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Differential object marking in sign languages

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Sign languages are sometimes claimed to lack argument marking, yet they exhibit many devices to track and disambiguate referents. In this paper, I will argue that there are devices found across sign languages that demonstrate how object marking is a prevalent property and that these devices show clear parallels to differential object marking (DOM) as described for spoken languages. This includes animacy/prominence effects on word order and verbal modification, as well as dedicated object markers used exclusively with [+human] objects. Thus, I propose that DOM phenomena need to be taken into account in any future research on sign language structure, but also that sign languages should be accounted for in typological work on DOM.

Keywords: Differential object marking; sign language; typology; animacy; prominence

1 Introduction

Differential object marking (DOM) has been a well-known linguistic phenomenon for decades (Bossong 1985). DOM concerns object marking that is only present when the object has some specific properties – that is, not all objects are marked in the same way. DOM is usually triggered by prominence, such that only animate or definite objects receive additional/differential marking. In Hebrew, for example, definite direct objects are obligatorily marked by the preceding object marker *‘et*, whereas indefinite direct objects receive no special marking – see Example (1).

(1) *Hebrew (Semitic)*

- a. ra’iti seret šel Spielberg
see:PST.1SG movie of Spielberg
‘I saw a movie by Spielberg.’
- b. ra’iti *(‘et) ha-seret šel Spielberg
see:PST.1SG OBJ DEF-movie of Spielberg
‘I saw the movie by Spielberg.’

The motivation behind DOM is one of markedness. The most common situation is that A arguments are prominent (i.e. animate and definite) while P arguments are not (i.e. inanimate and indefinite) (Comrie 1989). Because of this, languages may introduce overt marking to the marked construction, that is, when the object is highly prominent (Aissen 2003; de Swart, Lamers & Lestrade 2008; Seržant & Witzlack-Makarevich 2018). Thus, the idea of DOM is that the markedness results in an explicit flagging of arguments, which would in turn facilitate disambiguation of argument roles.

The concept of DOM was introduced by Bossong (1985), who noted that the DOM phenomenon could be found in at least 300 languages around the world. However, as with most typological phenomena, DOM has only ever been researched among spoken

languages and has thus never been investigated with sign languages taken into account. This is perhaps a consequence of sign languages often being claimed to lack argument marking altogether (cf. Gil 2014). In this paper, I will introduce several different properties of sign languages that point in the direction of DOM being an important phenomenon in language regardless of modality.

2 Argument marking in sign languages

There are close to 200 documented sign languages around the world, distributed across all continents except Antarctica, as is observed about the world's spoken languages – see Figure 1 showing the distribution of sign languages documented in Hammarström et al. (2016). Sign languages are generally underdescribed languages and the field of sign language linguistics is still relatively young (McBurney 2012). This situation has certainly played a part in why sign languages are rarely included in typological samples and are generally lacking from discussions about linguistic universals. For example, the *World Atlas of Language Structures* (Dryer & Haspelmath 2013), a typological database, only includes sign language data in designated unimodal chapters – i.e. never sampled together with spoken languages. To some extent, this may also be due to the fact that certain features of sign languages, by virtue of being articulated in a visual–gestural modality, make it difficult to compare properties of language structure across modalities.

Sign languages have been argued to at the same time have and lack grammatical complexity. For example, Aronoff, Meir & Sandler (2005) point to this paradox, saying that while sign languages exhibit complex simultaneous structure,¹ they lack some of the sequential morphology associated with grammatical complexity (e.g., inflections) – the lack of complexity is attributed to sign languages' young age. With regard to argument marking, it is claimed that sign languages fall closer to the simple than complex end of the complexity scale. In a survey comparing predication across creoles and sign languages, Gil (2014) samples 32 sign languages from across the world – using any fragmentary documentation available – to look at core argument flagging and tense/aspect/mood (TAM) marking. Gil concludes that the cross-linguistic pattern for sign languages (and creoles) is striking in that they seem to completely lack argument marking:

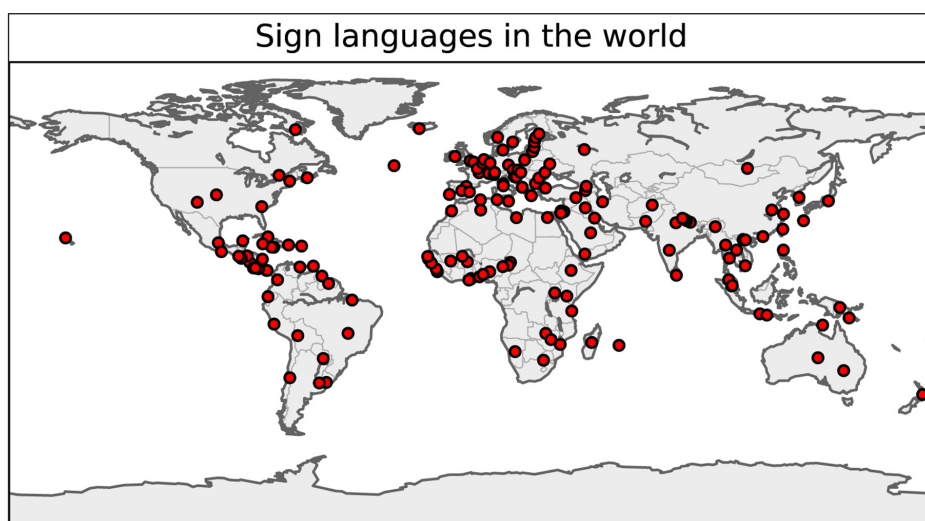


Figure 1: Sign languages in the world, based on Hammarström et al. (2016).

¹ Due to the multiple – partly individuated – articulators, sign languages can express many types of simultaneous constructions. For instance, the two hands may simultaneously articulate two different signs (see Vermeerbergen, Leeson & Crasborn 2007).

“All 32 sign languages have restricted or absent core-argument flagging and all 32 languages have optional TAM marking. With regard to the former feature, the generalization could perhaps be strengthened. In the course of the survey I encountered not a single instance of a sign language construction containing any kind of core-argument flagging, suggesting that ‘restricted or absent’ might be replaced by a simpler ‘absent’.” (Gil 2014: 46)

Gil does acknowledge that the generalization should be taken with caution, as his data come from fragmentary sources. Furthermore, Gil’s definition of argument flagging is based on marking “overtly expressed on at least one of the two core arguments”, and only concerns full noun phrases (NPs), not pronominal arguments (Gil 2014: 39). According to this definition, a language such as English would also lack argument flagging since it is only present in the pronominal paradigm. However, sign languages have been argued to lack argument marking even for pronouns:

“Case marking on nouns or pronouns in sign languages is also not very common. Grammatical relations between arguments tend to be marked either by the verb, by word order, or are not marked and only recoverable via pragmatic context.” (Cormier 2012: 234)

The one exception to this – also noted by Cormier (2012) – has been Israeli Sign Language, for which there is a dedicated object pronoun (Meir 2003). However, Börstell (2017) showed that a very similar pronoun – in terms of both form and function – is in use across most of the sign languages of the Nordic countries. Although this still does not challenge Gil’s argument in that this type of marking is confined to pronouns, these findings nonetheless point in the direction of at least some sign languages having overt argument marking strategies. The issue of dedicated object pronouns will be discussed in more depth later in this paper.

As mentioned by Cormier (2012) in the quote above, sign languages may also make use of verb marking or word order in order to distinguish argument roles. In the following, I will briefly describe argument marking/disambiguation with regard to word order, verb modification, and dedicated argument markers, and relate these types of strategies to DOM. Lastly, I will present the case of an object pronoun with differential distribution in Swedish Sign Language as a clear-cut case of DOM in a sign language. Thus, this paper aims to show how prominence, or more specifically animacy, is important for the organization of linguistic structure across sign languages, as it has been shown to be for spoken languages (e.g., Dahl & Fraurud 1996), and to argue for the existence of differential marking phenomena among sign languages, too.

2.1 Word order

Word order is a linguistic property that may be difficult to establish for sign languages. This is due to the possibilities of simultaneous constructions in the visual–gestural modality, in which multiple articulators (e.g., the two hands) may be producing different signs at the same time (Vermeerbergen, Leeson & Crasborn 2007), which has an effect on temporal sequencing:

“The articulatory aspect raises issues about chronological sequence and discreteness and links directly to the issue of modality. The fact that sign languages can express different aspects of information at the same time differentiates them from spoken languages (even when taking into account prosodic elements such as tone) in terms of the degree of simultaneity.” (Leeson & Saeed 2012: 246)

This is often discussed as one caveat for word order research on sign languages (Johnston et al. 2007; Leeson & Saeed 2012), which is complicated further by other types of complex structures (Emmorey 2003) – see also Section 2.2 below. Nonetheless, word order is one of the more well-studied parts of sign language structure. In a survey of 42 sign languages, Napoli & Sutton-Spence (2014) find that SVO and SOV are the most common word orders across their sample, a finding which reflects the most common word orders among spoken languages (Dryer 2013). However, Napoli & Sutton-Spence (2014) also conclude that there are a number of generalizations that can be made based on their sample of languages. For example, they find that SOV seems to be grammatical in all languages, at least for some constructions. Furthermore, they observe that SVO is often preferred in reversible constructions – that is, when the A and P argument referents are equivalent (e.g., if both are [+human]) and could switch roles without rendering the sentence semantically awkward. For instance, in Example (2) a and b are reversible, whereas c and d are not.

- (2) a. The woman saw the man.
 b. The man saw the woman.
 c. The woman saw the movie.
 d. ??The movie saw the woman.

Later work has also showed that word order in some sign languages is affected by properties such as an intensional/extensional distinction in verbs (Napoli, Sutton-Spence & Quadros 2017) or the complexity of verb modification (Napoli & Sutton-Spence 2014; Bjerva & Börstell 2016). However, it has been argued that animacy has an effect on the emergence of word order patterns. Meir et al. (2017) investigated word order patterns in three young sign languages. They found that arguments are introduced according to a “humans first” principle, which means that they even find OVS ordering with [+human] objects, an order that is extremely rare among the spoken languages of the world. In sentences with an inanimate object, SOV was preferred. The authors conclude that animacy – more specifically [+human] vs. [–animate] – is a key cognitive factor in the emergence of word order structure. The animacy effect on word order preferences has also been shown in a number of experimental studies using silent gesture tasks. Such tasks involve asking non-signers to invent *ad hoc* silent gestures (i.e. without simultaneous speech) to describe events. In these studies, certain word order patterns emerge that are generally not attested in the participants’ native language and the patterns are affected by the animacy of the arguments (e.g., Goldin-Meadow et al. 2008; Hall, Mayberry & Ferreira 2013; Hall et al. 2015).

Thus, there seem to be animacy effects on word order preferences across sign languages, motivated by disambiguation and [+human]-based prominence. Though not necessarily an instance of (differential) object marking in its own right, it shows that some of the very same motivations are at play in shaping sign language structure.

2.2 Verb modification

Since the early days of sign language linguistics, it has been known that verbs may be modified to “incorporate” features of arguments (e.g., Friedman 1976; Padden 1988).² This concerns two main types of modification: *directionality* and *classifiers*.

Directionality has been argued by some to be an agreement device, since verbs are directed in space to indicate who is doing what to whom, whereas others see it as a

² The issue of “feature incorporation”, particularly with regard to status of so-called “verb agreement” in sign languages, has sparked debate for many years – see Dotter (2018), Pfau, Salzmann & Steinbach (2018), and Schembri, Cormier & Fenlon (2018) for recent discussions.

reference tracking device of gestural origin (cf. Liddell 2011; Lillo-Martin & Meier 2011; Dotter 2018; Fenlon, Schembri & Cormier 2018; Pfau, Salzmann & Steinbach 2018). In short, a verb like GIVE may have a lexical citation form resembling a hand gripping an object and reaching out from the signer's own body outwards. In Figure 2, we see a citation form of a Swedish Sign Language sign for 'give'. The movement in the citation form depicts the signer giving something outwards and the handshape in this form would be appropriate for a small, flat object (e.g., a sheet of paper). However, when modified, the start and end points of the verb may be modified to mirror the locations of the argument referents, e.g., moving from the signer towards the side to denote 'I give him/her' (Figure 3), or moving between two locations away from the signer's body to mean 's/he gives him/her' (Figure 4).³

The handshape selected for a verb like GIVE would constitute the classifier, chosen to match the object of transfer (i.e. the Theme), sometimes argued to carry meaning by itself. For example, a verb like EAT may use a closed fist to denote eating a carrot or an

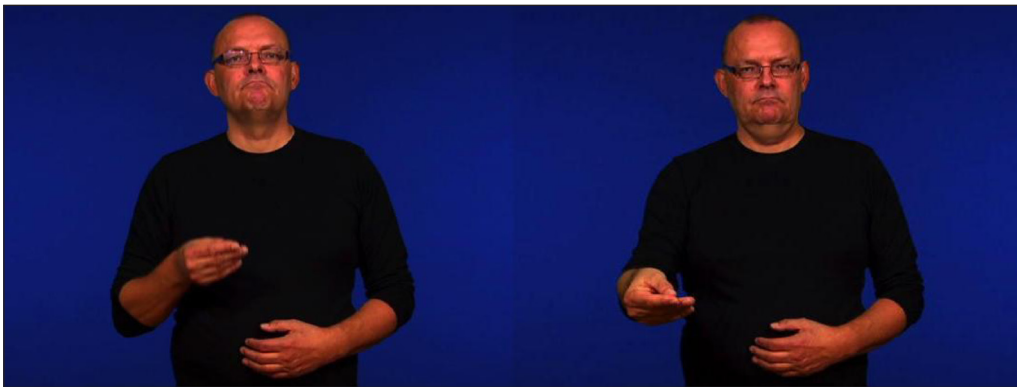


Figure 2: GIVE in Swedish Sign Language (SSL Dictionary 2018: 16369).

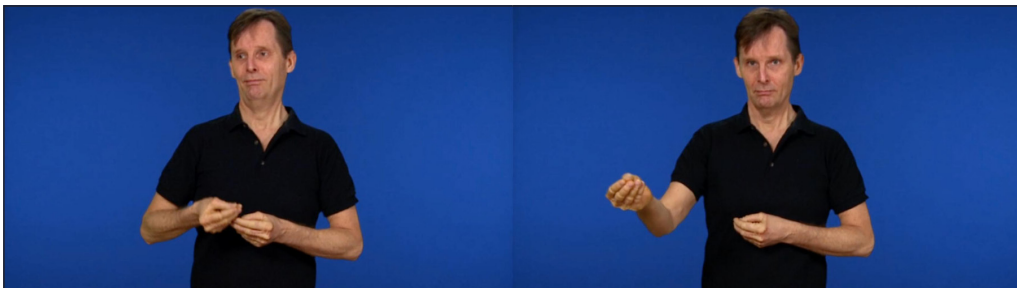


Figure 3: ${}_1\text{GIVE}_3$ ('I give him/her') (SSL Dictionary 2018: 16369).

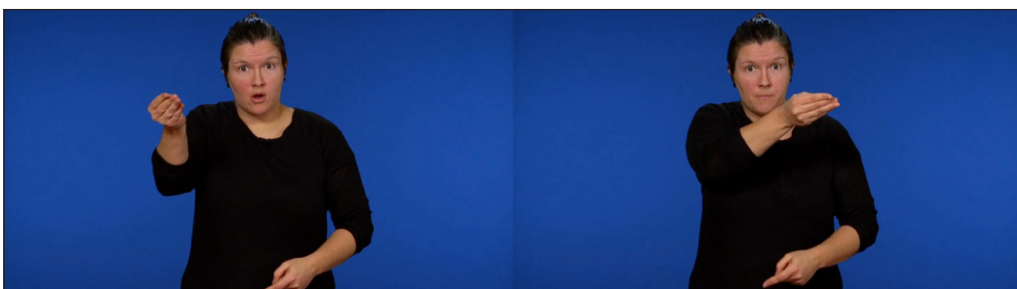


Figure 4: ${}_3\text{GIVE}_3$ ('S/he gives him/her') (SSL Dictionary 2018: 16369).

³ The number in the dictionary citation refers to the sign entry ID.

ice-cream, depicting how these objects are gripped, whereas eating an apple will require a cupped handshape, as if holding an apple. In the illustrated example figures, the giving action could not involve, e.g., a large box, as the handshape does not conform to the correct depiction of a large box being handled. This is why the handshapes have sometimes been argued to constitute classifiers, as they are selected based on semantic (physical shape) properties of the involved referent (Wilcox 1998; Emmorey 2003).

Börstell (2017) suggests that these two strategies – directionality and classifier handshapes – show different alignment, since they generally target different types of objects. Directionality often targets transitive P and ditransitive R arguments, whereas classifier handshapes target transitive P or ditransitive T arguments. The underlying motivation for this is one of semantics and iconicity, and this interacts with animacy. With ditransitive constructions, the transfer is normally made between people, whereas the object of transfer is generally inanimate.

What is noteworthy about verb directionality – across many sign languages – is that it appears to be strongly preferred with [+animate] arguments and it is rather the object that is indicated (i.e. directed towards), with subject indication being less frequent (cf. Rathmann & Mathur 2002; Mathur & Rathmann 2012; Pfau, Salzmann & Steinbach 2018). That is, if a verb is modified with respect to only one argument, it tends to be the object, suggesting that directionality is more of an object marking (or tracking) device than a subject marking device. Based on corpus data from British Sign Language, it was shown that object indication is more common than subject indication and also that directionality that indicates the object (or, rather, patient) appears to be preferred with 1st and 2nd person rather than 3rd person (Cormier, Fenlon & Schembri 2015; Fenlon, Schembri & Cormier 2018; Schembri, Cormier & Fenlon 2018). Again, this points to prominence of arguments affecting the patterns of marking. For American Sign Language, it has been shown that 1st person forms of certain directional verbs are irregular, hence being treated differently from any non-1st person form (Hou & Meier 2018). Fenlon, Schembri & Cormier (2018) argue that the preference for 1st person verb modification is directly grounded in the use of the body as representing one of the argument referents:

“Modification of indicating verbs is strongly associated with the signer’s body and whether the signer’s body is associated with an agent or patient argument. [...] We frequently see modification with first-person arguments because first person is strongly associated with the body and signers frequently conceptualize events from this perspective.” (Fenlon, Schembri & Cormier 2018: 106)

Thus, although there might be modality-effects in the motivations for directional modification, it is again apparent that it is a device that targets arguments (particularly objects) with certain features, and that these features overlap with those associated with DOM – in this case, animacy and person. Pfau, Salzmann & Steinbach (2018) note the differential marking patterns with directional modification in that it “is sensitive to the person, animacy and specificity value, e.g. is triggered only by local person, animate or specific arguments, [...] and represents an instance of differential argument encoding”.

Directionality concerns flagging on verbs rather than the arguments, which, with regard to differential marking patterns, has been found among spoken languages too – that is, properties of objects may affect which marking the associated verb takes. This is related to DOM and sometimes referred to as *differential object indexing* (DOI) (Iemmolo 2011). Although DOM and DOI share similarities and are often discussed as part of a similar phenomenon, it has been argued that there are diachronic and functional differences between them (cf. Witzlack-Makarevich & Seržant 2018).

2.3 Auxiliary verbs and argument markers

Verb directionality is found in many – if not most – sign languages of the world, but has not fully emerged in very young sign languages (Aronoff, Meir & Sandler 2005; Padden et al. 2010). However, some sign languages have developed dedicated markers for indicating argument roles, usually termed *agreement auxiliaries* (see Sapountzaki 2012). Such auxiliaries are independent elements used as directional verbs, that is, moved in space to indicate subject and object referents. They are often used when the verb does not allow for spatial modification due to phonological restrictions, normally because of having a body-anchored (i.e. contact with the signer’s own body) articulation.

In a survey of this type of auxiliaries, Sapountzaki (2012) finds that they are found in sign languages across the globe (see Figure 5), but show some cross-linguistic similarities in their grammaticalization path. The auxiliaries tend to come from three main types of sources: pronominal pointing signs, directional verbs (e.g., GIVE or GO-TO), or the sign PERSON. The former two have in common that they are already used with spatial modification, that is, they point in signing space. Interestingly, several sign languages have grammaticalized the noun PERSON into this type of auxiliary. Thus, even though the sign is not originally a pointing sign, it acquires the directional element and moves in signing space to indicate argument roles by moving from subject location to object location (like directional verbs) (Pfau & Steinbach 2013). It has been argued that this auxiliary is used preferably with animate objects and in ditransitive constructions it is modified according to the indirect rather than direct object (see Pfau, Salzmann & Steinbach 2018). Example (3) shows the use of the agreement auxiliary in German Sign Language, which has grammaticalized from the sign PERSON.

(3) *German Sign Language* (Rathmann 2003: 182; adapted glossing)

HANS_{3a} PERSON_{3b} MARIE_{3b} LIKE
 Hans_a AUX.3_a > 3_b Marie_b like
 ‘Hans likes Marie.’

Sapountzaki (2012) notes that several of these auxiliaries are restricted to constructions with [+human] arguments. Thus, they are not only more frequent with human referents – as seems to be the case with verb directionality in general – but are, in fact, *exclusively* used with human referents. This clearly suggests that animacy shapes sign language structure and more specifically so with regard to argument marking/indexing, mirroring the general DOM/DOI pattern.

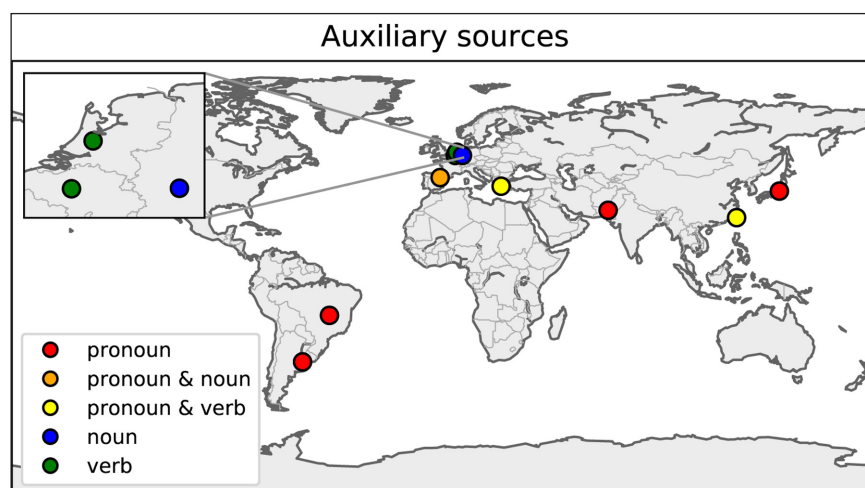


Figure 5: Sources of argument-tracking auxiliaries, based on Sapountzaki (2012).

For Spanish Sign Language, which also uses a PERSON-derived auxiliary, it is only the object referent that is indicated (Costello 2016). It has been claimed for German Sign Language, too, that it is only the object that is obligatorily marked by the PERSON auxiliary, but in both languages, the auxiliary may coincide with overt objects, thus suggesting that they are not object pronouns (Pfau & Steinbach 2013; Costello 2016). However, a more recent analysis of this sign in German Sign Language suggests that it *only* marks the object and, by virtue of being used solely with animate objects, it has thus been argued to constitute a DOM element (Bross 2018).

The above-described auxiliaries can be seen as dedicated argument marking/indexing devices, as their sole purpose is to indicate the syntactic relations between argument and verb. However, it is not marking *on* the arguments themselves and, as described previously (e.g., Cormier 2012; Gil 2014), sign languages seem to lack argument flagging, even when pronominal. The one exception is Israeli Sign Language, which has a dedicated object pronoun. That is, a pronominal sign used exclusively with syntactic objects, unlike the unmarked index point pronoun (which can be used for any argument role). This pronoun has grammaticalized out of the sign PERSON and is restricted to negative value verbs or psych-verbs with [+human] objects in the singular (Meir 2003). However, in a survey of 28 sign languages, based on grammar descriptions, dictionaries, and consultation with language experts, Börstell (2017) found that there are several candidates for dedicated object markers in other languages, some of which are identical in form and similar in function to the object pronoun in Israeli Sign Language. For example, in most of the sign languages of the Nordic countries – Danish Sign Language, Finland-Swedish Sign Language, Finnish Sign Language, Norwegian Sign Language, and Swedish Sign Language – there is an object pronoun derived from the sign PERSON, just as in Israeli Sign Language. Figure 6 illustrates the form of PERSON in Swedish Sign Language, a form which is shared across all the sign languages that use PERSON as an object pronoun, including Israeli Sign Language. Though the sign is derived from PERSON, Börstell (2017) shows how the form is reduced when used as an object pronoun in Swedish Sign Language, supporting the idea of having gone through a grammaticalization process. In all sign languages with PERSON as an object pronoun, the sign, which in its citation form is articulated forward in neutral signing space, is oriented towards the location of the referent. This means that the sign is indeed used as any pointing sign, equal to a simple index point, but also sharing



Figure 6: PERSON ('person') (SSL Dictionary 2018: 3640).

properties with the auxiliary forms in other sign languages. As a pointing sign, using it as a 1st person object pronoun entails articulating on the signer's own body (Figure 7).

In the six languages for which PERSON has grammaticalized into an object pronoun, its function is clear. The sign replaces a lexical NP, normally a known discourse referent, and always [+human], which points to its pronoun status as well as prominence being the important factor in its distribution. Though there are several indications that the pronoun function has indeed *grammaticalized* from PERSON (e.g., by being reduced), it is restricted to human referents, thus retaining some semantics of 'person' by denoting human referents. Apart from Israeli Sign Language, the sign languages with the object pronoun function of PERSON are all in Scandinavia, which may suggest a shared origin or language contact. There are unfortunately not yet any deeper analyses of the object pronoun in any of these Scandinavian sign languages apart from Swedish Sign Language (Börstell 2017), thus this specific case is described further in Section 2.4 below.

However, while the exact distribution and function of the sign in the different languages may differ, such as being used with a more or less diverse set of verbs or being restricted to singular reference (cf. Meir 2003; Börstell 2017), it does occur in the place of a lexical NP in the object position. In this respect, it behaves like a pronoun would and by being used exclusively with [+human] objects, it is an object pronoun that exhibits DOM distribution. In other cases, the unmarked index point would be used.⁴

It is noteworthy that the sign PERSON is so prevalent in this domain. In fact, Börstell (2017) notes that there are – at least – four categories of grammaticalization of PERSON (with the same form across languages) which all relate to argument marking, summarized in Table 1. These sign languages are mostly found in Europe (Figure 8), although this may reflect a bias in the sample, which is skewed towards sign languages that have been researched.

Apart from the object pronoun grammaticalization, the sign PERSON has in Lithuanian Sign Language and Russian Sign Language (possibly related languages) developed into a *reflexive* pronoun (Kimmelman 2009; LGKŽ 2012).

As previously described in this paper, PERSON is also the source for a so-called *agreement auxiliary* in some sign languages. Börstell (2017) lists four sign languages – Austrian Sign



Figure 7: PERSON₁ ('me') (SSL Dictionary 2018: 3622).

⁴ It seems the index point may always be used for any argument role, whereas the PERSON-derived pronoun is restricted to the object function (Meir 2003; Börstell 2017).

Table 1: Derivations of PERSON, based on Börstell (2017: 169).

Grammaticalization	Language
PERSON → agreement auxiliary	Austrian Sign Language
	Catalan Sign Language
	German Sign Language
	Spanish Sign Language
PERSON → case marker	Georgian Sign Language
PERSON → object pronoun	Danish Sign Language
	Finland-Swedish Sign Language
	Finnish Sign Language
	Israeli Sign Language
	Norwegian Sign Language
	Swedish Sign Language
PERSON → reflexive pronoun	Lithuanian Sign Language
	Russian Sign Language

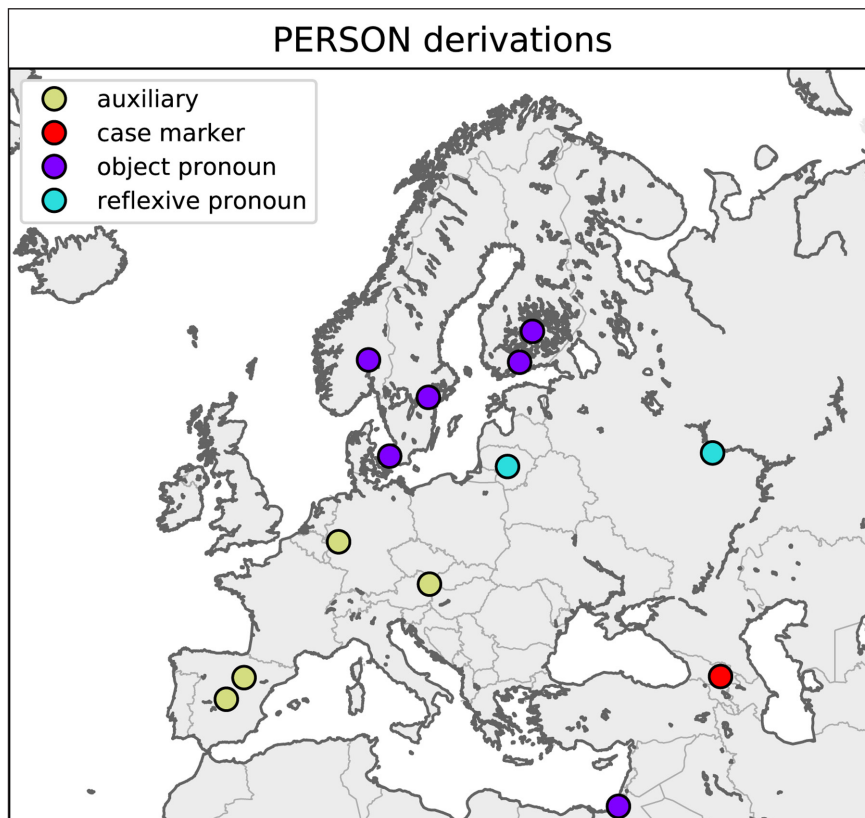


Figure 8: PERSON derivations, based on Börstell (2017: 170).

Language, Catalan Sign Language, German Sign Language, and Spanish Sign Language – in which PERSON has grammaticalized into an argument indicating auxiliary (Pfau & Steinbach 2013; Costello 2016; Krebs, Wilbur & Roehm 2017). Again, these signs tend to be restricted to [+human] or at least [+animate] (prominent) arguments.

Finally, in Georgian Sign Language, PERSON has developed into an ergative case marker. Like in the other languages, the sign is only ever used with [+human] referents, but it is never directed in space towards the location of its referent. Unlike the other languages,

Georgian Sign Language uses a form of PERSON that is cliticized to an NP and marks subject rather than object arguments (Tamar Makharoblidze, p.c.). Thus, it could be seen as an instance of differential subject marking (DSM) rather than DOM.

Apart from the PERSON derivations, Börstell (2017) also mentions the existence of indirect object markers in some sign languages. Fragmentary dictionary data and consultation with language experts suggest that such markers are found in at least Israeli Sign Language and Russian Sign Language (Börstell 2017: 162), for which the markers seem to function mostly as indirect/benefactive pronouns, expressing ‘to/for someone’. In Georgian Sign Language, which has been influenced by Russian Sign Language, there are two indirect object markers (Makharoblidze 2015), one of which is similar in form to the one used in Russian Sign Language. Thus, object marking in some sign languages seems to target indirect objects, too. Since indirect objects often have animate referents, this is also relevant with regard to the question of DOM and differential argument marking (DAM) more generally.

2.4 DOM in Swedish Sign Language

The structure of Swedish Sign Language has been studied since the 1970’s, making it one of the sign languages with the longest traditions of linguistic research (cf. McBurney 2012). Nonetheless, the fact that the language uses a dedicated object pronoun had not generated any extensive research until Börstell (2017), which explains why only Israeli Sign Language had been used as a counterexample to the general lack of case-like marking in the pronominal paradigm. However, in the earliest dictionary of Swedish Sign Language (Österberg 1916), the author notes that there – apart from index pointing – exists a “pronoun”, which according to the photo illustration is identical to the 1st person object form used today (see Figure 7). Unfortunately, no details are provided about the specific use of this sign at the time of publication of that early dictionary, but it is noteworthy that it was labeled a pronoun already a century ago.

Going deeper into the modern use of this sign in Swedish Sign Language, Börstell (2017) finds that the sign is used across signers in the Swedish Sign Language Corpus (Mesch et al. 2012), showing that it is not restricted to a certain register or lectal variation.⁵ Although it is used alongside the lexical noun PERSON, and a noun classifier with similar form, also derived from PERSON (cf. Bergman & Wallin 2001), the sign when used as a pronoun has a distinct form and distribution. For example, whereas the noun has a straight wrist when articulating the sign, the object pronoun often has a flicked wrist movement, which leads to a smaller, reduced articulation, pointing to grammaticalization. Furthermore, the mouthing – that is, the mouth articulation that may go along with a sign (Boyes Braem & Sutton-Spence 2001) – is most often formed by borrowing the mouthing pattern of the equivalent Swedish object pronoun, which includes a natural gender distinction (Börstell 2017: 138–140).

When it comes to function, the sign is used exclusively with [+human] objects (both P and R roles), like the corresponding sign in Israeli Sign Language.⁶ However, unlike the Israeli Sign Language pronoun, which restricts its object pronoun to specific verb domains, it is used with many different types of transitive verbs (see Example (4) and Figure 9).

- (4) *Swedish Sign Language* (Mesch et al. 2012: SSLC01_085, S010)
 POINT_{3a} KILL PERSON_{3b}
 3_a kill 3.OBJ_b
 ‘They killed him.’

⁵ In the Swedish Sign Language Corpus, the sign is glossed as OBJPRO.

⁶ The only exception seems to be personified [+animate] objects (e.g., animals in narratives), which may then also take this pronoun (Börstell 2017: 145).



Figure 9: POINT₁ LOVE PERSON₂ ('I love you') in Swedish Sign Language (SSL Dictionary 2018: 11923).

Besides being used with verbs, the sign also appears frequently directly following a manual preposition, mirroring the use of object pronouns triggered by prepositions in, e.g., Swedish. Like most other sign languages, lexical NPs are not marked in any way to signal argument roles. Thus, the object marking is restricted to pronominal arguments.

Another difference compared to Israeli Sign Language, and possibly different from the other Scandinavian sign languages using the PERSON-derived object pronoun as well, is that the object pronoun in Swedish Sign Language can be used with plural referents by adding a horizontal movement, known as “plural sweep” (cf. Pfau & Steinbach 2006). However, the plural form is restricted to 1st and 2nd persons, again pointing in the direction of prominence as a key factor in the distribution of object marking. For 3rd person plural, the index point with a plural sweep is used. Börstell (2017: 149–148) notes that, based on corpus data and native signer consultation, the index point *may* be used for the object function with [+human] referents. However, the reading of such constructions tends to be demonstrative, that is, referring to ‘that one’ rather than ‘him/her’ – compare Example (5) to Example (4) above.

- (5) *Swedish Sign Language* (Börstell 2017: 150; adapted glossing)
 POINT_{3a} KILL POINT_{3b}
 3_a kill 3_b
 ‘He killed him/that one.’ (pointing to a physically present body)

Though there are certainly similarities between Swedish and Swedish Sign Language that may be an effect of contact, there are also clear differences, such as the restriction to [+human] referents and lack of a 3rd person plural form in the object pronoun in Swedish Sign Language. In short, whereas Swedish has distinct object pronoun forms, the object pronoun in Swedish Sign Language exhibits a DOM distribution. The main points for arguing that this sign is a manifestation of DOM in Swedish Sign Language are:

- The sign is restricted to object functions.
- The sign is restricted to [+human] referents.
- The sign is restricted to 1st and 2nd person forms in the plural.

Thus, Swedish Sign Language with its dedicated object pronoun should be the clearest example of the DOM phenomenon in any sign language, seeing as its distribution is affected by prominence in terms of both animacy and person.⁷ However, as this paper has argued, there are a number of properties found in sign language structure cross-linguistically that

⁷ Whether other dimensions, such as specificity, are also relevant remains to be explored.

point to differential marking/indexing phenomena being at play, showing that they are indeed modality-independent.

3 Conclusion

In this paper, I have tried to illustrate how prominence, in particular animacy, affects the way many sign languages structure argument marking. This seems to be especially important when applied to the object argument, such that [+human] or [+animate] objects are treated differently than [–animate] ones. The consequences of this can be seen in terms of word order preferences, the use of verb modification (i.e. directionality), and the grammaticalization of dedicated object markers. I argue that these patterns show how important animacy is for language structure in general (cf. Dahl & Fraurud 1996) and that they demonstrate a clear parallel to the phenomenon of DOM. The use of dedicated object markers (auxiliaries and pronouns) should be considered direct manifestations of DOM in their respective sign languages, as they are exclusively used with [+human] or [+animate] objects, albeit not necessarily obligatorily. For the use of directionality, and possibly word order preferences, further study is needed to establish its interaction with object features, across sign languages. However, the research so far suggests that this might be an instance of DOI, as described for spoken languages (e.g., Witzlack-Makarevich & Seržant 2018).

Across sign languages, we see similar patterns in both form and functions of these different types of markers. For example, PERSON has grammaticalized into different elements, but which all share the function of exclusively marking [+human] arguments, mainly objects. This relates to DOM by targeting prominent or marked arguments and some of the original meaning ‘person’ is retained by being used with [+human] referents. As argued by Pfau & Steinbach (2013), the sign PERSON is ideal for indexical argument marking in general, as it is not phonologically body-anchored (i.e. not articulated on the body) and thus free to move in space, as other indexical signs in sign languages. Börstell (2017) points out that the grammaticalization from a noun with the meaning ‘person’ into reflexive (Huang 2000: 162) or personal pronouns (Heine & Kuteva 2002: 234) is known from spoken languages, as is the path from pronouns to agreement markers (Gelderen 2011: 493), which could suggest a link between the pronominal and auxiliary derivations of PERSON.

In conclusion, DOM phenomena are found among sign languages too. Prominent objects are treated differently than others, which is the main point of DOM as a linguistic phenomenon. As such, typological work on DOM – and typological research in general – should take sign languages into consideration to account for linguistic diversity. In the case of DOM, it seems that sign languages behave similarly to spoken languages, thus suggesting that these are preferences affecting linguistic structure regardless of the modality.

Abbreviations

A = Agent-like argument, AUX = auxiliary, DEF = definite, DAM = differential argument marking, DOI = differential object indexing, DOM = differential object marking, DSM = differential subject marking, NP = noun phrase, OBJ = object marker, P = Patient-like argument, PST = past tense, R = Recipient-type argument, SG = singular, T = Theme-like argument, TAM = tense/aspect/mood.

Subscript numbers, such as ₃GIVE₁, denote directionality (spatial modification) of verbs in sign language examples.

For a list of standard abbreviations, refer to the Leipzig glossing rules.

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Competing Interests

The author has no competing interests to declare.

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