

Transparency and language acquisition of Scandinavian^{*}

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This research surveys the degree of transparency of two related Scandinavian languages Norwegian and Swedish and the relation to learnability. Transparency is assumed to facilitate intelligibility and learnability, especially for adult L2 learners. Based on a set of opacity features formulated within the framework of Functional Discourse Grammar, the degree of transparency of the two languages is compared. The results show that the languages differ minimally with respect to transparency but that Swedish is more transparent in the placement of verbal arguments. The scarce cross-linguistic research on the acquisition of Scandinavian languages reviewed also shows that this is an area where learners differ, thus providing support for the hypothesis that transparency and learnability can be linked.

Keywords: complexity, Functional Discourse Grammar, learnability, Norwegian, Swedish, transparency

1 Introduction

The languages of the world are known to differ in their degree of transparency, i.e. in the extent to which they show one-to-one meaning-to-form mappings (Leufkens 2015; Hengeveld & Leufkens 2018). Thus, whereas some languages display many transparent one-to-one relations, others contain more opaque characteristics. The present study investigates if this definition of transparency can be used to predict differences in language acquisition of the two related languages Norwegian and Swedish. In the literature on language acquisition, linguistic complexity is often claimed to play an essential role in the acquisitional process. There is evidence that less complex features are the first to be mastered by young children acquiring their mother tongue. In contrast, children struggle with complex features of language for far longer (Slobin 1977,

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1980). It has been suggested that transparency as defined above, likewise is an important factor in the learnability of languages (Leufkens 2015; Hengeveld & Leufkens 2018). Support for the predicted relation between ease of acquisition and transparency comes from Leufkens (2013), who demonstrates that creoles, languages that emerge in contact situations between adults learning a second language (L2), are more transparent than their sub- and superstrate languages. Additionally, Olthof (2017) shows that there is a relation between language contact (i.e. situations with many L2 learners) and transparency.

The present study evaluates the degree of transparency of Norwegian and Swedish within the framework Functional Discourse Grammar (Hengeveld & Mackenzie 2008). Functional Discourse Grammar, presented in detail in Section 2, distinguishes four levels of linguistic organisation, i.e. an Interpersonal, Representational, Morphosyntactic and Phonological Level, which describe linguistic utterances in terms of their pragmatic, semantic, morphosyntactic and phonological characteristics, respectively. Transparency is accordingly defined as a one-to-one relation between units at each of these levels (Hengeveld 2011: 1; Leufkens 2015: 13). Based on this transparency definition, Leufkens (2015) has formulated a set of opacity features which all violate transparency in different ways. Languages that show a large number of these features are considered less transparent than languages that display only a few of such features. The hypothesis regarding ease of acquisition and transparency predicts that differences in acquisition are found between languages that vary concerning their degree of transparency. The present study investigates this connection by comparing two related languages on their degree of transparency. Focusing on the verbal domain, I examine the syntactic and morphological features of the Norwegian and Swedish verb phrase. This is not an experimental study, but I will attempt to link the degree of transparency in the different languages to trends in existing research on first and second language acquisition of the two languages. The central questions this article is concerned with are the following: Do Norwegian and Swedish differ regarding their degree of transparency within the verb phrase? Can we predict differences in acquisition of these languages on the basis of the transparency hierarchy and are these differences also observed in acquisition research?

This article is structured as follows. Section 2 is an introduction to (transparency in) Functional Discourse Grammar. Subsequently, Section 3 discusses transparency and complexity and their hypothesised relation to language acquisition. The method used in investigating the degree of transparency in Norwegian and Swedish is described in Section 4, and the results of this investigation are presented in Section 5. Finally, Section 6 discusses these findings, and tentatively argues that differences in the

acquisition of Norwegian and Swedish may be related to the degree of transparency these languages show within the verbal domain.

2 Transparency in Functional Discourse Grammar

2.1 Functional Discourse Grammar

Functional Discourse Grammar (FDG) is a functional linguistic theory and a typologically based model of language structure (Hengeveld & Mackenzie 2008). FDG occupies an intermediate position between radical functionalism and radical formalism. On the one hand, it aims to find explanations for linguistic structure (i.e. form and organisation of form); on the other hand, the framework is functional in the way that it looks for such explanations in the communicative function of language.

FDG is a model of verbal interaction that takes a top-down approach to language production starting with a communicative intention and ending in the articulation of an utterance. The framework has a central Grammatical Component that interacts with three non-grammatical components: a Conceptual Component, an Output Component, and a Contextual Component. Within the Grammatical Component, four independent but interacting hierarchically ordered levels of analysis are distinguished: the Interpersonal (IL), Representational (RL), Morphosyntactic (ML) and Phonological Level (PL). These levels of analysis account for pragmatics, semantics, morphosyntax and phonology, respectively. Two operations are central in the Grammatical Component: Formulation and Encoding; these operations govern the interaction between the layers as well as between the levels of the grammar. Formulation concerns the transformation of the non-linguistic message into pragmatic and semantic representations. The operation of Encoding further converts these representations into morphosyntactic or phonological units.

Although all levels and processes within the model interact with each other, it is not necessary for a message to pass through all levels of linguistic organisation within the model, an option that is essential for the formulation of the concept of transparency within FDG (Leufkens 2015: 13; Hengeveld & Leufkens 2018).

2.2 Transparency

We use language as a tool to map meaning onto form. As language is first and foremost a tool for communication, we would assume languages to be maximally transparent. For it to be successful as a communication instrument, we may expect language to display a transparent as possible relationship between meaning and form (Hengeveld 2011: 1). The framework of FDG helps

to operationalize transparency by defining it as a one-to-one relationship that should exist between units of linguistic organisation at all levels of organisation within the model. An utterance is entirely transparent if one unit at every level matches with precisely one unit at each of the other levels. An example of such a transparent relation between two levels, the Interpersonal and Representational Level, is given in Figure 1. The utterance here contains an act of reference, *the girl*, and an act of ascription, *reads*, at IL, that transparently matches an individual, *the girl*, and a predicate, *reads*, at RL.

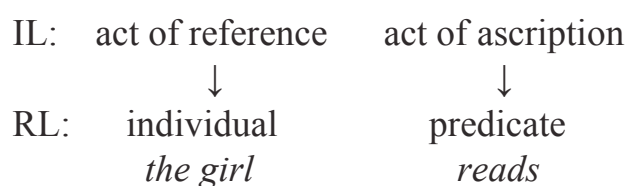


Figure 1: Transparent IL-RL relation

In natural language, transparency is continuously violated (Leufkens 2015); we use non-transparent or opaque forms all the time. In the operational definition described above, these violations are defined as mismatches between levels of the FDG-model: morphosyntactic or phonological forms might lack a semantic or pragmatic motivation, or we might attest multiple forms that account for a single function. E.g. the plural meaning of *these girls* is expressed at the Morphological Level both by the plural demonstrative as well as by the plural inflection on the noun. Through this definition of transparency, FDG allows us to study the overall degree of transparency of a grammar without being restricted to a single aspect of the grammar such as syntax or phonology.

In this way, transparency in FDG should be distinguished from the concepts of complexity and transparency as they are often used in acquisition research. Leufkens (2013, 2015) explains how to disentangle these concepts. In the linguistic tradition, especially in generative syntax and morphology, transparency is often understood as boiling down to full compositionality such that a linguistic form is transparent when it has the same exact meaning in each different morphological or syntactic component (2015: 15). Conversely, transparency in FDG is defined exclusively as a one-to-one relation between meaning and form. Complexity is frequently described as the amount of syntactic embedding that we find in a structure (cf. Strik & Pérez-Leroux 2002 for a definition within the Minimalist framework; Jakubowicz & Nash 2001 for a functional approach). The present research captures this type of complexity within the notion of transparency as well.

2.3 Opacity features

Leufkens (2015) uses four categories to classify non-transparent features: Form-based Form, Fusion, Redundancy and Discontinuity. In a typological study, Leufkens compares 22 languages with regard to their degree of transparency. Based on the results, she postulates an implicational hierarchy of non-transparent phenomena, which matches earlier findings in typology, diachrony and language acquisition. This section provides an introduction to some of these transparency features, i.e. those that are relevant to the verbal domain.

2.3.1 Redundancy: subject-verb agreement

Redundancy concerns all agreement and concord phenomena. This category covers one-to-two mappings of meaning onto formal units; hence, information is expressed multiple times. The mismatch occurs between RL and ML. Information that is often obligatory copied onto multiple units of the clause can be pragmatic (reference) or semantic (person, number, negation) in nature. For the present study, clausal agreement is the only relevant example of Redundancy. Clausal agreement concerns the redundant process of marking both the subject and the verbal predicate for reference (e.g. person, number, gender).

2.3.2 Fusion: verb alternation

Two types of stem alternation are not Form-based Form features but instead lead to Fusion. Fusion concerns all mappings of multiple meanings onto a single form. There is thus a two-to-one relation between the pragmatic or semantic unit and the formal unit. An example from the nominal domain is the English word pair *bad-worse*, where we observe the suppletive simplex form *worse* expressing both the meaning of the stem *bad* as well as the comparative meaning of the adjective. This word pair is an example of morphologically conditioned stem alternation, which involves a mismatch (many-to-one) between RL and ML. An example within the verbal domain is the verb *to be* in English with the first person singular form *am*, second person singular *are* and third person singular *is*. These verb forms are non-derivable from other forms and are therefore non-transparent.

Irregular stem formation is another example of Fusion and also a subcategory of morphologically conditioned stem alternation. This category covers verb stems that are alternated by a.o. modification of the vowel or consonant mutation, while other (supra)segmental modifications can also play a role. Again, there is a mismatch between RL and ML: both a grammatical and a lexical meaning are expressed by an irregular stem.

2.3.3 *Form-based Form: verb alternation*

Non-transparent aspects of verb forms can be situated under two categories described in Leufkens (2015), namely Form-based Form and Fusion. Form-based Form concerns form without meaning; as such, there is a zero-to-one relation between meaning and form. A Form-based Form is inserted in the grammar at the level of morphosyntax or phonology and has no correspondence with any higher level. Form-based Forms thus have no pragmatic or semantic motivation. Examples of these forms outside the verbal domain are marking of grammatical gender on nouns (2015:70), insertion of nominal expletive elements (2015:71) and changes in word order based on morphosyntactic weight (2015:79). Five Form-based Form categories can be distinguished within the verbal domain: three concerning alternation of affixes and two concerning alternation of stems. Table 1 on the next page gives an overview of these features.

2.3.4 *Discontinuity: verb placement*

In a transparent language, one would expect that what belongs together is expressed together. Discontinuity concerns relations between a meaning unit and a morphosyntactic unit that is in some sense split-up into multiple parts. The relation between meaning and form is thus one-to-one, but the placement of the forms is non-transparent. The type of discontinuity that is investigated in this research is not described in the implicational hierarchy of Leufkens (2015) and concerns a split between multiple parts of the verbal predicate (finite verb – past participle/infinitive). This split comes about when other constituents intervene between multiple elements of the predicate. There is thus a mismatch between RL and ML: elements semantically belonging together are expressed non-adjacently.

3 Complexity, transparency and language acquisition

3.1 *Transparency and ease of acquisition*

Transparency is preferable not only for a native speaker communicating but also from the perspective of a language learner. The term transparency is frequently used in the linguistic literature with differing implications, for example within the subfields of theoretical linguistics and language acquisition. In theoretical linguistics, transparency defined as an optimal property of languages is often seen as the driving force behind language change (Lightfoot 1979; Dahl 2004).

Table 1: Form-based form features in FDG (Leufkens 2015) relevant within the verbal domain.

Feature	Definition	Example
Morphologically conditioned affix alternation	RL-PL: phonological form of affix dependent on the morphological category of the stem and not on its semantic or phonological characteristics	Latin, nominal suffixes <i>-a</i> , <i>-us</i> , etc. (Leufkens 2015: 84): form depending on declension class of the noun
Morphophonologically conditioned affix alternation	RL-PL: phonological form of an affix dependent on the morphophonological characteristics of the stem it attaches to	Dutch, plural suffix <i>-en</i> or <i>-s</i> (Leufkens 2015: 91): form dependent on whether the stem is stressed or not
Phonologically conditioned affix alternation	RL-PL: phonological form of affix dependent purely on phonological context without restrictions to morphological context or semantics	Dutch, past tense suffix <i>-te</i> or <i>-de</i> (Leufkens 2015: 94): form dependent on voicing of final consonant of the stem
Morphophonologically conditioned stem alternation	RL-PL: phonological form of stem dependent on form of adjacent morpheme	Hungarian, imperative suffix (Hengeveld 2007: 39), stem-final <i>-t</i> is palatalised under the influence of IMP suffix <i>-s</i> . köt köš-s tie- tie-2SG.IMP.INDEF ¹
Phonologically conditioned stem alternation	RL-PL: phonological form stem dependent on phonological shape of (near-)adjacent phoneme	Dutch, place and manner assimilation in noun compounding (Leufkens 2015: 87), <i>tand</i> ‘tooth’ /tant/ + <i>pasta</i> ‘paste’ /pasta/ > [tampasta]

Within acquisition research similar views are adopted; it is often argued that L1 learners have a preference for transparent structures, which are therefore acquired first (Andersen 1982). This claim is made by many for L1 acquisition, e.g. Anderssen & Westergaard (2010) discuss that monolingual acquisition of Norwegian variable word order is constrained by (an avoidance of) syntactic complexity; Aksu-Koç & Slobin (1985) observe that clarity of semantic mapping probably facilitates acquisition. Likewise, in L2 acquisition, complex forms are argued to be difficult to acquire (e.g. Blom et al. 2008). Kusters (2003) similarly provides evidence that transparent structures are easier to learn

¹ Glossing according to the Leipzig Glossing Rules (<http://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf>). Abbreviations: 1, 2, 3 = first, second, third person; COMP = complementizer; DEF = definite; F = feminine; INDF = indefinite; INF = infinitive; M = masculine; N = neuter; NEG = negation; PL = plural; PRS = present; PST = past; PTCP = participle; SG = singular.

than non-transparent ones not only for L1 but for L2-learners as well. Logically, the problems that L2-learners have with deviations from transparency are more significant than for the prototypical L1-learner. In his 2003-dissertation, Kusters supports this claim by showing that transparency is favoured in open communities that have a rich history of second language acquisition. This relation between transparency (now in the FDG-definition) and acquisition is also argued by Olthof (2017) who shows that in contact settings with many adult L2 learners, languages tend to show increasing transparency in FDG. Transparency seems to be a crucial factor in language acquisition and can help determine a language's degree of learnability.

The degree of transparency of different languages can be established with typological research, as exemplified by the earlier mentioned implicational hierarchy of transparent features in Leufkens (2015). Leufkens (2015) and Hengeveld & Leufkens (2018) argue that transparency, as defined within FDG, is an important factor contributing to the L1-learnability of languages. Given that transparent structures facilitate intelligibility and ease of acquisition, the placement of languages along the transparency hierarchy can be interpreted in terms of the ease or difficulty with which they will be acquired, thus challenging the axiom that all languages are roughly equally difficult. Hengeveld & Leufkens point out that one may expect the process of language acquisition to follow the path indicated by the transparency hierarchy, going from maximally transparent to maximally opaque features. This claim has not yet been tested. Concluding, it seems a reasonable assumption that languages that systematically show one-to-one relations between meaning and form are easier to learn.

3.2 Acquisition of the Scandinavian verb phrase

Here I will briefly review some of the literature available on the acquisition of Scandinavian, limited to the verb phrase. The related Scandinavian languages offer an excellent testing ground for a cross-linguistic study of acquisition. The fact that these languages are typologically extremely similar, makes it possible to focus on variation along specified domains. Unfortunately, though there is some systematic comparative research available on first language acquisition of e.g. article placement and omission between Swedish and Norwegian (Kupisch et al. 2009, Strömqvist et al. 1995), even less comparative research is available for L2 acquisition. Glahn et al. (2001) provide one example of such a study however. They test the acquisition of three phenomena, including subordinate clause negation placement, by L2 Danish, Norwegian and Swedish learners. Looking at the order of acquisition of the different phenomena, Glahn et al. show that the placement of negation in the subordinate clause was commonly acquired before differentiating placement in main and embedded clauses (2001:397). Little difference was found between the acquisitional profiles for

Danish, Norwegian, and Swedish. Two other phenomena related to the verb phrase that differ cross-linguistically in the Scandinavian languages are Subject and Object Shift. Subject and object shift refer to the position of subjects and objects in front of negation and other predicate adjuncts under certain conditions (Holmberg 1986). Again, the literature on acquisition of these word order phenomena has mostly been limited to child L1 acquisition but no cross-linguistic studies have been conducted. Two studies are available that discuss L2 acquisition of subject and/or object shift: Didriksen (2016) shows for Norwegian that L2 learners (learning Norwegian for two months – 3 years) have solid knowledge of when to shift the object with full DPs but make more mistakes with pronouns. Furthermore, competence rises with higher proficiency. Westendorp (2018) compares two groups of Dutch students at the University of Amsterdam learning either Norwegian or Swedish. The results of a grammaticality judgement task of 70 sentences with object or subject shift show that the two groups do not differ from each other, but both groups differ significantly in their acceptance across conditions from control groups of native speakers in either language for subject, but not for object shift.

Summarizing, very few cross-linguistic studies of acquisition of Scandinavian are available. Notably, studies that do take a cross-linguistic perspective investigate precisely the phenomena where the languages are apparently minimally different such as placement of adverbs and verbal arguments.

4 Method

4.1 Norwegian and Swedish

Norwegian and Swedish are the official languages of Norway and Sweden, respectively, but the spoken vernaculars form a continuum throughout mainland Scandinavia along with Danish. The high degree of mutual intelligibility within the Scandinavian speaking area is a result of a long history of cultural and political coexistence. All three languages Norwegian, Swedish and Danish have SVO and V2 orders. Furthermore, they have about the same amount of inflectional and derivational morphology - less than German, but more than English (Glahn et al. 2001; Haugen 1987). The languages are very closely related and have similar verbal morphology and clausal syntax.

Norway has two different written standard languages: *Bokmål* ('Book language') and *Nynorsk* ('New Norwegian'). The main linguistic differences between these two standard languages lie in the morphology (Haugen 1993:116). There are many varieties of Norwegian; numerous different dialects are spoken all over Norway. In this article, the written standard *Bokmål* will be

used in examples, and dialectal variation will be mentioned where relevant to the transparency features.

Swedish is an official language both in Sweden and in Finland, and there are multiple varieties of Swedish. The standard variety of Swedish is called *standardsvenskan*. This variety is most neutral (both geographically and sociolinguistically) and is used in public and official contexts (Svenska Språknämnden 2005:11). This standard variety of Swedish is used in examples throughout this article. Differences between Finland Swedish (also called *Fenno Swedish*) and *standardsvenskan* will be highlighted whenever they are relevant to the study of transparency.

4.2 Cross-linguistic study of transparency

This research follows the method used by Leufkens (2015) in investigating the occurrence of opacity features described in Section 2 in Norwegian and Swedish. Both reference grammars and native speaker judgements are used to determine which opaque and transparent features these two languages exhibit. It is important to keep in mind that transparency is a gradual, rather than a binary notion (Leufkens 2015: 14) and it is therefore crucial to investigate to which extent each opacity feature appears. As this study investigates two highly similar languages, it is probable that differences in transparency lie in the extent to which particular opaque features occur rather than in the presence or absence of such features.

5 Opacity in Norwegian and Swedish

In this section, the opacity features relevant to the verbal domain in Norwegian and Swedish are presented.

5.1 Redundancy

5.1.1 Clausal agreement

Norwegian (1) has no affixes expressing person and/or number of the subject on the verb; verbal affixes only express tense. The same holds for Swedish (2). For this reason, there is no clausal agreement in the verbal domain for person and number features.

- | | | | | | | | |
|-----|----|----------|----------|------------|----------|-----------|----------|
| (1) | a. | jeg | snakk-er | du | snakk-er | vi | snakk-er |
| | | 1SG | talk-PRS | 2SG | talk-PRS | 1PL | talk-PRS |
| | | 'I talk' | | 'you talk' | | 'we talk' | |

- | | | | | | | |
|----|-----|------------|-----|--------------|-----|-------------|
| b. | jeg | snakk-et | du | snakk-et | vi | snakk-et |
| | 1SG | talk-PST | 2SG | talk-PST | 1PL | talk-PST |
| | | 'I talked' | | 'you talked' | | 'we talked' |
-
- | | | | | | | |
|--------|-----|----------|-----|------------|-----|-----------|
| (2) a. | jag | baka-r | du | baka-r | vi | baka-r |
| | 1SG | bake-PRS | 2SG | bake-PRS | 1PL | bake-PRS |
| | | 'I bake' | | 'you bake' | | 'we bake' |
-
- | | | | | | | |
|----|-----|-----------|-----|-------------|-----|------------|
| b. | jag | baka-de | du | baka-de | vi | baka-de |
| | 1SG | bake-PST | 2SG | bake-PST | 1PL | bake-PST |
| | | 'I baked' | | 'you baked' | | 'we baked' |

Since number and person are not marked on the verb, pro-drop is restricted in both languages. In fact, a visible subject, expletive or real, is required in all finite clauses (Holmberg & Platzack 2008: 433; see (3)). Cross-reference is not possible, as the verb cannot be realised without an argument.

- (3) *(Jeg) se-r Maria. [Norwegian]
 1SG see-PRS Maria
 'I see Maria.'

5.2 *Fusion*

5.2.1 *Morphologically conditioned affix alternation*

Both Norwegian and Swedish have two main conjugation classes: weak and strong verbs. Norwegian verbs are divided into four conjugation classes on the basis of the form of their stem. The majority of Norwegian verbs are inflected for past tense by means of a suffix (weak verbs), strong verbs are inflected through vowel alternation of the stem without any suffixation (see 5.3). The group of weak verbs is further divided into four groups based on the past tense inflection they take. Hence, this affix alternation is morphologically motivated.

Swedish, like Norwegian, makes a distinction between weak verbs and strong verbs. Again, the affix alternation is morphologically motivated. The group of Swedish weak verbs can be further divided into two different conjugation classes of verbs that are distinguished by their stem form. Unlike in Norwegian, the weak verbs are split into different conjugation classes on the basis of their stem.

5.2.2 *Morphophonologically conditioned affix alternation*

Norwegian and Swedish both show morphophonologically conditioned affix alternation but differ in the amount of variation that these affixes show. In

Norwegian, weak verbs are inflected for past tense by adding an inflectional morpheme to the stem of the verb. The weak verbs can be divided into three main subclasses (conjugations) as can be seen in Table 2. There are two main classes of weak verbs; the first class takes the past tense affix *-et/-a* (*-a* is more frequent in speech) (group 1) while the second class the affixes *-te/ -de/-dde* (groups 2 and 3). Verbs are divided into the different conjugations based on characteristics of their stem. Verbs of group 1 have a stem that ends with a consonant cluster that in pronunciation would be hard to combine with an affix that also starts with a consonant (Faarlund et al. 1997: 482). If the stem of a weak verb ends on a single consonant (in the phonetic sense) or a diphthong, the verb will be in group 2a or b. Lastly, verbs of group 3 have stems that end on a stressed vowel (Faarlund et al. 1997: 485). With weak verbs, these past tense inflections are dependent on the stem of the verb. In the second class of weak verbs, there is assimilation of voicing for past tense affixes. E.g. in verbs with a voiced consonant (2b) at the end of the stem Norwegian has *-de* in the past tense; when the stem ends on a single stressed vowel *-dde* (2c) is used and in all other cases *-te* (2a). The same morphophonologically conditioned principles apply to the formation of the participle.

Table 2: Overview Norwegian verb conjugation classes for ‘weak’ verbs

Class	infinitival	stem	present tense	simple past	participle	meaning
1	å snekre	snekr-	snekr-er	snekr-et/-a	snekr-et/-a	‘to put together’
2a	å kjøre	kjør-	kjør-er	kjør-te	kjør-t	‘to drive’
2b	å leve	lev-	lev-er	lev-de	lev-d	‘to live’
3	å bo	bo-	bo-r	bo-dde	bo-dd	‘to live/stay’

Swedish verbs in the first conjugation have a stem that is identical to the infinitive. A subdivision can be made between verbs that have a stem ending on *-a* (group 1a) (Teleman et al. 1999a: 558) and verbs with a stem ending in a different stressed vowel (group 1b) (Teleman et al. 1999a: 560). This difference influences the past affix: *-de* v. *-dde*. The second group of verbs has a stem ending on a consonant; consequently, the infinitive and stem are not identical. Again, this group can be subdivided on the basis of the past affix which is alternated on the basis of phonological characteristics of the stem. These affix alternations apply to the verbal domain only and are therefore instances of morphophonological affix alternation. Table 3 gives an overview of the conjugations.

Table 3: Overview Swedish verb conjugation classes for ‘weak’ verb

Class	infinitival	stem	present tense	simple past	participle	meaning
1a	att baka	baka-	baka-r	baka-de	baka-t	‘to bake’
1b	att sy	sy-	sy-r	sy-dde	sy-tt	‘to sew’
2a	att stänga	stäng-	stäng-er	stäng-de	stäng-t	‘to close’
2b	att läsa	läs-	läs-er	läs-te	läs-t	‘to read’

In Swedish, the form of the past tense affix in present tense is predictable from the stem. Within the first conjugation, the form of the affix is dependent on the phonology of the stem: if the verb stem ends with an unstressed consonant the affix is *-de* (class 1a); if the verb stem ends with a stressed consonant, the affix is *-dde* (class 1b). Within the second conjugation, affix alternation is also phonologically conditioned: if the verb stem ends with a voiced consonant the affix is *-de* (class 2a); if the verb stem ends with a voiceless consonant, the affix is *-te* (class 2b). Finally, the participle is formed on the basis of a different phonological condition than the simple past: all verbs except for those ending on a stressed vowel get the affix *-t*, verbs in group 1b get the affix *-tt*. All above conditions are morphophonological as they only apply within the verbal domain.

5.2.3 Phonologically conditioned affix alternation

Norwegian and Swedish display several phonologically conditioned stem alternations both within and outside the verbal domain. In Norwegian, phonologically conditioned affix alternation is visible in the formation of the present tense. The present tense is formed by adding either *-r* or *-er* to the stem of the verb. The affix *-r* is used in cases where the stem ends with a stressed vowel (Faarlund et al. 1997: 483) though there are some exceptions; *-er* is used in all other cases. Similar alternations where a suffix vowel is deleted to prevent an unpronounceable cluster, are productive also in other linguistic domains: e.g. *et øye* ‘an eye’ – *øy-ne* **øy-ene* ‘eyes’ (eye-PL.DEF). Therefore, this alternation is purely phonologically conditioned.

Similarly, in Swedish, the affix for present tense varies in the two groups of weak verbs. The first conjugation in Swedish includes verbs where the present tense has the affix *-r*; in verbs within the second conjugation, the present tense affix is *-er*. This alternation, where there is vowel deletion to prevent formation of a vowel cluster after a stem-final vowel, is also productive in other linguistic domains. Therefore this alternation is purely phonologically conditioned. An example from the nominal domain is: *en sko* ‘a shoe’ – *sko-r* **sko-er* ‘shoes’ (shoe-PL.INDEF).

5.2.4 Morphophonologically conditioned stem alternation

Both Norwegian and Swedish show morphophonologically conditioned stem alternations in past participles of strong verbs under the influence of the past participle suffix: *drikk-er* drink-PRS ‘drink’ – *drukk-et* drink-PTCP ‘drunk’ (Norwegian) and *skriv-a* write-PRS ‘write’ – *skriv-it* write-PTCP ‘wrote’.

5.2.5 Phonologically conditioned stem alternation

Norwegian and Swedish both exhibit phonologically conditioned stem alternation in the verbal domain, but only very few verbs are subject to this type of alternation. In Norwegian, the final consonant of the stem is optionally deleted when a cluster of three consonants arises as the obstruent-initial tense suffix *-te* is added to a stem ending in two consonants (Kristoffersen 2000: 109), cf. (4a). The same happens in Swedish with verb stems ending in *-j* before a suffix starting with a dental plosive (Teleman et al. 1999b: 563), cf. (4b).

- | | | | | |
|-----|----|------------|-----------------------|-------------|
| (4) | a. | tenk-e | tenk-te | [Norwegian] |
| | | think-INF | think-PST | |
| | | ‘to think’ | ‘thought’ | |
| | | [teŋ.kə] | [teŋ.ktə] or [teŋ.tə] | |
| | b. | spörj-a | spor-de | [Swedish] |
| | | ask-INF | ask-PST | |
| | | ‘to ask’ | ‘asked’ | |

5.3 Form-based Form

5.3.1 Suppletion

The languages are equal in transparency regarding suppletion, as both only show suppletion in the paradigm of the verb ‘to be’. I.e. Norwegian *være* ‘be-INF’, *er* ‘be.PRS’, *var* ‘be.PST’ and *vara* ‘be-INF’, *är* ‘be.PRS’, *var* ‘be.PST’ for Swedish.

5.3.2 Irregular stem formation

As mentioned above, verbs in both Norwegian and Swedish show morphologically conditioned alternation. Norwegian strong verbs are inflected for past tense by changes in their stem form (Faarlund et al. 1997: 480). The most frequent alternation concerns modification of the stem vowel (ablaut). An example is *bit-e* bite-INF ‘to bite’ – *be(i)t* bite.PST ‘bit’.

Such vowel alternation for past tense stems is also typical for Swedish strong verbs, e.g. in the following infinitival – past tense combinations *bjuda* – *bjöd* ‘to offer’, *springa* – *sprang* ‘to run’ and *flyga* – *flög* ‘to fly’. On the basis of

the stem vowel, different subclasses of strong verbs can be distinguished (Holm & Lindgren 1977: 96). This category of stem formation involves a formal process without any pragmatic or semantic motivation and is thus a purely morphologically conditioned process.

5.4 *Discontinuity*

Concerning discontinuity, there are subtle differences between Norwegian and Swedish. This section is therefore divided into five smaller paragraphs that address different discontinuous structures within the Scandinavian verbal predicate. Subsequently, the differences between the two languages are laid out.

5.4.1 *Verb second*

Both Norwegian and Swedish are verb second (V2) languages. All Norwegian dialects exhibit V2 word order in declarative main clauses (Westergaard & Vangsnes 2005). The finite verb appears as the second constituent in main clauses in Norwegian, regardless of what the first constituent is. The reasons for placing a particular constituent in the initial position are most often pragmatic (e.g. focussing or topicalising a constituent) (Holmberg & Platzack 2008: 422). Some examples of V2-word order are given in (5) – (9):

- (5) Jeg ha-r kjøp-t en ny bok-Ø. [subject]
 1SG have-PRS buy-INF DET new book-INDF.SG
 ‘I have bought a new book.’
- (6) Henne ha-r jeg sett forrige uke-Ø. [direct object]
 3SG.F.ACC have-PRS 1SG see.PTCP last week-INDF.SG
 ‘I have seen her last week.’
- (7) Fra universitet-et kom de sjeldent. [PP complement]
 from university-DEF.SG come.PST 2PL rarely
 ‘They rarely came from the university.’
- (8) At hun lage-t mat, viss-te han ikke. [CP complement]
 COMP 3SG.F make-PTCP food know-PST 3SG.M NEG
 ‘He did not know that she had cooked.’
- (9) Heldigvis gå-r tog-et snart. [adverbial]
 luckily go-PRS train-DEF.SG soon
 ‘Luckily, the train will leave soon.’

The same goes for Swedish: Wechsler (1991) shows that the finite verb is always the second constituent in main clauses in Swedish, regardless of what the

first constituent is. If a non-subject is positioned initially in a clause, subject and finite verb must invert (1991: 177), cf. (10):

- (10) a. Hon köp-te en ny bil-Ø idag.
 3SG.F buy-PST INDF new car-INDF.SG today
 ‘She bought a new car today.’
- b. Idag köp-te hon en ny bil-Ø.
 today buy-PST 3SG.F INDF new car-INDF.SG
- c. *Idag hon köpte en ny bil-Ø.
 today 3SG.F buy-PST INDEF new car-INDF.SG
- d. *En ny bil-Ø hon köpte idag.
 INDF new car-INDF.SG 3SG.F buy-PST today

Norwegian and Swedish are restricted-V2 languages and thus have the V2-requirement in main clauses only. This distinction is shown in (11a) and (11b/c) for Norwegian in the difference between the order of verb and negation/adverb (in bold). In matrix sentences, sentential adverbs like *ikke* ‘not’ follow the finite verb; the verb follows the negation or adverb in embedded clauses (Faarlund et al. 1997:890):

- (11) a. Han tvil-er **ikke** på det.
 3SG.M doubt-PRS NEG on 3SG.N
 ‘He does not doubt that.’
- b. Han tvil-er på [at hun **ikke** ha-dde mø-tt Jon].
 3SG.M doubt-PRS on COMP 3SG.F NEG have-PST meet-PTCP John
 ‘He doubts that she has never met John.’
- c. *Han tviler på [at hun hadde **ikke** møtt Jon].
 3SG.M doubt-PRS on COMP 3SG.F have-PST NEG meet-PTCP John

The data above show that in Norwegian, the verb in the embedded sentence cannot appear before the negative element *ikke* (11c). The V2-requirement holds for interrogative sentences in Standard Norwegian too, which in the case of content questions start with an initial interrogative phrase:

- (12) a. Hvem kjøp-te en bok-Ø? [Norwegian]
 who buy-PST INDEF book-INDF.SG
 ‘Who bought a book?’

- b. Vem köp-te en bil-Ø? [Swedish]
 who buy-PST INDEF car-INDEF.SG
 ‘Who bought a car?’

The same is true for Swedish where the V2-requirement holds for interrogative sentences starting with a question word (12b); interrogative word order thus aligns with word order in declarative main clauses (Teleman et al. 1999b: 733). It is important to acknowledge that the word order of *wh*-questions in Norwegian is subject to considerable variation across types of *wh*-questions and across different dialects (cf. a.o. Westendorp 2014, 2017; Westergaard et al. 2017).

5.4.2 Adverb placement

Most (temporal, modal or place) adverbs are placed either sentence-initial or sentence-final in Norwegian.

- (13) a. I fire år ha-r Anna bo-dd i København.
 in four year.INDEF.PL have-PRS Anna live-PTCP in Copenhagen
 b. Anna ha-r bo-dd i København i fire år.
 Anna have-PRS live-PTCP in Copenhagen in four year.INDEF.PL
 ‘Anna has been living in Copenhagen for four years now.’
- (14) Hon ska träffa honom imorgon.
 3SG.F shall.PRS meet.INF 3SG.M.ACC tomorrow
 ‘She will meet him tomorrow.’

If no intervening adverbs (including the negation) are present, finite verbs and past participles or infinitives are placed together in both languages. As shown in (14) for Swedish, the object follows the verb phrase.

In Swedish, temporal adverbs are often placed sentence initially, while place and manner adverbs are most often sentence final:

- (15) På torsdag-arna ät-er vi ärtsoppa.
 on thursday-DEF.PL eat-PRS 1PL pea_soup.INDEF
 ‘We eat pea soup on Thursdays.’
- (16) Han drick-er mjölk i kök-et.
 3SG.M drink-PRS milk.INDEF in kitchen-DEF.SG
 ‘He is drinking milk in the kitchen.’

However, a couple of sentence adverbs can usually occur mid-sentence between the finite and non-finite verb both in Norwegian (Faarlund et al. 1997: 808) (see (17)) and Swedish (Teleman et al. 1999b: 90). Sentence adverbs are often described as adverbs that are syntactically constituents of the clause and outside of the VP (Harbert 2007: 372). Though some of these adverbs can also occur in the initial position (17b), they cannot occur sentence finally (17c) in Norwegian. Some examples of this type of adverbs are *aldri* ‘never’, *ikke* ‘not’, *nok* ‘probably’ and *kanskje* ‘perhaps’ (Faarlund et al. 1997: 810).

- (17) a. Jeg ha-r aldri/ikke snakk-et med ham.
 1SG have-PRS never/not talk-PST with 3SG.ACC
 ‘I have never/not talked to him.’
- b. Aldri/ikke ha-r jeg snakk-et med ham.
 never/not have-PRS 1SG talk-PST with 3SG.ACC
- c. *Jeg ha-r snakk-et med ham aldri/ikke.
 1SG have-PRS talk-PST with 3SG.ACC never/not
- (18) (Kanske) Petter ha-r kanskje se-tt det før (*kanske)
 maybe Peter have-PRS perhaps seen-PTCP 3SG.N before maybe
 ‘Peter has perhaps seen this before.’

Unlike Norwegian (cf. (18)), Swedish allows such adverbs to occur in all available adverb positions (Teleman et al. 1999b: 89):

- (19) (Kanske) Kalle ha-r (kanske) gått till skol-an (kanske).
 maybe Kalle have-PRS maybe go.PTCP to school-DEF maybe
 ‘Maybe Kalle has gone to school.’

Summarizing, similarly for both languages, if there are multiple different types of adverbs in a sentence, these must occur in the order place adverb – time adverb (Harbert 2007: 373). In Swedish, a manner adverb must precede the other types of adverbs; in Norwegian, the placement of manner adverbs is less restricted.

5.4.3 Negated objects

In Norwegian, if the object is negated it cannot be placed after the non-finite verb. Negated objects must be placed directly after the finite verb. The negative indefinite pronoun can thus end up in a position between finite and non-finite verb (20a); a far more common strategy still is to split up *ingen* ‘nothing’ into the negation *ikke* and *noen* ‘any’ (20b) (Faarlund et al. 1997: 712).

- (20) a. ?Han ha-r ingen penge-r fått.
 3SG.M have-PRS nothing money-INDF.PL got.PTCP
 ‘He did not get any money.’
- b. Han ha-r ikke fått noe penge-r.
 3SG.M have-PRS NEG got.PTCP any money-INDF.PL
 ‘He did not get any money.’

However, negated objects in Swedish behave differently in this respect; these objects can occur in the position of the negation in front of the verb (Teleman et al. 1999b: 21). This structure is ungrammatical in Norwegian.

- (21) Björn ha-de ingenting köp-t.
 Björn have-PST nothing buy-PTCP
 ‘Björn has not bought anything.’

5.4.4 Particle verbs

In particle verb constructions - verbs with a preposition that can occur isolated without a prepositional object - a potential object can be placed either after the verb and its particle or in between in Norwegian (Faarlund et al. 1997: 446). This can be seen as a type of discontinuity at a local level (see (22a)). When the object is a weak pronoun, the object must be placed before the particle in Norwegian (Holmberg & Platzack 2008: 427) (see (22b)):

- (22) a. Han fyl-te (skjema-et) ut (skjema-et).
 3SG.M fill-PST form-DEF.SG out form-DEF.SG
 ‘He filled out the form.’
- b. Han fyl-te (den) ut (*den).²
 3SG.M fill-PST 3SG.N out 3SG.N
 ‘He filled it out.’

In Swedish particle verb constructions, the object cannot be placed between the verb and its particle (23a). Even when the object is a weak pronoun, the object still follows the particle (Holmberg & Platzack 2008: 427):

² In Northern Trøndelag, the order verb – particle – argument is possible as well:

Og da kjørt inn han i en sånn strømboks.
 and then drive into 3SG.M in INDF such electricity_box
 ‘And then he drove into a power box.’ (Lundquist 2017)

- (23) a. Vi häng-de upp en tavla-Ø (*upp).
 1PL hang-PST up INDEF sign-INDEF.SG up
 ‘We hung up a sign.’
- b. Vi häng-de upp den (*upp).
 1PL hang-PST up 3SG.N up
 ‘We hung it up.’

5.4.5 Reflexives

Both word orders in the Norwegian particle verb construction (22a) are equally accepted (pc. M. Berg-Leirvåg January 2015). If a particle verb is combined with a reflexive pronoun (see (24)), the word order in which the reflexive precedes the particle is decidedly preferred.

- (24) De legg-er (seg) ned (?seg).
 3PL lie-PRS REFL down REFL
 ‘They lie down.’

When there is no verb particle in a reflexive verb construction, the verb and the reflexive pronoun are placed together. In natural reflexives (in the definition of Alexiadou & Schäfer 2014) such as *å vaske seg* ‘to wash oneself’, the verb and reflexive occur adjacently. In inherent reflexives - where the reflexive is a true component of the verb and not an object – there is no discontinuity either, see (25b):

- (25) a. Han vask-er seg flere ganger om dag-en.
 3SG.M wash-PRS REFL several times on day-DEF.SG
 ‘He washes himself several times a day.’
- b. Hun skyn-de seg til skolen.
 3SG.F rush-PST REFL to school.DEF.SG
 ‘She rushed to school.’

If however, the subject is not in sentence initial position, it is placed between the verb and the reflexive pronoun, see (26a). No other word orders are possible.

- (26) a. Og da skyn-de hun seg til skolen.
 and then rush-PST 3SG.F REFL to school.DEF.SG
 ‘And then she rushed to school.’
- b. *Og da skyn-de seg hun til skolen.
 and then rush-PST REFL 3SG.F to school.DEF.SG

Like in Norwegian, if in Swedish the particle verb construction is combined with a reflexive pronoun, the pronoun precedes the particle. This is the case for both natural reflexives (27a) as well as for inherent reflexives (27b).

- (27) a. Han utsett-er sig för (*sig) något.
 3SG.M expose-PRS REFL of REFL something
 ‘He exposes himself to something.’
- b. De använd-er sig av (*sig) något.
 3PL use-PRS REFL of REFL something
 ‘They make use of something.’

The order verb – particle – reflexive (as well as the REFL – particle order) is accepted in Finland Swedish, a non-standard variety of Swedish spoken by speakers in Southern Finland. This difference has been attributed to interference from Finnish influencing the phrasal stress pattern in Finland Swedish. That is, unlike in *standardsvenskan* where verb and particle form a single prosodic unit, particle verb constructions in Finland Swedish have stress both on the verb and the particle (Kuronen & Leinonen 2001, Kvist Darnell & Wide 2002). According to data from the Nordic Dialect Corpus (2009), some older informants in Sweden also accept this non-standard order alongside the Standard-Swedish form.

However, the word order possibilities for reflexive verbs without an additional verb particle are similar in Finland Swedish and Standard Swedish. The following sentence (28) comes from a Swedish newspaper in Finland (Korpus Korp 2012):

- (28) I börja-n av december gav sig det sista stridande förbandet.
 in start-DEF of december gave.PST REFL3SG.N last fighting unit.DEF
 ‘In early December, the last fighting unit gave up.’

As shown in the example above, if the subject is in another position than the sentence-initial position, there is no discontinuity in the inherent reflexive verb *ge sig* ‘give up’ in Finland Swedish. The reflexive pronoun is instead placed directly after the finite verb with the subject following the entire verbal constituent. This sentence is also grammatical in Standard Swedish (pc. Y. Loorents; A. Ölander January 2015).

However, there is an additional possibility in Standard Swedish where the (full DP) subject is between the verb and the reflexive. An example of this is given below; sentence (29a) comes from Finland Swedish (Jansson 1962/1989:

12) and the same sentence is given in Standard Swedish in (29b) (pc. A. Ölander January 2015).

- (29) a. Men i kväll kän-de sig Snusmumriken säker på sin visa.
 but tonight feel-PST REFL Snusmumriken sure on 3SG.POSS song
 ‘But tonight, Snusmumriken felt sure of his song.’
- b. Men i kväll kände Snusmumriken sig säker på sin visa.
 but tonight feel-PST Snusmumriken REFL sure on 3SG.POSS song
 ‘But tonight, Snusmumriken felt sure of his song.’

Both orders in (29) are accepted in Standard Swedish, which thus has two possibilities in word order for reflexive verb constructions: one with (29b), and one without discontinuity (29a). The order in (a) is often preferred and considered more natural, because there is no ‘break in the fluency’ (pc. Y. Loorents January 2015). It seems that Finland Swedish, which only allows (29a), has a preference for always repairing the non-transparency by adjoining verb and reflexive.

5.4.6 Differences

Norwegian and Swedish differ in the treatment of particle verbs in combination with objects. In Norwegian, weak pronominal objects occur before the particle (30a); the verb order in (30b) is not possible in Norwegian but is correct in Swedish (31).

- (30) a. Han **plukke-t** den **opp**. [Norwegian]
 3SG.M pick-PST 3SG.N up
- b. *Han plukke-t opp den.
 3SG.M pick-PST up 3SG.N
 ‘He picked it up.’
- (31) a. *Han plocka-de den upp. [Swedish]
 3SG.M pick-PST 3SG.N up
- b. Han **plocka-de** **upp** den.
 3SG.M pick-PST up 3SG.N
 ‘He picked it up.’

If the object is a full noun phrase, the particle can occur either before (30a) or after the object (30b) in Norwegian, though the second order is preferred and the

first order is rarely found (Larsson and Lundquist 2014). This variation is not possible in Standard Swedish (31). Though again, Finland Swedish allows the particle to be placed after the object in transitive particle verbs (Kvist Darnell & Wide 2002). With full DPs, Swedish shows no variation (33). Norwegian (32) allows both the order verb – particle – object and verb – object – particle. Lundquist and Larsson (2014) show that this variation is dependent on the type of DP, directional particle verbs (such as (32)), directional verbs in combination with another PP and abstract particle verbs (*skjelle ut* ‘call out’) are attested with different word order preferences.

- (32) a. Han **plukke-t** en bok **opp**. [Norwegian]
 3SG.M pick-PST INDF book up
 ‘He picked it up.’
- b. Han **plukke-t** **opp** en bok.
 3SG.M pick-PST up INDF book
 ‘He picked it up.’
- (33) a. *Han plocka-de en bok upp. [Swedish]
 3SG.M pick-PST INDF book up
- b. Han **plocka-de** **upp** en bok.
 3SG.M pick-PST up INDF book
 ‘He picked up a book.’

We might reason that this difference in placement of the verbal particle is a difference in local discontinuity within the verb phrase between Norwegian and Swedish. Thus, we can conclude that Norwegian allows more discontinuity at this level than Swedish.

A second difference between the Norwegian and Swedish verb phrase is the placement of reflexives as exemplified in (34). Like in particle verb constructions, the particle must adjoin to the verb in Swedish here as well. The reflexive is consequently placed after the particle verb construction. In Norwegian however, a reflexive can be placed in both positions, though the order verb – reflexive – particle is more common.

- (34) a. Elv-en breder (**seg**) ut (**?seg**). [Norwegian]
 river-DEF spreads REFL out REFL
 ‘The river is spreading out.’

- b. Flod-en breder (*sig) ut (sig). [Swedish]
 river-DEF spreads REFL out REFL
 ‘The river is spreading out.’

In reflexive verb constructions without any verb particle, Norwegian and Swedish have different word order possibilities. If the subject is not in sentence-initial position, it must be placed between the verb and the reflexive pronoun in Norwegian (see (26a) above). In Swedish reflexive verb constructions, the subject can either be placed between verb and pronoun or after the pronoun (see (29)).

5.5 *Summary of results*

The literature shows that the Mainland Scandinavian languages (Danish, Norwegian and Swedish) have almost identical syntactic properties on the sentential level (Holmberg & Platzack 2008:450). The most prominent differences are claimed to be within the internal syntax of the noun phrase, where the Scandinavian languages display great variation. In this article, the focus has been on the verbal, not the nominal, domain. It has been shown that in the verbal domain the languages differ as well. The findings presented in the previous paragraphs of this section are summarised in Table 4. This table gives an overview of the non-transparent features discussed in this article as attested in Norwegian and Swedish. The non-transparent category ‘discontinuity’ introduced in Section 2 of this article has been further specified to account for the subtle differences between the two related languages. The plus sign ‘+’ indicates that an opaque feature is attested.

The findings summarised in Table 4 show that Norwegian and Swedish are relatively similar concerning the (morpho)syntactic features of the verbal domain, a claim also made by a.o. Holmberg & Platzack (2008). From Table 4 we can draw the following conclusions: Swedish and Norwegian are equal when it comes to the transparency of affix and stem alternation: both languages show opaqueness in their verb forms. Furthermore, both languages are transparent in clausal agreement. On the other hand, the two languages differ within the non-transparency domain of Discontinuity: Norwegian shows discontinuity at a local level in multiple constructions where Swedish does not.

Table 4: Overview opacity features in the verbal domain

Category	Feature	Norwegian		Swedish	
Form-based Form	affix alternation	morphological	+	morphological	+
		morphophonological	+	morphophonological	+
		phonological	+	phonological	+
	stem alternation	morphophonological	+	morphophonological	+
Fusion	suppletion irregular stem formation		+		+
			+		+
Redundancy	clausal agreement		–		–
Discontinuity	extraposition/ extraction	discontinuity finite - non-finite verb	–	discontinuity finite - non-finite verb	–
		sentence adverbs	+		+
		particle verbs	+		+/–
		reflexive verbs	+		+/–

Because Norwegian and Swedish are two related languages, a more refined classification of the non-transparent features is necessary. The following sub-features have been discussed for the category Discontinuity: a split between finite and non-finite verb; placement of sentence adverbs; particle verbs and reflexive verbs. It is in these latter two categories that we see differences between Norwegian and Swedish. As shown in sentences (30) – (33) of the previous paragraph, Swedish is evidently more transparent in the treatment of particle verbs. It does not allow any object or reflexive pronoun to intervene between finite verb and particle. A non-standard variety of Swedish, Finland Swedish, seems to allow discontinuity in even fewer constructions. This variety, for instance, does not allow a split between a finite reflexive verb and the corresponding inherent reflexive pronoun. Reflexive verb constructions likewise do not allow discontinuity in this variety of Swedish. Standard Swedish accepts both the non-transparent and the transparent order within reflexive verb constructions as indicated by the ‘+/-’ in Table 4 above. Overall, Swedish seems more transparent in this domain than Norwegian.

If we limit the discussion to the four non-transparent features as defined in Section 2 (based on Leufkens (2015)) though, we see that Norwegian and Swedish are equal with respect to the transparency hierarchy. We attest non-transparency in both languages for affix alternation as well as for morphological stem alternation. On the other hand, even though pro-drop is restricted, person and number properties of the subject are not marked on the verb either in Norwegian or Swedish. Therefore, both languages are classified as languages without clausal agreement. Summarizing, Norwegian and Swedish differ in transparency only within the feature of Discontinuity and show different

gradations of opacity with Norwegian being noticeably less transparent than Swedish.

6 The acquisition of Scandinavian

I will now review the outcomes of the analysis of non-transparency in Norwegian and Swedish and discuss the conclusions that can be drawn from this study. Furthermore, I will provide answers to the research questions presented in the introduction of this article: Do Norwegian and Swedish differ regarding their degree of transparency within the verb phrase? Can we predict differences in the acquisition of these languages on the basis of the transparency hierarchy and are these differences also observed in acquisition research?

This article has provided an analysis of the opaque features of (*Bokmål*) Norwegian and (Standard) Swedish. It has been shown that Norwegian and Swedish are relatively similar when it comes to non-transparency in the verbal domain. Nevertheless, some slight differences, particularly in the category Discontinuity, have been revealed. Because Norwegian and Swedish are two related languages, I have provided a more detailed classification of this particular non-transparent feature. This approach has exposed nuances in opaqueness between the languages concerning the placement of the verb and associated constituents. Swedish has been shown to be more transparent than Norwegian, especially in the placement of objects in particle and reflexive verb constructions. Unlike Norwegian, Swedish does not allow any element to intervene between finite verb and the particle or reflexive pronoun. Interestingly, a non-standard variety of Swedish, Finland Swedish is even more transparent and often prefers to have no other constituent intervene between the verb-particle and the finite verb or the reflexive pronoun and the verb. As this is argued to be the result of language contact with Finnish, this fits with the expectation that languages that are in more contact with other languages are more transparent. Overall, the differences in transparency between the two languages appear to concern verb placement, rather than the form of the verb.

Going back to the research questions presented at the beginning of this thesis, I can now provide answers for both: Norwegian and Swedish are equal with respect to the transparency hierarchy as defined by Leufkens (2015). Even if one takes into account the placement of the different opaque features on the hierarchy to disambiguate between the two similarly transparent languages, the languages are ranked the same as the only differences are within a single opaque feature. Based on this result, we may predict cross-linguistic differences in the acquisition of Norwegian and Swedish in exactly this domain and few otherwise. Tentative proof for the connection between the transparency within the Scandinavian verb phrase and acquisition can be found in studies of child L1

acquisition. For subject shift (which is more transparent in Swedish) it is shown that this construction is acquired earlier in Swedish than in Norwegian. Though no cross-linguistic research is available, the literature shows that Swedish children master the Object Shift construction from around age 5 (Josefsson 1996). Norwegian children produce the adult pattern for Object Shift from the age of 6-7 (Anderssen, Bentzen & Rodina 2012). This difference in the timing of the acquisition is not found for second language learners of Swedish and Norwegian (Westendorp 2018). For the acquisition of particle verbs, Strömquist et al. (1995) analyse two Swedish and two Danish (same patterning as Norwegian) children in a longitudinal case study. They show that particles emerge much earlier in the development of the two Danish children (around 1;0) than in the development of the two Swedish children (around two years of age). Crucially, Danish particles often appear as one-word-utterances while particles produced by the two Swedish children almost never occur alone, they combine them with verbs (1995: 13–16). Slobin (1997: 8), citing personal communication with Strömquist, reports that Norwegian children first produce verbs as separate items before later development of particles. The full construction is thus acquired earliest by Swedish children, presumably due to the prosodic prominence and syntactic contiguity of Swedish particles, again supporting the prediction made in the present study. Without a significant evidence base of research, it is challenging to conclude if L2 learners of Norwegian and Swedish are also different regarding the acquisition of particle verbs and other Discontinuity features.

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