatorily triggers PAM-insertion when the direct object is animate.

(35) a. INDEX$_1$ [POSS$_1$ LOVE PAM$_{3a}$ PAUL$_{3a\ DP}$] NEVER FORGET.
'I will never forget about my love for Paul.'

b. *INDEX$_1$ [POSS$_1$ LOVE PAUL$_{3a\ DP}$] NEVER FORGET.
'I will never forget about my love for Paul.'

Since, as seen in the above examples, PAM survives nominalizations, we can surmise that it does not behave like an auxiliary or dummy verb. As an anonymous reviewer correctly remarked, one has to keep in mind that nominalizations, also in English, sometimes have a more nominal flavor (e.g., *I don't understand my friend's admiration of rocket salad*) and sometimes have a more verbal flavor (e.g., *I don't understand my friend admiring rocket salad*). However, this does not change the fact that auxiliaries do not survive nominalizations in any language I'm aware of. While this observation holds true for the clause-internal usage pattern, the question of whether nominalizations of the clause-final pattern would yield similar results remains unanswered (and may be of interest for further research). I will now discuss the distribution of PAM in Southern DGS and then argue that it serves as a differential object marker at least in this variety of the language.

4.2 The position of PAM in Southern DGS

While Steinbach (2011: 214) claims that the post-verbal use of PAM "is typical for Southern German DGS variants", my own data suggest that the opposite is true. The vast majority of the consulted signers preferred the clause-internal pattern and disliked the clause-final use of PAM. Only one signer consistently used the clause-final pattern and did not accept the clause-internal pattern.[6] Thus, there are two different grammars (when asked explicitly, signers are well aware that both structures exist, but have strong opinions on which is well-formed and which is not). These two usages are illustrated in (36) and (37). Because the vast majority of signers used the clause-internal pattern, I will mainly focus on structures where PAM precedes the object after briefly discussing both usages (cf. (37b) and (37c)).[7]

(36) **Clause-final pattern:**

/saʊɐ/
a. PAUL$_{3a}$ MARIA$_{3b}$ ANGRY PAM$_{3b}$
'Paul is angry at Maria.'

b. *PAUL$_{3a}$ PAM$_{3b}$ MARIA$_{3b}$ ANGRY
'Paul is angry at Maria.'

c. *PAUL$_{3a}$ ANGRY PAM$_{3b}$ MARIA$_{3b}$
'Paul is angry at Maria.'

(37) **Clause-internal pattern:**

/saʊɐ/
a. *PAUL$_{3a}$ MARIA$_{3b}$ ANGRY PAM$_{3b}$
'Paul is angry at Maria.'

b. PAUL$_{3a}$ PAM$_{3b}$ MARIA$_{3b}$ ANGRY
'Paul is angry at Maria.'

c. PAUL$_{3a}$ ANGRY PAM$_{3b}$ MARIA$_{3b}$
'Paul is angry at Maria.'

[6] It has to be noted that the signer using the clause-final pattern has been working as a DGS teacher which may have influenced his judgment in this regard.

[7] PAM in the clause-internal pattern always needs to precede the object. Thus, structures like *PAUL$_{3A}$ MARIA$_{3b}$ PAM$_{3b}$ ANGRY are excluded.

The examples show that for signers that use the clause-final pattern, the clause-internal pattern is ill-formed and *vice versa*. While the signer who used the clause-final pattern allowed no other position than the clause-final one, the by far more frequently used clause-internal pattern showed some variation, although the structure in which PAM precedes the object (37b) was preferred by all of the signers that used this pattern. As can be seen from the glosses in (36) and (37), all signers thoroughly used PAM to mark the object and, crucially, not the subject.[8] When asked explicitly, however, they did not disallow PAM to start from the subject's location (but claimed not to use it this way).

As described in the literature, the signer using the clause-final pattern fused PAM with the main verb and did not allow for the mouthing of /auf/. The signers using the clause-internal pattern, in contrast, used the mouthing, although most of them did not consider this to be necessary. Again, in accordance with the literature, the signers using the clause-internal pattern often clitizised PAM with the object (Rathmann 2003: 186). This clitization is expressed via handshape coarticulation and an often exceptionally smooth transition between PAM and the sign referring to the object. The fact that it is not possible to put lexical material, like adverbs or modal verbs, between PAM and the object constitutes additional evidence of the close connection between PAM and the object in this pattern. This is illustrated in (38). PAM's formation of a unit with the main verb in the clause-final pattern and with the object in the clause-internal pattern can be interpreted to be an indication that it is located inside the vP-structure or was generated there.

(38) a. *PAUL_{3a} PAM_{3b} ALWAYS MARIA_{3b} ANGRY
'Paul is always angry at Maria.'

b. *PAUL_{3a} PAM_{3b} MAY MARIA_{3b} ANGRY
'Paul is allowed to be angry at Maria.'

4.3 PAM as a differential object marker

There are several reasons why PAM-marking in general, as well as the two different patterns of PAM-marking, fit in the differential object marking patterns described for spoken languages. First, if we interpret PAM to be an adposition-like element (not an auxiliary), PAM-marking highly resembles the strategy used in Spanish (using the preposition *a*, literally 'to') and Romanian (using the preposition *pe*, literally 'on'). This adposition analysis is supported by the mouthing /auf/ 'on'/'upon' used by many signers, although it is clear that there are no other contexts in which PAM is used as an adposition. However, the DGS equivalent of the preposition *on* is only specified for movement and not for handshapes as handshapes need to be adjusted for the object (as a suitable classifier handshape has to be used). If one ignores the handshape, PAM bears a resemblance to a preposition. An anonymous reviewer pointed out that classifier predicates are not equivalent to prepositions and that their meaning should not be translated to 'on', but 'located on'. My objection to this is that the exact meaning of the classifier predicate varies depending on the verb, ranging from 'locate on' (e.g., PUT as in *I put the glass on the table*), 'being located on' (e.g., as in *there is a glass on the table*), or 'locates itself on' (e.g., JUMP as in *the cats jumps on the table*). What remains constant is the meaning of 'on' that is contributed by the movement of the hand (and which is the same movement with PAM). However, as also pointed out by the

[8] Note that the clause-internal pattern is the same indifferent as to whether an adjectival predicate or a plain verb is used (i.e., both, PAUL_{3a} PAM_{3b} MARIA_{3b} KNOW and PAUL_{3a} KNOW PAM_{3b} MARIA_{3b} are well-formed).

reviewer, the same applies to agreement verbs when ignoring the handshape. This is, of course, true because both verbs and prepositions have predicative functions.

Additionally, it is interesting to note that some authors (such as Manzini & Franco 2016: 211) describe the adpositions used in differential object marking in spoken languages as being "a predicate introducing a relation between the argument it selects and another argument"—as PAM is traditionally described as an agreement auxiliary with exactly this function. Thus, the notions that PAM is an adposition-like element does not conflict with PAM being an agreement device.

Furthermore, some languages, like many of the Bantu family, integrate differential object marking into their verbal agreement system (cf. the Swahili examples in (9)). Besides the fact that PAM traditionally is considered to be an agreement marker, the clause-final strategy exhibits a strong connection between the verb and PAM. The clause-internal pattern, in contrast, more strongly resembles a differential object marking strategy in which the object itself is marked.

Another argument in favor of a differential object marking analysis is the fact that the main trigger of the use of PAM is animacy. In this way PAM-marking bears a strong resemblance to many spoken languages in that it exhibits differential object marking as described above (cf. Börstell 2017; 2019). Besides animacy, definiteness/referentiality is known to be one of the main triggers of differential object marking. With PAM, a definite/referential interpretation arises as PAM locates referents in space. This is especially evident in cases in which (a) PAM-marking is optional and (b) in which the object is not a proper name. This is, for example, the case with the verb sign SEE. When PAM is optional, it has a similar effect as in Turkish (see the examples in (15) on page 10) in that only the referential/definite reading survives. This is illustrated by the following minimal pair (39).

(39) a. YESTERDAY PAUL_{3a} $\text{POLICE\#PERSON}_{3b}$ SEE_{3b}
'Yesterday Paul saw a/the policeman.'

b. Context: Do you remember the policeman that Paul talked about?
YESTERDAY PAUL_{3a} PAM_{3b} $\text{POLICE\#PERSON}_{3b}$ SEE_{3b}
'Yesterday Paul saw the policeman.'

When SEE is used without PAM, as in (39a), the object receives an indefinite reading, although a definite reading is also possible. On the other hand, when SEE is used with PAM, like in (39b), the object is interpreted as being definite/referential. This is not surprising, as PAM is, as already mentioned, able to assign a referent a locus in space (cf. Pfau & Steinbach 2013: 208; Happ & Vorköper 2014: 102, 108). Note that similar examples can be constructed with other verbs, such as HIT, however, it should be noted that combining SEE and PAM is less acceptable when combined with a proper name than with an NP like POLICE#PERSON. The reason for this behavior warrants further study.

A final argument in favor of the idea that PAM is used as a differential object marker in DGS relates to its agreement behavior. As mentioned, the literature claims that PAM typically agrees with the subject and the object and that it is optionally possible that PAM shows only object agreement. In Southern DGS, however, PAM only shows object agreement, although it often appears as if there was subject-object agreement. In particular, PAM usually follows the subject in the clause-internal pattern. This leads to the situation in which the articulation of PAM starts out in the location in signing space in which the subject was signed. This, however, means neither that this has to be the case nor that this may not be different in other varieties of DGS (see Pfau & Steinbach 2013: 208 for an example of the clause-final use of PAM with clear subject-object agreement).

The examples in Figure 2 show that PAM does not agree with the subject and the object, but typically with the object only. The example in the top row shows the clause-final pattern and the example in the bottom row the use of the clause-internal pattern (note that the second example does not follow the regular SOV pattern, but the object has been preposed into a clause-initial position). The locations of the subject and the object are labeled "S" and "O" respectively in the figure for better orientation.

As pointed out by an anonymous reviewer, the facts described so far predict that PAM should look different in cases in which it is adjacent to the subject from cases in which PAM is not, such as the examples in (37b) and (37c), repeated here for convenience:

(40) a. PAUL_{3a} PAM_{3b} MARIA_{3b} ANGRY
'Paul is angry at Maria.'

b. PAUL_{3a} ANGRY PAM_{3b} MARIA_{3b}
'Paul is angry at Maria.'

Thus, it would be expected that PAM starts at the location in which the name Paul was signed as it follows PAUL in (40a). In (40b), where PAM follows the sign ANGRY, which is signed at the mouth region, it should start at exactly this lower face region. This is indeed the case, as can be seen in Figure 3, which shows the onset and endpoint of PAM in the examples in (40a) and (40b). While the starting point of PAM depends on where the previous sign ended, the endpoint needs to align with the object locus.

4.4 *PAM is triggered by affectedness not by phonological requirements*

As already hinted at, while the use of PAM is obligatory with some verbs, it is optional with others—in either case, however, the object referent must be animate. The question is now which verbs receive obligatory PAM-marking and for which such marking is optional. Most authors dealing with PAM-marking state that the group of verbs requiring PAM are plain (or single agreement) verbs. As discussed in the previous subsection, it is usually argued that plain verbs require PAM because they are unable to be marked for object agreement. This impression, however, may be created by the fact that the vast majority of verbs in DGS are non-agreeing (Steinbach & Pfau 2007: 310).

There are two arguments supporting of the argument that PAM-insertion is not triggered by verb type. First, there are plain verbs that do not allow for PAM-marking even when the

Figure 2: PAM typically agrees with the object—not with the subject and the object. The locations of the subject and the object are denoted by an 'S' and an 'O' respectively. The arrows indicate that PAM does not start at the subject's location in both cases.

Figure 3: The onset of PAM differs depending on where the sign preceding it is articulated. Again, the location of subject and object are marked. In the first case PAM starts at the same location as the subject because of an assimilation of location. In the second case PAM starts at the mouth region where the previous sign was produced and not on the subject's location. This means that the onset of PAM are instances of phonological assimilation, while the endpoints are instances of feature sharing/agreement. Note that the signers differ in handedness.

object referent is animate (e.g., TO-BE-SIMILAR/RESEMBLE, see below for details). Second, some agreeing verbs exhibit obligatory PAM-marking. A prime example of such a verb is ADVISE which obligatorily agrees with subject and object location and obligatorily combines with PAM. Two examples of the use of ADVISE are shown in Figure 4.

The top example shows that the sign ADVISE obligatorily agrees with the subject and object whereas the latter demonstrates that ADVISE is also able to show first person object agreement. Thus, ADVISE is a clear agreeing verb obligatorily combining with PAM and therefore a counterexample to the claim that PAM-insertion takes place because of phonological constraints. In addition to being an agreement verb requiring PAM-marking, the use of a non-inflected form of ADVISE is not well-formed—even when PAM is present.

Now I will turn to the question of which verbs obligatorily or optionally allow for PAM-marking. A (non-exhaustive) list of verbs combining with PAM is given in (41).

(41) ACCUSE, ADVISE, BE-ANGRY, BEAT, BE-DISAPPOINTED, BE-IN-LOVE, BE-NICE, BE-JEALOUS, BE-PLEASED, BE-PROUD, HATE, HIT, INSULT, KILL, SEE, LISTEN, KISS, KNOW, LOOK-AFTER, LOVE, PUNISH, TRUST, WAIT, WORRY

This class can be further split up into verbs which require PAM when the object referent is animate and verbs which optionally allow for PAM, again, when the object referent is animate. This is shown in (42).

(42) a. **Obligatory PAM-marking:**
ACCUSE, ADVISE, BE-ANGRY, BE-DISSAPOINTED, BE-JEALOUS, BE-NICE, BE-PLEASED, BE-PROUD, HATE, INSULT, KNOW, LOOK-AFTER, LOVE, PUNISH, SEARCH, TRUST, WAIT, WORRY

b. **Optional PAM-marking:**
BEAT, HIT, KILL, KISS, SEE, LISTEN

If we now try to map the verbs and their PAM-marking behavior onto Tsunoda's (1985) affectedness hierarchy described in Subsection 2.3 the following picture emerges: as in

Figure 4: The verb ADVISE is an agreeing verb requiring PAM-marking. The two examples show that the finger tips need to point in the direction of the object.

Turkish or Spanish, the verbs from the two lowest verb classes do not allow for PAM-marking even when the object is animate. This is illustrated for a relationship verb in (43).

(43) *PAUL$_{3a}$ PAM$_{3b}$ OTTO$_{3b}$ RESEMBLE
'Paul resembles Otto.' **Relationship class**

As in Turkish and Spanish, verbs of the pursuit, knowledge, and feeling classes obligatorily call for PAM-marking, as illustrated in (44).

(44) a. PAUL$_{3a}$ *(PAM$_{3b}$) MARIA$_{3b}$ WAIT
'Paul waits for Maria.' **Pursuit class**

b. PAUL$_{3a}$ *(PAM$_{3b}$) MARIA$_{3b}$ KNOW
'Paul knows Maria.' **Knowledge class**

c. PAUL$_{3a}$ *(PAM$_{3b}$) MARIA$_{3b}$ PROUD
'Paul is proud of Maria.' **Feeling class**

Finally, as in Turkish, the verb classes high on Tsunoda's hierarchy optionally allow for PAM-marking leading to differences in the presuppositional interpretation or in definiteness/referentiality as illustrated in (45), (46), and (47) (I remain agnostic about the exact terminology). This is also true for pure perception verbs like SEE.

(45) **Effective action class**

a. PAUL$_{3a}$ TEACHER$_{3b}$ HIT/KILL
'Paul hit/killed a/the teacher.'

b. PAUL$_{3a}$ PAM$_{3b}$ TEACHER$_{3b}$ HIT/KILL
'Paul hit/killed the teacher.'

(46) **Perception: +attained**

a. PAUL$_{3a}$ TEACHER$_{3b}$ SEE
'Pauls saw a/the teacher.'

b. PAUL$_{3a}$ PAM$_{3b}$ TEACHER$_{3b}$ SEE
'Paul saw the teacher.'

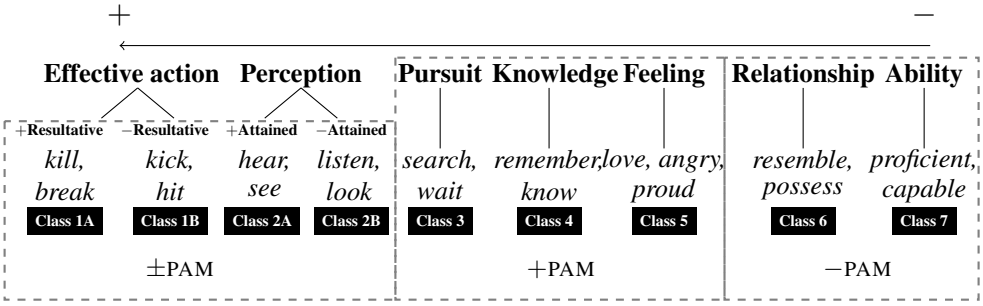
(47) **Perception: –attained**

a. PAUL$_{3a}$ TEACHER$_{3b}$ LISTEN
'Paul listened to a/the teacher.'

b. PAUL$_{3a}$ PAM$_{3b}$ TEACHER$_{3b}$ LISTEN
'Paul listened to the teacher.'

Taken together, Tsunoda's verb classes present the following picture when it comes to PAM-marking:

(48)



In some cases of these high verb classes, the use of PAM causes an additional interpretative difference that is related to the fact that it is not the subject and the object being agents, but that it is only the object that is being affected by the subject's action: with KISS, for example, PAM disambiguates between two meanings, one including an experiencer (the recepient of the kiss), as shown in (49).

(49) a. YESTERDAY MARIA$_{3a}$ PAUL$_{3b}$ KISS
'Yesterday, Maria and Paul engaged in kissing (each other).'

b. YESTERDAY MARIA$_{3a}$ PAM$_{3b}$ PAUL$_{3b}$ KISS
'Yesterday, Maria kissed Paul.'

While there is no goal of the kissing event in (49a), there is a goal in (49b) which is marked by PAM. This difference, of course, can also be formulated in terms of telicity and this conforms to the idea that differential object marking is involved in telicity differences. As described in Section 2.5, in Spanish, verbs which have a telic and atelic reading, like *kiss*, only allow for the telic reading when accompanied by differential object marking and receive an atelic reading when unmarked. Similarly, inherent telic predicates of the *insult*-class are typically marked in Spanish. This is exactly the same situation found in DGS: combining KISS with PAM leads to a telic reading while bare KISS is atelic (similar examples can be constructed by using the verbs MEET or HUG). Additionally, INSULT is an inherently telic verb and obligatorily combines with PAM. It may be that this telicity effect is better suited to describe PAM-insertion in these cases than affectedness as it is not exactly clear whether there is a difference in affectedness between, for example, (49a) and (49b) as Paul is affected by the kissing event in both cases (although he is an agent in the first example while this is not the case in the second example).

4.5 The role of the discourse referent

While it is clear that animacy plays a role in differential object marking in DGS there is another constraint: PAM-insertion is only felicitous given that there is a discourse referent—no matter if this referent is identifiable or not. This means that the direct object needs to refer to a conceptualizable referent. A good illustration of this is the comparison between *wh*-questions, indefinites, and negative indefinites. *Wh*-questions require the use of PAM when an animate direct object is asked for (50). The same is true for indefinites like 'someone' (51).

(50) PAUL ANGRY *(PAM$_{3a}$) WHO
wh
'At whom is Paul angry?'

(51) PAUL *(PAM$_{3a}$) SOMEONE ANGRY
'Paul is angry at someone.'

However, the use of PAM is disallowed when the direct object is a negative indefinite.

(52) a. PAUL NOBODY INSULT
'Paul insults nobody.'

b. *PAUL PAM NOBODY INSULT
'Paul insults nobody.'

These data indicate that the referent does not have to be identifiable by the signer (similar to, for example, Old Japanese; cf. Frellesvig, Horn & Yanagida 2018), but that it is required that the signer assumes that a discourse referent exists.

5 Object shift

While the previous sections have shown that different kinds of objects receive different markings in DGS, this section introduces another, related phenomenon linked to the behavior of different kinds of objects in DGS, namely object shift. It will also be shown that object shift and differential object marking often go hand in hand in DGS. I will first briefly introduce the phenomenon under discussion, namely object shift, and how it was analyzed for spoken languages. Then, after a short remark on previous research on object shift in sign languages, I will show that previous analyses of object shift can be transferred one-to-one to DGS. Finally, I will argue that object shift and PAM-marking often go hand in hand.

5.1 The indefinite/definite distinction and the mapping principle

Cross-linguistically, many languages allow for different positions for the direct object. For example, in Ukrainian, an SVO language, the direct object usually follows the verb, however, it is possible for the direct object to be moved into a structurally higher position, as shown in (53), taken from Mykhaylyk & Ko (2011: 218).

(53) *Ukrainian* (Mykhaylyk & Ko 2011: 218)

a. Taras čytaje knyžku.
Taras.NOM reads book.ACC
'Taras reads a book.'

b. Taras knyžku čytaje
Taras.NOM book.ACC reads
'Taras reads the/a certain book.'

What the examples illustrate is not only that it is possible in Ukrainian to move a direct object into a higher position, but that this object shift is tied to differences in interpretation. The observation that indefinite objects stay inside the VP, as in (53b), while definite objects are moved into a higher position outside of VP, as in (53b), is in fact cross-linguistically stable (Diesing 1992). This is rather obvious in Ukrainian as it is not only an SVO language but also because Ukrainian has no articles to indicate definiteness and thus indicates the definite-indefinite distinction by way of feature-checking which drives movement of the object into a structurally higher position. This effect can be observed in many different languages.

In German, for example, a language which mainly distinguishes definite from indefinite objects via definite and indefinite articles, object shift can also lead to differences in reading (see also Diesing 1992; Diesing & Jelinek 1995). This effect is illustrated in the minimal pair in (54).

(54) *German*

a. … dass Laurita **oft** einen Film anschaut.
… that Laurita often a.ACC movie.ACC watches
'… that Laurita often watches a movie (= different movies).'

b. … dass Laurita einen Film **oft** anschaut.
… that Laurita a.ACC movie.ACC often watches
'… that Laurita often watches a movie (= a specific one).'

The examples show two different ordering possibilities of direct objects vis-à-vis adverbs in German. The position of the direct object following the adverb *oft* 'often' is interpreted to be a VP-internal position and the position of the direct object preceding the adverb is considered to be a higher IP-internal position. In both examples in (54), an indefinite article is used. While the VP-internal object in (54a) receives a true indefinite reading, the same is not true for the structurally higher object in (54b), which receives a specific reading. Thus the sentence means that Laurita is watching a single specific movie several times. Similar contrasts can even be constructed with indefinite pronouns, as exemplified by (55).

(55) *German*

a. […] dass Lorenz **erneut** jemanden ansieht.
[…] that Lorenz again somebody at.look
'[…] that Lorenz is looking at somebody again (i.e., he is not looking at the same person again).'

b. […] dass Lorenz jemanden **erneut** ansieht.
[…] that Lorenz somebody again at.look
'[…] that there is somebody who Lorenz looks at again (i.e., the same person again).'

The examples show that an indefinite pronoun that is moved out of its VP-internal base position in German receives a specific or referential reading. Cross-linguistically, there are a total of two positions for the direct object: its VP-internal base position and a structurally higher IP-internal position. Moving the object into the higher slot leads to a more referential, more specific (Enç 1991; Bhatt & Anagnostopoulou 1996), more definite (De Hoop 2003), or a presuppositional interpretation (Diesing 1992). In the following I will leave the terminological question of which of these interpretations fits object movement

best or if this is a matter of inter-language variation open and simply conclude that this kind of movement is connected to a referentiality change.

To account for facts like those presented so far, Diesing (1992), following Kamp (1981) and Heim (1982), divides a quantificational structure into three parts:

i. **a quantifier:** indicating the number of entities participating in the action/state expressed in the proposition (by binding them),
ii. **a restrictor:** providing information about the participants that is presupposed, and
iii. **a nuclear scope:** asserting truth-conditional information about the participants.

A simple example of how this maps onto a sentence is given in (56).

(56)

(Quantifier$_x$	[Restrictor (x)]	[Nuclear Scope (x)])
Every	cat	eats fish

Syntactically, we can equate the restrictor with the TP/IP domain of a clause and the nuclear scope with the VP domain. This relation is called the Mapping Hypothesis or Mapping Principle (Diesing 1992; see also Herburger 1993; Jelinek & Carnie 2003; Carnie 2005) and can be formulated as follows:

(57) **Diesing's Mapping Principle**
   a. IP/TP material (and material above) is mapped into the restrictor of some operator (at LF).
   b. VP material maps into the nuclear scope.

What the Mapping Principle says is that specific indefinites and definites have to leave the VP, i.e., the nuclear scope, to receive a specific or definite reading. The nuclear scope is the area of existential closure (where a free variable *x* receives the interpretation 'there is an *x*'). This insight can be rephrased as follows (cf. Jelinek & Carnie 2003):

- only non-quantificational, non-presuppositional DPs bound by existential closure can stay inside the VP (or traces of moved DPs).
- quantificational, presuppositional DPs (such as specifics and definites) move out of the VP.

Note that it seems reasonable that languages may vary with respect as to which elements count as being presuppositional, and thus in some languages some DPs may stay inside the VP, and in other languages they must move out. On the whole I will follow Jelinek & Carnie (2003) in assuming a scale of presuppositionality: more local (see below), more definite, more specific, and more animate objects will be higher on this scale as speakers in discourse will tend to presuppose them. The term "local" is used here to refer to the locality of persons in the discourse. 1st and 2nd persons are considered to be more local (as they are present in the discourse) whereas 3rd person is judged to be less local (1st and 2nd person are usually presupposed and 3rd person is usually asserted).

5.2 A short note on the term "object shift" in the sign language literature

The terms "object shift" or "object raising" have been used in the sign language literature to refer to the possibility to prepose the direct object without any topic marker with verbs that either show agreement or are marked for aspect, a phenomenon found, for example, in American Sign Language (e.g., Liddell 1980; Matsuoka 1997; Braze 2004). However, in

this construction, the object is moved into a clause-initial position which is not the case in the data discussed in this article, which is concerned with a clause-internal landing site of objects relative to adverbs. While it has been observed that objects can be found preceding and following adverbs in sign languages (e.g., Quadros 1999 on Brazilian Sign Language), the novelty of the data presented here is that the different placement options are tied to the hitherto neglected difference in definiteness.

Thus, what will be discussed in the following subsection is that definite (or specific/presuppositional) direct objects are found in a structurally higher position in DGS than indefinite direct objects. Similar observations can be found for other sign languages in the literature (see also the work on definiteness in Catalan Sign Language by Barberà (2012; 2016)). Brazilian Sign Language, for example, is generally characterized as an SVO language, although SOV sentences are also frequently found (Quadros 1999). Napoli, Sutton Spence & de Quadros (2017) found that the use of SVO versus SOV sentences depends on the nature of the direct object. Following Schouwstra (2012), Napoli, Sutton Spence & de Quadros (2017) differentiate between extensional and intensional events where extensional events/verbs are defined as events in which the direct object needs to be a concrete existing object (e.g., 'boy eats apple') and intensional events are events in which there is no requirement for the direct object to be existent or specific (as in 'boy wants apple') (see also Schouwstra & Swart 2014). In a picture-elicitation task Napoli, Sutton Spence & de Quadros (2017) showed that extensional events triggered OV sentences while intensional events trigger VO structures in Brazilian Sign Language. While the authors mention the possibility that this pattern may arise due to leftward movement of the direct object, as it is cross-linguistically common, they explain their findings in terms of iconicity.

Additionally, it is a well-known fact that the animacy of the direct object also plays an important role in constituent-order not only in spoken languages, but also for the order of gestures produced by hearing non-signers as well as for signs in sign languages (see, for example, Meir er al. 2017). I return to the question of the relation between definiteness and animacy in Section 5.4.

5.3 Object shift in DGS

The generalization that DPs that move out of VP have a more specific (Enç 1991; Bhatt & Anagnostopoulou 1996), more definite (De Hoop 2003), more definite, or more presuppositional interpretation (Diesing 1992) than DPs that stay *in-situ* maps one-to-one to DGS. The behavior of object DPs is similar to that in other articleless languages like Ukrainian (53), as can be seen in (58).

(58) a. *Context: Paul is walking through the village and knocks on every door. First, he knocks on one door, then on a another.*
NOW PAUL **AGAIN** DOOR KNOCK
'Now, Paul is again knocking on a door.'

b. *Context: Two days ago, Paul knocked on the door. Yesterday Paul knocked on the door.*
NOW PAUL DOOR **AGAIN** KNOCK
'Now, Paul is again knocking on the door.'

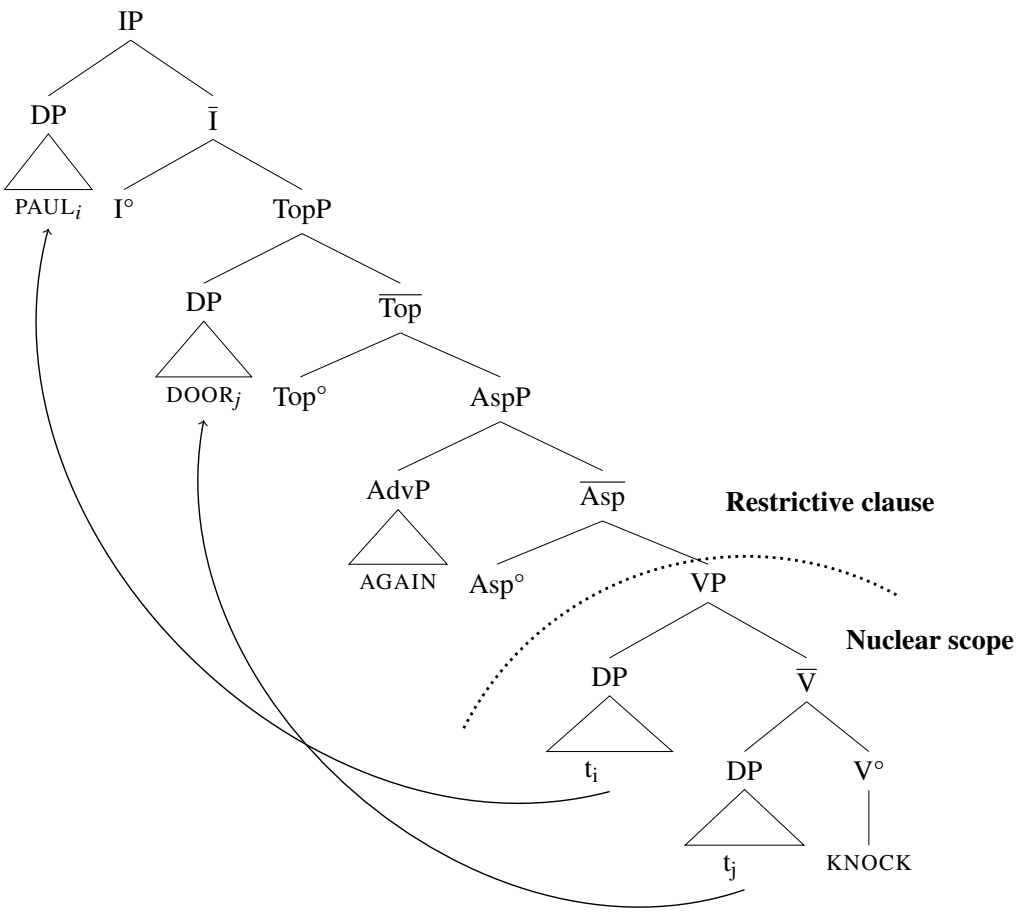
When talking about a non-given referent, such as the non-specific door in (58a), the object stays inside the VP (and thus follows the adverb). This is different in (58b), where the

object DOOR has moved into a structurally higher position. This can be seen from its position relative to the manual adverb sign AGAIN.

This pattern suggests that there is a rather high IP-internal landing site for objects which is connected to a referential, definite, or specific reading. The question is what the exact landing site is. Syntactically one could either assume that there is one specific landing site for objects for exactly this function (i.e., to receive a referential, definite, or specific reading). Alternatively, however, one could also postulate that the object moves into an IP-internal topic position (following, for example, Belletti 2004). I will follow the latter approach and will thus analyse this kind of object shift in a Cartographic framework (e.g., Rizzi 1997; Cinque 1999). Following Cinque (2006) and Bross (2020) I assume that the adverb OFTEN is located in the specifier of a functional projection labeled $\text{Asp}_{\text{frequentative(I)}}$ below Belletti's IP-internal topic position. The general idea is illustrated in the slightly simplified tree in (59).

The tree summarizes the findings of the present section, namely that the object (as well as the subject) needs to leave its VP-internal base position to receive a definite, referential, or specific interpretation in DGS. The area below the dotted line shows the domain of the nuclear scope and the area above the restrictive clause.[9]

(59)



[9] It should be noted, as an anonymous reviewer remarked, that Diesing's Mapping Principle should not be interpreted as accounting for specific/referential/definite readings in general because not all specific/referential/definite DPs need to be moved overtly out of the VP-domain.

5.4 The relationship between PAM and object shift

As discussed in Section 4.3, PAM always triggers a referential/definite reading. This predicts that PAM-insertion and object shift should go hand in hand. This prediction can be tested by looking at the position of adverbs and the direct object in PAM-sentences. As illustrated in (60), the natural position of adverbs is indeed after the object:

(60) PAUL_{3a} PAM_{3b} MARIA_{3b} OFTEN INSULT
'Paul often insults Maria.'

Note again that indefinite objects, regardless of whether they are inanimate or animate, follow the adverb as illustrated in (61), while definite objects precede them, as shown in (62).

(61) a. PAUL ALWAYS WOMAN THINK
'Paul always thinks of women.'

b. PAUL OFTEN CIGARETTES BUY
'Paul often buys cigarettes.'

(62) PAUL POSS_1 SHOE OFTEN LAUGH
'Paul often makes fun of my shoes.'

Thus, the use of PAM is often accompanied by object shift. This is explained by the previously mentioned fact that PAM receives a definite/referential interpretation as it assigns a referent a locus in space (Pfau & Steinbach 2013: 208; Happ & Vorköper 2014: 102).

6 Conclusions

In this paper I have illustrated two related phenomena which have not received much attention in the sign language literature despite playing a prominent role in the linguistic literature on spoken languages. In the first part of the paper, I claimed that the behavior of the sign PAM in Southern DGS clearly resembles differential object marking described for many of the world's languages and that it lines up with Tsunoda's hierarchy. This is in line with previous research proposing that so-called agreement auxiliaries like PAM are involved in differential object marking (Börstell 2017; 2019). The following two generalizations seem to hold true when it comes to PAM-marking in Southern DGS.[10]

- **Generalization 1:** PAM is obligatorily used with transitive verbs with a mentally/emotionally affected animate object. Examples include KNOW, ADVISE, LOVE, HATE, BE-ANGRY, BE-PROUD, TRUST, WORRY, BE-PLEASED, BE-JEALOUS, BE-DISAPPOINTED, BE-NICE, ACCUSE, INSULT.
- **Generalization 2:** PAM is optionally used with transitive verbs which are high on Tsunoda's hierarchy. Similar to Turkish, differential object marking is related to definiteness effects in these cases. Examples include BEAT, HIT, KILL, KISS, SEE.

In summary, I claim that PAM is not an auxiliary verb, but rather an element which resembles a preposition (expressing a relation between two arguments) which is used as a

[10] Note that the verb classes discussed here are very similar to the classes combining with the object pronoun in Israeli Sign Language described in Meir (2003). Meir identifies three classes combining with the pronoun: experiencer-subject verbs (e.g., ADMIRE), verbs of harm and negative affect (e.g., INSULT), and verbs which take a "content" object (e.g., TALK, ASK).

differential object marker. The triggers include animacy, referentiality/definiteness, and affectedness.

In the second part of the paper I have shown that DGS exhibits object shift and that definite direct objects move into a structurally higher position while indefinite objects stay in a structurally lower position. The higher position was tentatively identified with an IP-internal topic position. Finally, I demonstrated that PAM-marked objects are also found in a structurally higher syntactic position.

A final note concerns the question of the status of PAM in DGS varieties using the clause-internal and varieties using the clause-final pattern. While the claim that PAM is an auxiliary was mainly put forward for varieties using the clause-final pattern, the data from the clause-internal variety presented in the present article suggests that it is not an auxiliary. It may turn out that PAM indeed is an auxiliary in some dialects of DGS and not in others. Evidence for the verb-like status of PAM in the clause-final varieties stems from the fact that negation directly attaches to the sign (Pfau, Salzmann & Steinbach 2018), while my own (preliminary) data suggests that this is not possible in Southern DGS (although negation in Southern DGS also seems to behave in a different way from what was reported for DGS so far).

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Competing Interests

The author has no competing interests to declare.

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