The loss of inflection as grammar complication[1]

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Abstract

The loss of inflectional categories is often thought of as a type of simplification. In this paper we present a survey of phenomena involving the reduction of adjective agreement in Scandinavian, using examples from Norwegian, and discuss their diachronic origins, including a new account of the development of indeclinability in adjectives such as *kry* 'proud'. These examples each involve lexically restricted non-canonical inflection – syncretism, defectiveness, overdifferentiation and periphrasis – in particular paradigm cells or syntactic environments. They show that the loss of inflection does not necessarily simplify grammar, and in some cases, can increase grammatical complexity by adding lexical exceptions to general rules, ruling out simplification as the motivation, even if it is the eventual result. We argue from these historical developments that speakers are liable to analyse idiosyncratic patterns of inflection as lexically specified, even where more general (but perhaps more abstract) alternatives are possible. Thus speakers do not always operate with a maximally elegant, reductionist approach to inflection classes.

Zusammenfassung

Der Verlust von Flexionskategorien wird oft als Vereinfachung beschrieben. In diesem Aufsatz geben wir anhand norwegischer Beispiele eine Übersicht über Phänomene, die für den Abbau von Adjektivkongruenz im Skandinavischen relevant sind. Ihr diachroner Hintergrund wird erörtert und eine neue Erklärung für die Entwicklung von Unflektierbarkeit in Adjektiven wie *kry* 'stolz' vorgeschlagen. Unsere Beispiele enthalten alle lexikalisch konditionierte nicht-kanonische Flexion – Synkretismus,

Defektivität, Überdifferenzierung und Periphrase – in bestimmten 'Zellen' im Paradigma oder bestimmten syntaktischen Kontexten. Die Beispiele zeigen, dass der Verlust von Flexion nicht zwingend eine Vereinfachung der Grammatik bedeutet. In einigen Fällen nimmt die grammatische Komplexität sogar zu, indem lexikalische Ausnahmen zu den allgemeinen Regeln hinzugefügt werden. Aus den historischen Entwicklungen schließen wir, dass die Sprecher idiosynkratische Muster in der Flexion als lexikalisch spezifiert analysieren, selbst wenn generellere (aber vielleicht auch abstraktere) Alternativen möglich wären. Folglich gehen Sprecher nicht immer von der elegantesten, reduktionistischen Auffassung von Flexionsklassen aus.

Résumé

On considère souvent la perte des classes flexionnelles comme une sorte de simplification. Dans cet article nous passons en revue des phénomènes impliquant la réduction de l'accord adjectival dans les langues scandinaves, avant de considérer leurs origines d'un point de vue diachronique, et notamment une nouvelle analyse de l'émergence de l'indéclinabilité de certains adjectifs comme *kry* `fier'. Chacun de ces exemples est caractérisé par une inflexion non canonique lexicalement conditionnée – syncrétisme, défectivité, surdifférentiation et périphrase – en particulier à certaines cellules d'un paradigme ou à certains environnements syntaxiques. Les exemples montrent que l'attrition flexionnelle ne simplifie pas toujours la grammaire, au contraire, elle peut dans certains cas augmenter sa complexité en créant des exceptions lexicales à des règles dont le domaine d'application est général. Même si l'attrition flexionnelle peut à la longue entraîner une simplification de la grammaire, il est peu plausible que la simplification elle-même soit une force motrice. Sur la base de ces évolutions historiques, nous proposons que les locuteurs ont propension à analyser des schémas flexionnels idiosyncratiques comme étant conditionnés lexicalement, même lorsque des analyses alternatives d'application plus générale (mais peut être plus abstraites) sont possibles. Ainsi, les généralisations concernant les classes flexionnelles que les locuteurs adoptent ne sont pas toujours les plus élégantes ou les plus simples.

1. Introduction

The loss of inflectional categories is often thought of as simplification. Although the notion of overall complexity in language is difficult (e.g. Dahl

2004, Sampson et al. 2009, Baerman, Brown and Corbett 2017),[2] this intuition at least makes sense if we limit our sights to morphology. The complete loss of a morphological feature, or even a single value for a feature, necessarily entails a reduction in the size of paradigms. This reduces the amount of information that speakers need to remember; this point stands whether we conceive of this information in terms of morphological rules, morphemes, or word forms. For example, in Mand (Trans New Guinea; Daniels 2015), 3sg verb forms are replacing all other person-number forms. Speakers of the innovative variety of Mand have to remember only one agreement form/rule/suffix, while speakers of the conservative variety had to remember six. This notion of simplicity and complexity relates to Kusters' (2003: 21) Economy Principle, which states that the greater the number of categories and/or values that are expressed morphologically in an inflectional system, the more complex it is (cf. also Audring 2017: 57).

However, the loss of inflection need not be abrupt. Often, the neutralisation of inflectional contrasts begins in a limited environment and proceeds through increasingly general linguistic categories (phonological, morphological, syntactic, semantic, etc.). While this may look like simplification from the perspective of the end point – if it is ever reached – it is less clear whether each intermediate step can always be regarded as simplification, even if we only take morphology into account. In one sense this is because the neutralisation of formal contrasts within paradigms, without the accompanying loss of the category distinctions which they marked, creates a one-to-many relationship between form and inflectional meaning (i.e. syncretism). This violates Kusters' (2003: 21) Transparency Principle, which "demands that the relation between form and meaning is as transparent as possible" (cf. also Audring 2017: 58). Moreover, when syncretism proceeds gradually through the lexicon, such that one lexeme of a particular class has syncretic expression of a set of inflectional values while another does not, we also have a many-to-one relationship between form and inflectional meaning (i.e. allomorphy): a further violation of the Transparency Principle.

Hence simplification with respect to economy may also be complexification with respect to transparency (cf. Audring 2017, 2019 in relation to gender systems). But there is a further sense in which lexically gradual loss of inflection

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[2] The literature on this topic is now so vast that we cannot possibly do it justice, but it is worth pointing out that there are many possible ways to define complexity, only a few of which we can discuss here. In particular the idea that reduction in the number of forms reduces complexity (all other things being equal) comes from a speaker-oriented, rather than a hearer-oriented perspective. From the point of view of the hearer, loss of forms may increase complexity in that it can lead to ambiguity. Furthermore, as Bowern (2009) notes, complexity may be theory-dependent. It is affected by analytical decisions (e.g. do we have to account for morphophonology, or just morphology?) and by what descriptive mechanisms are permitted in the theory we adopt. We will revisit some of these issues in section 5.

may increase complexity, by creating new inflection classes. Inflection classes involve variation in the inflectional behaviour of lexemes that need not be predictable on the basis of extra-morphological factors (Corbett 2009), and therefore in at least some cases must be viewed as purely morphological categories which in some sense have to be stored as part of lexical entries. In cases where the loss of inflection creates new inflection classes, it increases the number of categorial values which speakers must remember, and thus also the degree to which the economy principle is violated (this corresponds to Ackerman & Malouf's (2013) notion of 'enumerative complexity'; cf. also Kusters 2003: 29; 357-8, and Carstairs-McCarthy's (1994) interpretation of the 'principle of contrast').

In this article we will present a survey of diachronic phenomena involving the loss and reduction of adjective agreement (for gender and number) in Scandinavian languages. These suggest that the loss of inflection in progress can only sometimes be regarded as simplifying morphology, while in other cases, it has a neutral or even complexifying effect on morphology, by creating new inflection classes. In Sections 2-3 we discuss two innovative patterns of adjective inflection in which the loss of inflection has proceeded further than other adjectives. In section 4, we briefly contrast this with a single adjective *liten* 'small' which alone has retained inflectional distinctions lost in all other adjectives. These examples illustrate that lexically gradual loss of inflection can create new inflection classes and thus complicate the morphological component of the grammar, at least in the short term, as we argue in section 5. In section 6, we show how some of these changes are paralleled by developments in the marking of adjective gradation, and we discuss how the notion of relevance can help to make sense of these developments in section 7. Finally, in section 8, we present some examples of syntactically gradual loss of inflection, and argue that these too represent increasing complexity. First, however, we give a brief outline of the loss of nominal inflection between Old Norse and the modern Mainland Scandinavian languages (1.1), and introduce some examples of the loss of inflection leading to apparent simplification (1.2).

1.1. Scandinavian nominal inflection

Proto-Germanic had a three-gender system organised around the categories masculine, feminine and neuter, familiar from many older Indo-European languages. This has been reduced to various extents in the Germanic languages. German, for example, preserves all three genders in the singular, while English has lost gender altogether, except in pronouns (pronominal gender is not taken into account in this paper).[3]

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[3] This is a practical delimitation only.

Old Norse[4] marked gender on all nominal elements. The gender of a noun was closely associated with its inflection class, traditionally referred to as its 'stem',[5] as the sample of suffix paradigms in Table 1 below illustrates:

[4] Here understood as an idealised version of the language spoken in Norway and on Iceland and the Faroe Isles around 1200, a variety of North Germanic (cf. Barnes 2008). Later in this paper, we sometimes 'pretend' that Old Norse is the ancestor also of Swedish and Danish. Historically speaking, that is clearly incorrect, but for practical purposes in the present paper, it does no harm, as the ancestor of those languages must have had much in common with Old Norse.

[5] The classification of noun inflection classes into 'i-stems', 'a-stems' etc, as well as the distinction between 'strong' and 'weak' nouns, is based on Proto-Nordic (e.g. Enger & Conzett 2016: 229) and can be misleading when it comes to the synchronic morphology of Old Norse. In particular, the traditional terminological distinction of 'strong' vs. 'weak' refers to a distinction of inflection class in nouns (and verbs), but a paradigmatic opposition between indefinite and definite in adjectives. We will refer to these traditional labels in this paper for the sake of continuity with earlier work, but they should be understood merely as arbitrary labels with no synchronic significance.

	Masculine		Feminine		Neuter	
	a-stems	Weak	i-stems	Weak	a-stems	Weak
Nom sg	*-r*	*-i*	*-Ø*	*-a*	*-Ø*	*-a*
Acc sg	*-Ø*	*-a*	*-Ø*	*-u*	*-Ø*	*-a*
Gen sg	*-s*	*-a*	*-ar*	*-u*	*-s*	*-a*
Dat sg	*-i*	*-a*	*-Ø*	*-u*	*-i*	*-a*
Nom pl	*-ar*	*-ar*	*-ir*	*-ur*	*-Ø*	*-u*
Acc pl	*-a*	*-a*	*-ir*	*-ur*	*-Ø*	*-u*
Gen pl	*-a*	*-a*	*-a*	*-na*	*-a*	*-na*
Dat pl	*-um*	*-um*	*-um*	*-um*	*-um*	*-um*

Table 1. Some Old Norse noun paradigms

Adjectives had separate agreement forms for each of the three genders, marked with suffixes that are cumulative exponents of case, gender, number and (in)definiteness. These are illustrated in Table 2, which shows only the indefinite ('strong') inflection of the textbook example *spakr* 'wise, meek'.

	M	F	N
Nom sg	*spakr*	*spǫk*	*spakt*
Gen sg	*spaks*	*spakrar*	*spaks*
Dat Sg	*spǫkum*	*spakri*	*spǫku*
Acc Sg	*spakan*	*spaka*	*spakt*
Nom Pl	*spakir*	*spakar*	*spǫk*
Gen Pl	*spakra*	*spakra*	*spakra*
Dat Pl	*spǫkum*	*spǫkum*	*spǫkum*
Acc pl	*spaka*	*spakar*	*spǫk*

Table 2 Old Norse adjectives, the indefinite sub-paradigm/'strong declension' for e.g. *spakr* 'wise; meek'

The modern Scandinavian languages and their dialects present a range of intermediate stages in the reduction and loss of these inflectional distinctions, which can also shed light on the general phenomenon of inflectional loss. In this paper, we will focus primarily on the reduction of gender and number agreement in adjectives. In standard Danish and Swedish, masculine and feminine have merged into a single category known as 'common' or 'uter' gender.[6] The distinction between common and neuter gender is marked in

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[6] Also in most German dialects masculine and the feminine tend to group together in opposition to the neuter (cf. Kürschner 2016, who points out that this is not the case in Standard German). In the majority of Dutch dialects too, masculine and feminine have merged into a single 'common' gender opposed

articles, pronouns and adjectives which agree with singular nouns (but has been lost in the plural).[7] With very few exceptions, markers of common gender descend historically from masculine markers. The following examples from standard Danish illustrate these distinctions (table 3).

Gender	Singular		Plural	
	Indefinite	Definite	Indefinite	Definite
Common	*en bog* 'a book' *en billig bog* 'a cheap book'	*bogen* 'the book' *den billige bog* 'the cheap book'	*bøger* 'books' *billige bøger* 'cheap books'	*bøgerne* 'the books' *de billige bøger* 'the cheap books'
Neuter	*et æble* 'an apple' *et billigt æble* 'a cheap apple'	*æblet* 'the apple' *det billige æble* 'the cheap apple'	*æbler* 'apples' *billige æbler* 'cheap apples'	*æblerne* 'the apples' *de billige æbler* 'the cheap apples'

Table 3. Danish adjective and noun inflection (present-day)

Other Scandinavian varieties have made further innovations in the gender system. In dialects of Danish spoken in West Jutland, for example, the distinction between common and neuter gender has been reanalysed on a semantic basis, such that formerly neuter markers now agree solely with mass nouns (Josefsson 2014, Skautrup 1968: 270).

At least until recently, most varieties of Norwegian retained three noun genders, unlike standard Danish and Swedish. However, the various elements of noun phrases differ in how many gender contrasts they mark in agreement. The loss of nominal case in most dialects has eliminated many of the Old Norse declensions, and thereby reduced the number of paradigm cells in which a noun's gender is helpful in predicting its form (and vice versa), although plural allomorphy in nouns is still related to gender (Enger 2004). The indefinite article has separate forms for all three genders in the singular. Adjectives, meanwhile, show a range of agreement patterns. In the majority of dialects, adjectives agreeing with definite nouns (so-called 'weak' adjectives; see footnote 5) do not agree in either gender or number, while adjectives agreeing with indefinite nouns ('strong' adjectives) have zero-suffixed masculine and

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to neuter, except in pronominal agreement, where a three-way gender contrast remains but is determined by the semantic gender and degree of individuation of the agreement controller (Audring 2006).

[7] There is also a correlation between the def. sg. suffix (*-en* vs. *-et*) and gender, but, for reasons given elsewhere (Enger & Corbett 2012), we do not wish to treat that as entirely synonymous with gender.

feminine singular forms,[8] and a suffix *-t* in the neuter singular. Indefinite plural is marked with *-e* regardless of gender (see table 4).

	Definite (weak)		Indefinite (strong)	
	Masc + Fem	Neut	Masc + Fem	Neut
Sg	*-e*	*-e*	*-Ø*	*-t*
Pl	*-e*		*-e*	

Table 4. Adjective suffixes in Modern Norwegian, e.g. for *spak* 'meek'

This can be seen as a waypoint to the loss of gender, outside of pronouns, via a two-gender stage which opposes common and neuter gender. This stage is represented by standard modern Danish, where formerly feminine nouns have been absorbed by the masculine gender, and Bokmål, a written standard of Norwegian that, historically speaking, is based heavily on Danish.[9]

In Table 4, the relevant inflectional opposition is between the masculine and feminine singular, neuter singular, and plural. Compared to Table 2, Table 4 seems decidedly simpler. Fewer inflectional categories are marked, reducing the number of cells in the paradigm. Moreover, syncretism of all definite and plural cells, and of masculine and feminine in the indefinite singular, reduces the number of distinct forms even further. Such examples appear to support an equation of the loss and merger of grammatical categories with inflectional simplification.

1.2. The loss of inflection as simplification

Even when it takes place gradually, the loss and merger of grammatical categories can often be understood as simplification. This can be seen when such mergers move gradually through morphosyntactic environments. Already in Old Norse, gender distinctions had started to be neutralised throughout the indefinite plural subparadigm, beginning with the dative and genitive cases, following the model of the definite plural subparadigm, which had lacked gender distinctions since its inception in Proto-Germanic.

(Old Norse)	Masc	Neut	Fem
Nom pl	*-ir*	*-Ø*	*-ar*
Acc pl	*-a*		
Gen pl	*-ra*		
Dat pl	*-um*		

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[8] Some dialects differ in showing a split between (unmarked) masculine and neuter, and marked feminine and plural.

[9] This stage is also represented by the Bergen dialect of Norwegian, where the merger of masculine and feminine gender by traditional accounts does not relate primarily to Danish but to Low German (Nesse 2002). Trudgill (2012) sees the merger as a North Sea feature.

Similarly, the nominative and accusative cases merged in the singular before the plural (a distinct dative was retained longer in the plural, perhaps because it had become 'super stable': Dammel & Nübling 2006). Such changes simplify morphology because they reduce the number of markers that speakers have to remember (recall the Economy Principle from Section 1). Thus, novice students of Old Norse are usually grateful for the dative plural. But speakers, like students, must still learn case and gender *categories* as long as they are marked on some elements.

In addition to morphosyntactic environments, the loss of inflection may proceed gradually through a language's inflection classes. In Old English, nominative/accusative plural syncretism was expected as the result of regular sound change in Germanic i-stem nouns. This may have spread from the i-stems to most other noun classes: in the earliest Old English texts only the ō-stem class has distinct nominative and accusative forms in the plural, and this pattern of syncretism was soon extended analogically to the ō-stems as well.

An even clearer example comes from the Romance languages, where phonological changes caused syncretism of nominative singular and oblique plural in the (masculine) 2nd declension, and of nominative and oblique case forms in some 3rd declension nouns which lacked stem alternations. In Old French, remaining noun paradigms were absorbed analogically into one of these patterns, depending on their gender: masculine nouns of the 3rd declension assimilated to the masculine 2nd declension (fig 1), while nominative/oblique syncretism spread to the predominantly feminine 1st declension, and from there to feminine nouns of the 3rd declension (fig 2). Later, the feminine pattern was generalised, resulting in the loss of the nominative/oblique distinction in nouns (Sornicola 2011).
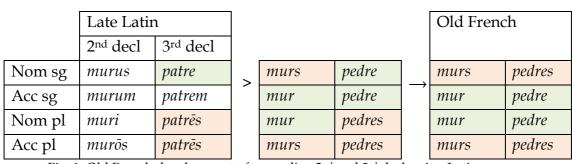
	Late Latin						Old French	
	2nd decl	3rd decl						
Nom sg	*murus*	*patre*	>	*murs*	*pedre*	→	*murs*	*pedres*
Acc sg	*murum*	*patrem*		*mur*	*pedre*		*mur*	*pedre*
Nom pl	*muri*	*patrēs*		*mur*	*pedres*		*mur*	*pedre*
Acc pl	*murōs*	*patrēs*		*murs*	*pedres*		*murs*	*pedres*

Fig. 1. Old French development of masculine 2nd and 3rd declension Latin nouns

	Late Latin						Old French	
	1st decl	3rd decl						
Nom sg	*filia*	*matre*	>	*fille*	*medre*	→	*fille*	*medre*
Acc sg	*filiam*	*matrem*		*fille*	*medre*		*fille*	*medre*
Nom pl	*filiae*	*matrēs*		*fille*	*medres*		*filles*	*medres*

Acc pl	*filiās*	*matrēs*		*filles*	*medres*		*filles*	*medres*

Fig. 2. Old French development of feminine 1ˢᵗ and 3ʳᵈ declension Latin nouns

Like the movement of inflectional loss through morphosyntactic environments, this constitutes simplification in that it reduces the number of markers speakers have to remember. But it also involves an additional type of simplification, because it furthermore reduces the number of arbitrary patterns of inflection – i.e. the ways these markers are distributed within paradigms – that speakers have to remember.

Such examples have led some to equate the loss and merger of grammatical categories with inflectional simplification. But the diachronic development of adjective inflection in mainland Scandinavian shows that the loss of inflection can also increase morphological complexity, by creating new inflection classes. The rest of this paper will give a diachronic account of these new inflection classes, and argue that they should be understood as increasing complexity. To the best of our knowledge, the question of how these new patterns arose diachronically has not been extensively addressed in the Norwegian literature. Our accounts are therefore somewhat tentative, although for most classes, we are probably merely spelling out what specialists have known for a considerable time, even if they have not put the accounts in print. The only exception is the account of *kry, sta* (3.4), which we believe to be original.

A related problem has been noted for Scandinavian verbs, where plausibly useful person and number agreement inflection has been lost, while affixal inflection classes, which apparently serve no useful purpose, have remained relatively stable (Enger 2007: 293). Yet the problem is even more radical in the case of the adjectives. For the verbs, the loss of agreement morphology does not affect the number of inflection classes. For the adjectives, as we shall see, it is the very loss of agreement morphology that creates new inflection classes.[10,11]

2. Lexically restricted loss of gender agreement

In most Norwegian varieties, certain adjectives have lost the neuter suffix *-t*, creating a class of adjectives with number agreement but no gender agreement. These fall into two main classes: adjectives ending in *-sk*, such as *norsk* 'Norwegian', and adjectives ending in *-(l)ig*, like *vennlig* 'friendly' (table 6).

Masculine sg	Feminine sg	Neuter sg	Plural
en norsk mann	*ei norsk kvinne*	*et norsk barn*	*norske mennesker*

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[10] For the Vatlongos language, spoken on Vanuatu, Ridge (2019: 221) observes a related paradox: "The proliferation of cell-mates which makes for a complex system synchronically, could in fact indicate ongoing simplification".

[11] See section 5 for further discussion of what constitutes an 'inflection class' and how this relates to the notion of grammatical complexity.

'a Norwegian man'	'a Norwegian woman'	'a Norwegian child'	'Norwegian people'
en vennlig mann 'a friendly man'	*ei vennlig kvinne* 'a friendly woman'	*et vennlig barn* 'a friendly child'	*vennlige mennesker* 'friendly people'
en historisk hendelse 'a historical event'	*ei historisk framstilling* 'a historical description'	*et historisk møte* 'a historical meeting'	*historiske morfologer* 'historical morphologists'

Table 6. Norwegian adjectives lacking gender agreement, cf. Table 4

2.1. Adjectives ending in -(l)ig

In many Norwegian varieties, adjectives ending in *-lig* or *-ig* (usually realised phonologically as /-(l)i/) lack distinct neuter forms. The former type is exemplified by *vennlig* 'friendly', *kvinnelig* 'female, feminine' (compare *venn* 'friend', *kvinne* 'woman'), the latter by *nyttig* 'useful' (compare *nytte* 'use'), *nødig* 'needy; reluctant' (compare *nød* 'need'). At first sight, these two could be considered one group, since both end in an unstressed /i/ (in many dialects), and for present purposes, we treat them together.[12]

For these adjectives the elimination of the neuter *-t* can probably be attributed to phonological change. The Mainland Scandinavian languages[13] were affected by a sound change that deleted unstressed, word-final /t/, via a period when it was realised as *ð* (e.g. Kristoffersen & Torp 2016: 207-8). For example, Old Norse *húsit* 'house.def.sg[n]' becomes /hʉːse/ in East Norwegian, and *borit* 'carried (past participle/'supine')' can become /bøːri/. Most past participles and all definite neuters lose their final /t/ in this way (Table 7).

Old Norse		Mod. E. Nw.
húsit	'house.def.sg[neut]'	/hʉːse/
stykkit	'piece. def.sg[neut]'	/støke/
borit	'carried (pst ptc, neut)'	/bøːri/
kastat	'thrown (pst ptc, neut)'	/kaste/

[12] In a pan-Norwegian perspective, however, the two groups should be kept apart, since in many varieties the group exemplified by *vennlig* end in *-leg* instead (*vennleg, kvinneleg,* etc).

[13] Adjectives in *-isk, -lig* and *-ig* retain their neuter *-t* in Standard Swedish (and many Swedish dialects), adjectives in *-lig (-leg)* and *-ig* also in many West Nw. dialects, and in Standard Danish. It stands to reason that Standard Swedish should retain *-t* in *-iskt, -skt, -ligt* (*historiskt, norskt, färskt, vänligt*), since it also retains *-t* in the neuter forms of definite singular nouns and past participles.

Table 7. Loss of unstressed word-final /t/ on the way from Old Norse to Mod.Nw.

The final -*g* of adjectives ending in -*ig* is purely orthographic in many varieties today, and even in Old Norse it was a fricative, not a stop. Thus Old Norse *vinligt*, where the stress falls on the first syllable, was, for phonological purposes similar to *húsit, borit*. Therefore, the -*t* in *vinli(g)t* was most plausibly lost by the same phonological process that deleted the final -t of *húsit,* etc.

2.2. *Adjectives ending in -sk*

The second subtype of adjectives without distinct neuter forms has stem-final -*sk*, exemplified in Table 6 by *norsk* 'Norwegian' and *historisk* 'historical'. Synchronically speaking, unlike adjectives in -*(l)ig,* this class cannot be straightforwardly characterised by phonological criteria, because there are also adjectives which end in -*sk* but have normal agreement (e.g. *fersk* 'fresh', neuter *ferskt*). According to Kulbrandstad & Kinn's (2016: 213) synchronic description of the written standard today, adjectives where -*sk* is a derivational suffix are included in the class (such as *historisk*), but not those where it is part of the root (such as *fersk*). This is an elegant and unified account, but it must be altered slightly, since e.g. *tysk* 'German' lacks neuter -*t*, and yet cannot plausibly be derived from *Tyskland* 'Germany' (lit. 'German country'), and must be regarded as a root. Nonetheless, *tysk* still stands in a paradigmatic relationship to *Tyskland*, just as, say, *canadisk* – with a clear-cut derivational suffix – is related to *Canada*. In other words, *tysk* does not take -*t* in the neuter singular by analogy with other nationality adjectives. This shows the heterogeneity of the adjectives in -*sk* that do not take -*t* (derived adjectives + nationality adjectives),[14] and it is also consistent with our suggestion for a diachronic scenario, to which we now turn.

First, we submit, the final sequence -*skt* in the coda of an unstressed syllable became -*sk* by regular sound change. Not only is -*t* usually lost in Norwegian (cf. above), as in Danish, but the loss after -*sk* would be a particularly natural sound change: obstruent clusters at the end of a syllable are cross-linguistically dispreferred, and the elimination of final *-t* prevents violation of the sonority sequencing principle (e.g. Blevins 1996). (Cf. dialect examples where the sequence -*skt* has been metathesised to -*kst*, giving e.g. *beikst* instead of *beiskt* 'sour' (neuter) or simply reduced to -*st*, e.g. *falst* instead of *falskt* 'false, treacherous'; Aasen (1864: 159). The loss of final -*t* would have eliminated gender agreement in adjectives containing the derivational suffix -*isk*, such as *historisk.* The resulting inflectional pattern was then extended to adjectives

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[14] This means that the class can be delimited on grounds outside of inflection, but not outside of morphology. More generally, there is no reason to assume that derivational properties cannot be relevant to inflection in the same way as phonological properties; the label 'extra-inflectional' thus seems better than 'extra-morphological' (cf. Nübling 2008).

denoting nationalities, making it no longer phonologically predictable.[15] This two-step account finds some support in dialects of East Norway representing the earlier stage, such as Romerike, where we find *historisk* in the neuter without final *-t*, but still *norskt*, with final *-t*. It also makes sense phonologically, in that unstressed syllables are better candidates for phonological simplification both cross-linguistically and in the specific case of final *-t* loss in Scandinavian, as discussed above.[16]

A possible contention with this account is that adjectives ending in *-isk* are typically non-native and stand out as such; they may not have been terribly common in the dialects. Since we expect such marginal lexemes to exert comparatively little analogical force (e.g. Fertig 2013), an analogy going from *historisk* to *norsk* may seem unlikely. However, while *-isk* admittedly is a loan suffix, its cognate *-sk* is not. The suffix *-sk* is found in Old Norse in monosyllabic adjectives, such as *fólskr* 'silly', *danskr* 'Danish' and in polysyllabic adjectives, such as *fávitskr* 'silly'; *heiðneskr* 'pagan; heathen'. These words also usually lack a distinct neuter form, which fits with our phonological account. In accounts of modern Scandinavian word-formation, *-isk* and *-sk* are usually seen as the same suffix (e.g. Faarlund, Lie & Vannebo 1997: 115 on Norwegian, Riad 1999 on Swedish). Indeed, the Swedish language historian Wessén (1992b: 62) emphasises how difficult it can be to tell whether a particular word ending in *-sk* or *-isk* is old, a 'new' formation in Swedish, or a loan.

When we consider that the non-agreeing model of adjectives in *-(i)sk* would also have been supported by adjectives in *-(l)ig*, a native and relatively frequent class, as well as the phonological tendency to lose syllable-final *-t* (see 2.1 above), it seems plausible that these factors could have tipped the balance in favour of an analogical process that may otherwise have had slim chances of occurring.[17] This analogical account is consistent with the fact that it is the 'hard core' of monosyllabic and fairly frequent lexemes such as *fersk, frisk*, and *besk* which were exempt from *t*-loss in Norwegian, since frequent items tend to be more resistant to analogical remodelling (see e.g. Fertig 2013). The development has gone one step further in Danish, which unlike Norwegian accepts *besk, frisk* also as neuter forms, alongside *beskt, friskt* (Lundskær-Nielsen

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[15] Aasen (ibid.) suggests that one tends to avoid the neuter of nationality adjectives such as *fransk* 'French'. This is unexpected, as collocations such as *et fransk brennevin* 'a French brandy' do not seem impossible today.

[16] Another theoretical possibility is that word-final *-skt* became *-sk* everywhere by phonological change, with analogical reintroduction of neuter *-t* in monomorphemic words such as *frisk*. This is much less likely than the alternative we propose, on grounds both phonological (*t*-loss is more probable in unstressed syllables) and morphological (we expect frequent lexemes such as *frisk* to be more resistant to analogical remodelling than infrequent ones like *historisk*).

[17] An additional model could be found in the 'weak' (definite) subparadigm, which makes no gender distinctions, and in the class of indeclinable adjectives which includes present participles (see section 3, and note 29).

& Holmes 2010: 84). This is not surprising; Danish is often more innovative than Norwegian (e.g. Torp 1998: 69).

3. *Lexically restricted loss of gender and number agreement*

The mainland Scandinavian languages also have a range of indeclinable adjective types, lacking not only gender agreement but also number agreement. They have thus gone one step further than the examples discussed in section 2. These adjectives are synchronically and diachronically diverse,[18] but a good place to start the story is with the 'weak' inflection of definite adjectives, which lack both gender and number agreement in all but a few varieties of mainland Scandinavian. Already in Old Norse, these had a drastically reduced inflection, with 24 paradigm cells sharing only four suffixes for definite adjectives, and three for comparatives and present participles (Table 8). For phonological reasons, and perhaps also for morphological ones, the vowels *i, u* and *a* have merged as *e*, which is the sole suffix found in the modern descendants of definite adjectives, present participles and comparatives, at least in many Norwegian dialects.

	Definite adjectives			Present participles/comparatives		
	Masculine	**Feminine**	**Neuter**	**Masculine**	**Feminine**	**Neuter**
Nom Sg.	*-i*	*-a*	*-a*	*-i*	*-i*	*-a*
Acc	*-a*	*-u*	*-a*	*-a*	*-i*	*-a*
Gen	*-a*	*-u*	*-a*	*-a*	*-i*	*-a*
Dat	*-a*	*-u*	*-a*	*-a*	*-i*	*-a*
Nom Pl.	*-u*	*-u*	*-u*	*-i*	*-i*	*-i*
Acc	*-u*	*-u*	*-u*	*-i*	*-i*	*-i*
Gen	*-u*	*-u*	*-u*	*-i*	*-i*	*-i*
Dat	*-um*	*-um*	*-um*	*-um*	*-um*	*-um*

Table 8. Old Norse Definite adjective, present participle and comparative inflection

In Old Norse, the present participle is less frequent and much more peripheral than it is in Modern Norwegian. According to Nygaard (1905: 236), it mainly

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[18] The relative lack of Norwegian texts from the relevant time period makes it difficult to track the emergence of the classes described in this section in detail, so we cannot provide a relative chronology. The most we can say is that the non-marking of neuter gender in adjectives like *sta* (3.4) was probably established fairly early, since it occurs in a wide range of varieties, while the lack of neuter marking on *historisk, norsk, besk* (2.2) and *vennlig* (2.1) was introduced at a later stage, as it is much more restricted.

belongs to 'erudite style', i.e. translations from Latin or French, and the present participle of transitive verbs is hardly ever used in 'vernacular style' (p. 239), such as the sagas, which are usually taken to reflect the spoken language most closely. In attributive function, the present participle is used almost exclusively with intransitive verbs that denote 'an external or sensory state or action' (p. 238, our translations). If in Old Norse the present participle is syntactically more verbal than adjectival, this could partly explain why it did not re-innovate agreement inflection in response to the erosion of inflectional contrasts caused by the phonological merger of most of its suffixes. Nonetheless, the modern Norwegian descendants of Old Norse participles serve mostly as adjectives, and can be used both predicatively and attributively despite lacking agreement, e.g. *sovende* 'sleeping', *spennende* 'exciting'.

3.1. Syntactically distinct adjectives

In the non-inflecting group we also find a number of adjectives with final -*s* following an unstressed syllable. This may be a sufficient condition for indeclinability.[19] The diachronic explanation is that, like present participles, these adjectives were syntactically nonadjectival in an earlier stage of the language. For example, *landsens* 'rustic' is a fossilised definite genitive noun, originally meaning 'of the land', although it is not recognisable as such today (cf. modern definite possessive *landets* 'of the land'). Other examples include *stakkars* 'poor', *avsides* 'remote', *daglidags* 'common', and *nymotens* 'newfangled'. Another example, *gratis* 'free', is borrowed ultimately from Latin. Other adjectives belonging to the noninflecting group which were originally nouns, but without final -*s*, include *feil* 'wrong' (borrowed from Middle Low German *feil* 'failure') and *synd* 'sorry', originally 'sin'. Accordingly, they usually occur predicatively, which may also be a relevant factor, as the rules for agreement are 'laxer' in predicative than in attributive adjectives (cf. Section 8).

3.2. Loanwords

Many of the adjectives of the previous section are borrowings, and this may also be relevant to their indeclinability. It is not uncommon for loanwords to be inflected less than native words (e.g. Unbegaun 1947, Thomas 1983 for Slavonic). This may be partly because of the difficulty of incorporating words which violate the language's constraints into the inflectional system. To this group we can add *innvortes* 'internal', and *forgjeves* 'in vain', both borrowed from Middle Low German, with adverbial (not synchronically genitive) -*s* (though the phonological similarity to nouns in -*s* which were originally genitive may also be relevant here). We may further note adjectives like *gøy*

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[19] Adjectives with final -*s* following a stressed syllable do decline (e.g. *løs* 'loose', *vis* 'wise'), even fairly recent loans (such as *rigorøs* 'rigorous', *porøs* 'porous').

'fun', an English loanword[20] which tends not to inflect for many speakers, and *schpaa* 'cool', a recent Berber loanword which never inflects (this example also meets the phonological criteria for the *kry* group, see 3.4).

It should be noted, though, that loanwords that are similar to inflectable native adjectives tend to inflect regularly. Thus, the adjectives *døll* 'boring' and *kjip* 'unpleasant, ungenerous', recent loans from English, behave exactly like regular *spak* 'meek' (Table 4). Also, a recent study by Spilling (2012) shows the absence of persuasive arguments in favour of non-native origin being relevant for adjective gradation (see section 6), even if this has been traditionally assumed. So perhaps the relevant feature of, say, *forgjeves* is not so much that it is a loan, as that it ends in an unstressed syllable with final -s.

3.3. *Adjectives ending in unstressed -e and -a*

Adjectives ending in an unstressed -*e*, such as *stille* 'quiet', and in unstressed -*a* e.g. *grepa* 'fine', also belong to the indeclinable group. The most likely explanation is that they were transferred into the non-agreeing inflection class by virtue of their phonological resemblance to the non-inflecting adjectives descending from present participles and the 'weak'/definite adjectives, in that both types end in an unstressed vowel. Many of the adjectives in unstressed -*e* (including *stille*) are also loanwords by origin (Falk & Torp 1900: 80); those in -*a* are not.

3.4. *Syncretism and defectiveness*

In many Scandinavian varieties (Urban East Norwegian, Standard Swedish, Danish; in the following, we use Norwegian examples) there is another subclass of indeclinable adjectives which (mostly) have plural forms syncretic with the masculine/feminine form (i.e. the bare stem), and do not form regular neuters with -*t*. For some of these adjectives, the neuter form is also syncretic with the masculine/feminine (e.g. *bra* 'good'). For others, it is simply defective, so that if speakers want to modify a neuter noun they have to choose another adjective (e.g. *lat* 'lazy'). Others are somewhere between the two (see further Vindenes & Enger 2020), with variation between speakers: for example, *kry* 'proud' sounds awkward modifying a neuter noun, unlike *bra,* but is not outright ungrammatical, unlike *lat*. (The adverbial form is always identical to the neuter, and is defective to the same extent as the neuter.)

Members of this class tend to share certain characteristics, but not so consistently that we may regard them as strict conditions. The first of these conditions is phonological: such adjectives tend to end in a stressed long vowel, especially [aː], [ʉː], [yː], and [oː]. This is not a natural phonological class in Norwegian, in that these vowels cannot be captured by any combination of

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[20] The etymology of this adjective is a bit unclear, but its English origin is certain (*Det Norske Akademis Ordbok* gives English *guy* as an etymon for the noun, but *gay* 'cheerful' for the adjective, although it is very unlikely that the two words have separate etymologies).

phonological features. However, not all adjectives which conform to this phonological pattern belong to the non-agreeing class (e.g. *ny* 'new' which agrees normally), and not all adjectives belonging to the non-agreeing class end in a stressed long vowel, as the examples of the previous sections (3.1-3.3) attest.

The second condition is semantic: prototypically, these adjectives agree with animate nouns (e.g. *glad* 'happy' (with mute <*d*>), *sta* 'stubborn', *lut* 'stooping'). Nonetheless, there are also adjectives which usually agree with animates but have normal agreement, such as *blid* 'happy, glad' (*et blidt smil* 'a happy smile (neut)', *blide folk* 'happy people (pl)'). Nor does non-agreement guarantee that an adjective typically modifies animate nouns: for example, *ru* 'rough, rugged' is seldom used with animates, but is indeclinable at least for some speakers (intuitions vary in this case, perhaps owing to the low frequency of the lexeme).

Etymology, we suggest, provides a clue to the *kry* class of adjectives. In Old Norse, the few adjectives with stems ending in a long vowel have certain peculiarities of inflection: compare the indefinite forms of *grár* 'grey' below (Table 9) with those of the regular adjective *spakr*, 'quiet' (Noreen 1970: 291, 294, Haugen 2002). Following the regular contraction of **áa, áu > á*, the paradigm of *grár* diverged from that of *spakr* – at least on the surface – in exhibiting two patterns of syncretism which *spakr* lacks. Firstly, the feminine nominative-accusative plural has become identical to the masculine singular, and secondly, the accusative singular feminine, dative singular neuter, and accusative plural masculine have all become identical to the bare stem. At this point, the differences in inflection between *spakr* and *grár* can be attributed to synchronic phonological rules (e.g. Haugen 2002: 151). Yet speakers may, understandably, fail to perceive the underlying similarity beneath the surface differences (compare the 'dissolution' of the *-inn* class in the Romerike dialect discussed below in section 5), [21] and at some point, these differences were morphologised.[22] Moreover, word-final *-r* tended to be lost in many contexts, although the exact nature of this loss (phonological vs. morphological) is not entirely clear (Wetås 2008 and Enger 2013 argue that it is partly morphological). This would have caused forms like *grár* to merge with *grá*, creating further syncretism.

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[21] At some stage, *á* becomes /o:/. What etymologically was a sequence of a long /a:/ and a short /a/ (**gráa*) emerges in current Norwegian as /o:a/, which is not contracted (cf. *åa* 'small river.def.sg.[fem]'.

[22] We know this because Old Norse vowel contraction is no longer active in Modern Norwegian (cf. e.g. *lee* 'move', *småen* 'little-one, def.sg.' ('kiddo'), but the reflex of pre-Old Norse **áa* is nonetheless reflected by *å* (e.g. in *få* 'get, become' (infinitive) < Old Norse *fá* < **áa*, cf. Gothic *fāhan*; Noreen 1970:115). Occasional analogical forms such as *bláan* for the accusative singular of *blár* 'blue' on the model of *spakr* (Noreen 1970: 115) also suggest that speakers failed to attribute the difference between the two inflectional patterns to phonology, so that these were - already in Old Norse - becoming two separate inflection classes.

	spakr 'quiet'			grár 'grey'		
	Masc	Neut	Fem	Masc	Neut	Fem
Nom sg	spakr	spakt	spǫk	grár	grátt	grá
Acc sg	spakan		spaka	grán		
Dat sg	spǫkum	spǫku	spakri	grám	grá	grári
Nom pl	spakir	spǫk	spakar	gráir	grá	grár
Acc pl	spaka			grá		

Table 9. Patterns of syncretism in Old Norse *grár* 'grey'

Many prototypical members of the *kry* class, e.g. *sta* 'stubborn', originally had a short vowel and stem-final *ð* (*stað*, *glað*, masculine accusative sg, indefinite). This consonant was subsequently lost, by another regular phonological change (Kristoffersen & Torp 2016). Another phonological innovation usually attributed to 'Middle Norse', i.e. Norwegian after 1300, is that short vowels in stressed syllables are lengthened unless they are followed by two or more consonants (table 10).[23]

	staðr
(1) r-loss	*stað*
(2) ð-loss	*sta* (cf. *tíð*, *blóð*> /ti:/, /bɽu:/ 'time', 'blood')
(3) lengthening	*stā*

Table 10. Phonological changes affecting *stað* 'stubborn'

This probably provided the initial phonological environment for the loss of plural agreement in adjectives like *stā*. Because these adjectives now ended in a stressed vowel, they looked very much like *grár* and its ilk. By analogy with etymologically vowel-final adjectives, the plural became syncretic with the (masculine/feminine) singular.

This explains why adjectives like *stā* have no separate plural forms, but it leaves their lack of neuter singular forms unexplained. A vital clue, we believe, lies in the fact that these adjectives typically denote properties of animate nouns. Old Norse adjectives with stem-final -*ð*, where this pattern originated, were not restricted in this way. In a sample of 34 such adjectives in Old Norse,[24]

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[23] The chronology in Table 10 is rather tentative, but according to Schulte (2005: 1082), the loss of *r* is "traceable from the 13th century onward", while lengthening of originally short syllables is dated to the 13th and 14th century.

[24] Figures in this section are based on a sample of 34 Old Norse adjectives with stem-final -Vð, taken from the wordlist of the University of Copenhagen's Old Norse prose corpus (http://onpweb.nfi.sc.ku.dk). The following three groups were excluded from consideration: adjectives which originate as past

28 have descendants in Modern Norwegian. Of these 11 typically modify inanimates, and all of them have neuters with -*t*, like regular adjectives. Unlike regular adjectives, however, they exhibit an alternation between a long vowel in the unsuffixed form, and a short vowel in the neuter, as the result of the Middle Norse vowel lengthening described above (table 10). (Also, a Middle Norse vowel shortening in front of long consonants (cf. Kristoffersen & Torp 2016: 142-3), may have been relevant, in that after that change, *grár, trúr* would have had long vowel in the masculine/feminine, short in the neuter.)

 In contrast, only 8/12 (66%) of surviving adjectives typically modifying animate nouns have separate neuter forms. It therefore seems that the animate-dominant adjectives are more likely to lose their neuter forms.

This is probably due to frequency asymmetries. Inanimate nouns in Scandinavian usually (but not always) have neuter gender. Therefore, neuter forms of animate-dominant adjectives would have had a very low frequency, making them less securely lodged in speakers' memories and more likely to be produced on-the-fly.[25] Yet speakers may well have been uncertain how to produce the neuter forms, on the comparatively rare occasions they were needed. On the basis of their phonology, they look like they should undergo shortening and suffixation in the neuter, like their inanimate-dominant counterparts. On the other hand, their opposite semantics made these an unlikely inflectional model. This uncertainty about how to produce the neuter singular form, we suggest, caused it to become defective.

Unfortunately we cannot provide frequency data for the relevant language stages, since they are not sufficiently well documented or digitised. Instead we provide figures from a large digital corpus of present-day Bokmål, *Habit*, at the Text Laboratory at the University of Oslo (https://www.hf.uio.no/iln/english/about/organization/text-laboratory/projects/habit/habitcorpus.html). We searched for certain adjectives preceded by an indefinite determiner in the common gender and then in the neuter. For example the search term *et rødt* 'a-n red-n' yielded 2986 hits, while *en rød* 'a-c red-c', yielded 13678 hits. Because the search program treats the common gender as the citation form, the search for *en rød* also yields instances of *et rødt* but not vice versa. Thus, we have to subtract the 2986 neuter hits from the figure 13678. This gives a total of 10692, suggesting that the common gender form of this adjective is roughly 3.58 times as frequent as the neuter (see table below). Equivalent searches for *stor* 'big' and *dårlig* 'bad' yielded ratios roughly in keeping with current estimates of the relative number

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participles, stems which only occur as the second element of a compound (except *stǿðr* 'stable', since it has a monomorphemic descendant in Modern Norwegian), and adjectives with fewer than 10 attestations in the Old Norse prose corpus.

[25] Frequency effects of this kind have been well documented in psycholinguistic literature, e.g. Taft 1979, Losiewicz 1992, Hay 2001, Baayen et al 1997, 2003, Milin et al 2009.

of neuter and common gender nouns in Norwegian dictionaries, which judge the common gender to be approximately 3-4 times as frequent as the neuter, although clearly, there will be large variations in relative frequency distributions even for run-of-the-mill adjectives. For adjectives that one would expect to be animate-dominant, however, our corpus suggested a much higher common:neuter ratio (particularly for the adjective *drektig* 'pregnant (used of animals)'; examples in which this adjective has a different meaning relating to ships were manually excluded). This informal corpus consultation indicates that there is a very real asymmetry between the frequency of the neuter form for ordinary adjectives and those denoting properties typical of animates, even if it will vary with the adjective chosen.

A parallel to the diachronic scenario suggested here can be found in Spanish verbs such as *abolir* 'abolish', *asir* 'grasp', which are defective in precisely the paradigm cells where other lexemes would undergo morphophonological alternations in the stem (Albright 2003, 2009). Because these defective lexemes tend to have disproportionately low frequency, and belong to inflection classes which have high variability in whether the stem alternations in question apply, Albright (2003) concludes that the gaps in their paradigms are caused by uncertainty about how to produce the 'correct' form. While other factors are also involved (see Sims 2015: 3.4 and references cited there for discussion), it is clear that speaker uncertainty at least diachronically plays a significant part in these patterns of defectiveness. Uncertainty caused by morphophonological variation is also a factor in genitive plural defectiveness for Modern Greek nouns (Sims 2015: 5.3).

Turning back to our Norwegian adjectives, defectiveness is even more likely when the semantically motivated low frequency of the neuter form is combined with low lexical frequency. In the sample of Old Norse adjectives, the neuter form with suffixed *-t* tends to have survived only where it had a high enough frequency: i.e., adjectives which typically modify inanimates (e.g. *auðr* 'deserted'), adjectives with a very high overall frequency (*góðr* 'brave, fine, noble'), or adjectives which are typically used adverbially (e.g. *bráðr* 'hasty') – these have regular descendants *aud, god, brå*. The higher the frequency of a lexeme, the more likely it is to survive diachronically: in the sample the 28 adjectives with a modern descendant have a mean corpus frequency of 132.96, while the 6 which have been lost in modern Norwegian have a mean frequency of 58.5.

Thus for the animate-dominant adjectives, only the non-neuter form was securely retained.[26] When speakers want to use these adjectives to modify

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[26] Hansen & Heltoft (2011: 832) speculate that the non-existence of the neuter *glatt* in Danish may be to avoid homophony with another adjective meaning 'slippery' (*glatt* in Norwegian). At first sight, this would explain the difference between Danish and Norwegian, where *glad* hardly has any neuter, and Swedish, where neuter *glatt* is acceptable; the Swedish word for 'slippery' is instead *hal*. However, homophony avoidance is a tricky issue (Sampson 2013, Kaplan 2015). In any case, if Hansen & Heltoft's speculation is correct it would

neuter nouns (e.g. *barn* 'child'), two strategies are available to them: either they can use a synonym of either the adjective or the noun (e.g. speakers can say *et dovent barn* or *en lat unge* 'a lazy child', to avoid using the neuter of *lat* 'lazy'), or (perhaps if a synonym is not available) they can force the bare stem to agree with a neuter noun, as they do with some loanwords.[27] Adjectives favouring the former strategy have remained defective. For others, conventionalising the latter strategy has resulted in syncretism. For others still, this conventionalisation has occurred to a lesser degree, leaving them somewhere between defective and syncretic.

Once neuter/masculine/feminine syncretism had been established for some adjectives, it then spread analogically to some other adjectives which lacked distinct plurals, such as *tru* 'faithful'. The predecessor of *grå* 'grey' also would have lost its plural, but retains a separate neuter and has reintroduced the regular suffix *-e* in the plural. This fits with an analogical account: adjectives fitting the prototypical semantics of the *kry* group are analogically attracted to that group, while those with inanimate semantics are more likely to be regularised by reintroducing plural suffixation. Similarly, adjectives which would frequently have agreed with neuter nouns were less likely to be absorbed into the non-agreeing class. An example is *ny* 'new', which retains full agreement despite its phonological similarity to a prototypical member like *kry* (of course, 'new' is also an adjective of very high overall frequency). The loss of an inflectional distinction by generalising a form representing the most frequently cooccurring categories is well-attested elsewhere: e.g. in Arabic dialects the distinction between dual and plural number has been achieved by generalising the old dual form for nouns referring to objects typically occurring in pairs, such as eyes, and the plural elsewhere (Blanc 1970). A further parallel can be found closer to home in the Swedish dialect of Uppsvenska (Uppland), where the indefinite singular of formerly weak masculine nouns ends in *-e* for most animate nouns (e.g. *bonde* 'farmer', *gosse* 'boy'), but *-a* for non-animates (*backa* 'hill', *släda* 'sleigh') (Wessén 1992a: 138). The animate suffix continues the Old Norse nominative sg *-i*, while the inanimate suffix reflects oblique sg *-a*, since animate nouns were more likely to be subjects and inanimates were more likely to be objects.

There are differences between the Scandinavian languages (noted also by Löwenadler 2010, see note 27) in which lexemes belong to the non-agreeing class: e.g. *glad* 'happy' does not have a neuter suffix in Norwegian or Danish,

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still account for the absence of neuter forms in only a small subset of the relevant adjectives.

[27] Cf. Löwenadler (2010) on strategies for overcoming defectiveness in Swedish. He discusses a third strategy – forcing the suffix *-t* – which seems to be the preferred strategy in Swedish. This might have occurred in Norwegian too, which could account for a few adjectives denoting properties typical of animate nouns, which have regular descendants in the modern language. However, it is not necessary for our explanation, and it may simply be that the two languages adopt different strategies for dealing with defectiveness.

but it has a neuter form *glatt* in Swedish. There are also differences between speakers of Norwegian: e.g. an authoritative dictionary (*Bokmålsordboka*) allows for either *rutt* or *ru* as the neuter of *ru* 'rough'. These discrepancies are consistent with the analogical account favoured here, since analogy is generally accepted as being less deterministic than sound change. The loose organisation of this class around a few prototypical members is what we expect to see if this group is the result of lexically gradual analogical influence between small groups of items which share phonological and semantic features. Compare, for example, the modern English descendants of Germanic class IIIa strong verbs exemplified by *swim~swam~swum* and *spin~spun*, which have attracted new members such as *fling* and *dig*, and continue to generate dialectal and nonstandard forms like *brung* and *snuck*, based on loose family-resemblance type phonological similarities (e.g. Bybee and Moder 1983, Anderwald 2007, 2011).

4. Overdifferentiation: the case of liten 'small'

So far, we have presented two classes of adjectives which have been affected by the loss of agreement more than the average. Finally, we will mention a single adjective which alone has resisted the general tendency to reduce adjectival agreement. In a number of Norwegian varieties such as the dialect of Romerike, the adjective *liten* 'small' retains separate masculine and feminine forms, while adjectives in general have merged masculine and feminine agreement forms (Enger & Corbett 2012). The forms are listed in Table 11 below (the plural is suppletive).

Masculine sg	Feminine sg	Neuter sg	Plural
liten	*lita*	*lite*	(*små(e)*)

Table 11. The Romerike paradigm of *liten* 'small'

Although a distinct feminine form is retained only in a single adjective, one exceptional adjective is sufficient to show that the loss of agreement forms does not entail the loss of agreement categories. For speakers of many other dialects, the distinction between masculine and feminine can be conflated for the purposes of adjective agreement, but for speakers of the Romerike dialect (and many others), the distinction must be retained, since it determines the appropriate form of this one lexeme. In the same way, none of the adjectives described in sections 2-3 entail simplification in the system of adjectival agreement categories, even though they lack neuter and/or plural forms, because the relevant category distinctions are still needed to inflect regular adjectives correctly.

5. Agreement loss, inflection classes, and complexity

By describing the new patterns of adjective inflection described in sections 2-3 as 'inflection classes', we attribute their exceptional behaviour to stipulation in

the lexicon. Changes which add arbitrary stipulations to the lexicon clearly increase complexity, because they add extra information to lexical entries which have to be memorised by speakers. However, some readers might question whether all of the subgroups described above need to be regarded as inflection classes distinct from that of regular adjectives. For example, adjectives such as *vennlig*, which lack neuter forms, can be characterised phonologically as ending in an unstressed *-i*. One need only postulate a morphophonological rule changing unstressed *-it* in adjectives to *-i*, making neuter singulars syncretic with their masculine and feminine counterparts on the surface, but underlyingly regular in their inflection. This approach would be in line with Carstairs-(McCarthy)'s (1986, 1987, 2000) notion of a 'macro-paradigm' (or 'macro-class'), according to which, if the differences between two inflection classes correlate consistently with phonological, semantic or syntactic properties of the lexeme (e.g. gender), they need not be assigned to separate macro-paradigms, although their surface patterns of inflection differ (see also Corbett 2009: 6). Similar phonological accounts could be given for polysyllabic adjectives ending in *-sk*, adjectives with a stem-final *-s* following an unstressed syllable, and adjectives ending in unstressed *-e* or *-a*. Similarly, the group of adjectives containing *norsk, dansk* etc. can be differentiated from regular adjectives by semantic criteria. This 'reductionist' approach to diagnosing inflection classes, which seeks to minimise the number of classes by motivating surface differences by factors from outside inflection, can be contrasted with the approach implicit in at least some traditional grammars, which merely aim to describe and enumerate the surface patterns.[28]

We have several points to make in defence of our approach. Firstly, not all the groups above can be 'explained away' in this manner. The group of adjectives exemplified by *kry* is loosely associated with particular semantic and phonological conditions, but not to the extent that membership of the class can be predicted reliably from either semantics or phonology of the lexeme. Therefore we need to posit at least two macro-paradigms for Norwegian

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[28] Admittedly, the notion of a macro-paradigm or macro-class can also be found in traditional grammars; e.g. the Latin 'third declension' subsumes (at least) two slightly different patterns of inflection exhibited by etymological consonant-stems and i-stems, whose differences can be accounted for by means of morphophonological rules (see Carstairs-McCarthy 1994). The logic behind the 'reductionist' approach is clearly spelled out by Baerman (2016: 794): inflection classes "are not generally considered an optimal design feature of language, because they impose on the language user the needless burden of arbitrary morphological variation that must simply be memorized. The goal of most theoretical treatments has therefore been to arrive at an analysis that reduces both the number of inflection classes and the complexity of their organization… Explaining inflectional allomorphy in terms of outside conditions is a standard approach in morphological analysis, so that inflection classes in the strict sense are what is left over after this technique has been exhausted".

adjectives: a regular one, and a completely non-inflecting one. Having posited the non-inflecting class, it is simpler to attribute other non-inflecting adjectives to this class, than to explain away their differences by means of morphophonological rules.[29]

This brings us to our second point, which is that these changes have to be seen as involving complexification of grammar regardless of how we define 'inflection class'. We have discussed three surface patterns of adjective inflection: the regular pattern, one with no gender agreement, and one with no agreement at all. If we analyse these as three distinct inflection classes, then the changes above introduce two new patterns of inflection, and speakers must remember which lexemes follow them. If we see them as superficially different instantiations of the same macro-paradigm, speakers must remember a number of new morphophonological rules and semantically-based exceptions to regular rules of inflection. Either way, these changes introduce new and arbitrary exceptions into the grammar, which are additional pieces of information that must be learnt by speakers, however we prefer to represent them in a formal model.[30]

Our main purpose in this article is to show how the loss of inflection may lead to the complication of grammar. As we have just argued, this point stands regardless of whether or not we adopt the 'reductionist' approach to inflection classes. Nonetheless, we prefer to analyse these new patterns of adjective inflection as new inflection classes – i.e. to attribute their exceptional behaviour to characteristics of the lexemes themselves – also on psycholinguistic grounds. There is good reason to suspect that even where a more economical analysis is possible, surface patterns are often what speakers actually store in their minds. Compare the inflection of adjectives such as *galen* 'mad, bewitched', which etymologically contain stem-final -*n.* In Old Norse, all such adjectives end in -*inn* in the masculine nominative and -*it* in the neuter (Table 12), which can be analysed as underlyingly **in-r* and **in-t* respectively. Consequently in Old

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[29] So far we have not mentioned that Old Norse already had a type of indeclinable adjective exemplified by *sundrslita* 'torn to pieces'. In Norwegian by the end of the 'classical' period these had probably merged with the pattern of present participles such as *elskandi* 'loving' (Table 8; Noreen 1970: 298). In this sense the invariant pattern of adjective inflection of *kry* etc. is not completely new in Norwegian, but this does not affect our argument, for the reasons explained above.

[30] In fact, positing a single macro-paradigm would mean adding more complexity to the grammar than the alternative view, because then we would need to add a morphophonological rule for every phonologically defined group of exceptions, and an equivalent rule for every semantically defined group of exceptions, *in every cell where they do not show surface inflection*. If we analyse these as distinct inflection classes, we need only add one set of inflection class conditions for each cell where surface inflection can be lost, and one rule for each phonologically or semantically defined group of exceptions, adding an inflection class index to their lexical entries.

Norse grammars (e.g. Haugen 2002), adjectives in *-inn* are not seen as dramatically different from regular adjectives like *spakr*.

	Indefinite (strong)		
	Masc	Fem	Neut
Nom Sg	*galinn*	*galin*	*galit*
Nom Pl	*galnir*	*galnar*	*galin*

Table 12. Old Norse adjective *galinn* 'bewitched, mad', part of the paradigm

After the "classical" Old Norse period, the neuter forms were affected by the loss of unstressed word-final /t/ (along with a number of other phonological changes, such as vowel lengthening, cf. Table 10). Nonetheless the neuter form remains distinct; see Table 13.

Old Norse	Modern East Norwegian	Gloss
húsit	*hʉːse*	'house' (def. sg. neut.)
gaːlit	*gæːɾi*	'mad' (indef. sg. neut.)
rotit	*røːti*	'rotten' (indef. sg. neut.)

Table 13. The loss of unstressed word-final *t*

In some dialects, the *galinn* class remains structurally unchanged. However, in several dialects (e.g. the dialect of Romerike), the *-t* is reintroduced analogically. This means that alongside /røːtin/ – /røːti/, which is the product of regular sound change (from Old Norse *rotinn* 'rotten' - *rotit),* we may find e.g. /myːrin/ – /myːrint/ 'swampy, soggy', with a final /t/. This is typically found for a number of less frequent adjectives, according to Refsum (1954: 14). This fits with an analogical account.[31] The existence of forms like /myːrint/ means that in such dialects *galen* etc. must now be assigned to a separate inflection class, but the analogical extension of *-t* also suggests that speakers were liable to analyse it as a separate inflection class even earlier.[32]

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[31] The example /myːrin/ comes from Refsum's (1954) description of the Romerike dialect. The example is telling. It can hardly be due to influence from the 'standard', not only because the variety Refsum described seems extremely 'traditional' (his notes on the dialect stem from the 1920s, and even then, the data were probably fairly archaic), but also because this particular adjective is not found in the standard (which also has *-en*, not *-in*).

[32] The example is unexpected given the general assumption known as the Elsewhere Condition. More specific knowledge ('adjectives ending in *-inn* will get /i/ in the neuter') has not taken precedence over more general knowledge ('adjectives get /t/ in the neuter').

We may be used to thinking that analogy 'tidies up' in inflectional morphology. This is expressed most famously as 'Sturtevant's paradox' (cf. Anttila 1989): "Phonetic laws are regular but produce irregularities. Analogic creation is irregular but produces regularity" (Sturtevant 1947: 109). Here, by restoring regular -*t* in some lexemes and leaving others unaffected, analogy has created a new phonologically unpredictable inflection class (see also Sandøy 1988). This does not constitute a loss of inflection by comparison with regular adjectives, since all three forms in the paradigm remain distinct. Yet it is relevant for two reasons: firstly because it paves the way for neuter adjectives that do not end in -*t* (and that now must be considered an inflection class of their own), and secondly because the analogical restoration of -*t* shows that even where linguists may be tempted to explain away allomorphy by a (morpho)phonological rule, speakers do not necessarily make this analysis (see also Enger 2014). This lends support to the view stated by Joseph (2011: 413) that in making analogical generalisations speakers "often act as if they are in a fog", preferring local generalisations which are limited in scope over global generalisations based on large amounts of data. In other words, lexically limited patterns do not necessarily bother speakers terribly much. Also in light of the emphasis on 'morphomes' in the recent literature (see e.g. Maiden 2018), one may wonder to what extent speakers really are bothered by local patterns that need to be memorised.

Such examples bring into doubt the 'Impoverished Entry Hypothesis' for the lexicon, which assumes the most economical possible account of the lexicon (sometimes formalised as 'minimum description length'). We are thus in agreement with Jackendoff & Audring (2018: 402) when they question "whether economy is the right criterion when it comes to storage in the brain. A plausible alternative is that the brain embraces redundancy, at least up to a point." Our examples show that at least sometimes, speakers favour lexically restricted 'surface' patterns over more general but more abstract alternatives.

6. Adjective gradation

The reduction of adjective agreement is to some extent mirrored by changes in the other type of adjective inflection: gradation. [33] Like English, the Scandinavian languages have adjective gradation by means of suffixation, suppletion and periphrasis. One may posit the following classes:

	Positive	Comparative	Superlative	Gloss	Gradation type
I (most adjectives)	*dum*	*dummere*	*dummest*	'dumb, stupid'	Suffixation by -ere and -est
2	*tung*	*tyngre*	*tyngst*	'heavy'	Suffixation by

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[33] One may regard adjective gradation as derivational rather than inflectional, as Hansen & Heltoft have argued for Danish (2011: 186-7, 255), on syntactic grounds. This debate does not affect our argument here: whether we label this 'derivation' or 'inflection', it is part of speakers' morphological knowledge.

(few members)					-re and -st + umlaut
3 (few members)	*god*	*bedre*	*best*	'good'	suppletion
4 (many members)	*intelligent*	*mer intelligent*	*mest intelligent*	'intelligent'	periphrasis

Table 14. Types of adjective gradation in modern Scandinavian languages (Norw. *Bokmål*)

Classes 1-3 directly continue Old Norse types, but periphrastic gradation is an innovation (Haugen 2002: 139). Periphrastic comparison has been most productive in Norwegian and Danish, but is also found in Swedish, Faroese and Icelandic. The conditions for taking periphrastic gradation vary between the languages, but are not simple in any case; see for example the conditions for standard Danish below (see also Spilling 2012, Spilling & Haugen 2013 for Norwegian):

	Phonological	Morphological	Other
ALL	• Adjectives ending in *-et* • Adjectives ending in *-isk*	• Present and past participles	• Nationality adjectives
SOME	• Longer adjectives • Short adjectives ending in a vowel • Adjectives ending in *-en* • Adjectives ending in unstressed *-e*		• Loanwords[34]

Table 15. Conditions for taking periphrastic gradation in modern Danish

Interestingly, there is a very clear correlation, though not an absolute one, between the absence of agreement and periphrastic gradation. Many adjectives which have reduced agreement paradigms also have periphrastic comparative and superlatives. The indeclinable type represented by *kry* favours periphrastic comparison (along with other adjectives ending in a short vowel such as *grå* 'grey', which lacks plural but not neuter agreement forms in Danish), as does the class represented by *norsk* (in Norwegian, nationality adjectives may take either periphrastic or synthetic comparison). To these we can add the class of adjectives that end in unstressed *-e*, such as *stille* 'silent', adjectives in unstressed /a/, such as Norwegian *grepa*, and adjectives that are derived from

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[34] But see 3.2 above.

participles, all of which tend both not to agree and to take periphrastic gradation. It thus appears that speakers are, as it were, 'lumping exceptions' together (cf. Fleischer & Simon 2011). Also in German, the adjectives *lilla* 'purple', *rosa* 'pink' stand out both by not agreeing and by having periphrastic gradation. This can be be seen as a strategy for limiting irregularity, by concentrating different kinds of atypical behaviour in the same lexical classes.

By traditional definitions, it may be slightly problematic to call the adjectives which exhibit periphrastic gradation a new inflection class, since periphrasis is not usually regarded as inflection in the strictest sense (although see e.g. Ackerman et al. 2011, Haspelmath 2000 for an alternative view). But regardless of terminology, we need some statement in the grammar to specify this exceptional group of lexemes, and because they cannot be entirely captured by any set of semantic, morphological or phonological criteria, this statement will need to make reference to individual lexemes.

7. The loss of inflection and relevance

Thus a tendency to lose inflection in definiteness, gender and number correlates with a tendency to lose inflection in another area, gradation. The former is achieved by the simple elimination of forms from the paradigm, and the latter by replacing distinct inflectional forms with periphrastic constructions involving a single form in the adjective's paradigm. This raises the question of why these lexemes have adopted two different solutions to the same apparent problem: why couldn't forms for definiteness, gender and number also have been replaced by periphrastic constructions?

At first sight, the obvious answer would seem to be that definiteness, gender and number are agreement categories in North Germanic, while degree is not. Adjective agreement indicates something about the noun it modifies (often redundantly, though not always), while gradation modifies the meaning of the adjective itself. Therefore, adjective agreement can be simply lost without reducing the number of messages that speakers can express, but if the marking of gradation is lost, there is a strong functional pressure for it to be reinvented by some other means.

This distinction corresponds to Booij's (1994, 1995) distinction between 'contextual' inflection, which is dictated by syntax, and 'inherent' inflection, which is not determined by syntax (although it may have syntactic relevance). Contextual inflection tends to be lost more quickly and borrowed less readily than inherent inflection (Gardani 2008).

Bybee's (1985) concept of 'relevance' may also be applicable. According to Bybee, inflectional categories must be of sufficient relevance and generality (i.e. they must be applicable to a large number of items). Gradation is more relevant, for adjectives than are the other categories, in that it has more 'real meaning'; it is not grammatically predictable whether we choose to say *Jon er dum* 'Jon is stupid' or *Jon er dummest* 'Jon is the stupidest one'. (By contrast, gender agreement is usually grammatically predictable.) Considering the high relevance of gradation in adjectives, it is less surprising that it should be

renewed formally with a periphrastic construction in preference to being lost.[35] Compare also Dammel & Kürschner's (2018: 300) statement in a study of verbs and nouns in four other Germanic languages: "In relevant categories, allomorphy is retained and even increased … whereas allomorphy is reduced … or even completely lost … in less relevant categories".

The concept of relevance may also shed light on another curious fact about adjective inflection in Norwegian. As we have outlined in previous sections (following the same scheme as Faarlund et al. 1997 and major dictionaries), Modern Norwegian has three main classes of adjectival inflection: those that show both gender and number agreement (e.g. *spak*); those that only show number agreement (e.g. *norsk, vennlig*); and those that show no agreement. We might wonder why there is no large class showing gender agreement, but not number agreement.[36] Is this gap accidental? Again, a tentative answer might invoke Bybee's (1985) notion of 'relevance', roughly translated as 'real meaning'. It can be argued on both formal and semantic grounds that number is more relevant for adjectives than is gender and definiteness. The formal argument for this is that number in adjectives may be expressed suppletively, if only for the (infamous and over-differentiated) adjective *liten* (cf. 4 above).[37] Suppletion is indicative of high relevance, according to Bybee (1985: 23, 91). By contrast, adjective gender is never suppletive in Norwegian. The semantic argument has to do with adjectives that somehow suggest two reciprocal actors, such as *lik* 'similar', *identisk* 'identical', *forelska* 'in love'. Compare:

(1) *Romeo er forelska* 'Romeo is in love'
(2) *Romeo og Julie er forelska* 'Romeo and Juliet are in love'

(2) is normally interpreted as saying that Romeo and Juliet are in love with each other, but this is not the only possible reading; conceivably, Romeo may be in love with Rosalind, and Juliet with Mercutio. In the same way, (3) will normally be interpreted as saying that Romulus and Remus are similar to each other, but this is not the only possibility; compare (4) (which does not necessarily imply that Romulus and Remus are similar to each other, since Romulus may have only their father's eyes, and Remus may have only their father's nose).

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[35] The fact that Hansen & Heltoft (2011) argue in favour of gradation being derivational (cf. footnote 33) also indicates that it has a high degree of relevance.

[36] To at least some speakers, there is a minor qualification here. Some can inflect adjectives such as *blå, grå* with a suffix in the singular, but none in the plural. However, this class is numerically tiny compared to the three we have emphasised, and it is not usually seen as a class in standard dictionaries.

[37] *Liten* can also display a lexical split for definiteness (*vesle*), although this is less widespread than that for number. Besides, definiteness has only pragmatic meaning, and so is less relevant than number.

(3) *Romulus og Remus er like* 'Romulus and Remus are similar'

(4) *Romulus og Remus er like far sin* 'Romulus and Remus are similar to their father'

These examples show that for certain adjectives, an additional reciprocal reading becomes available in the plural. For gender and definiteness, there are no parallel cases. In this sense, number in adjectives affects semantic interpretation and could therefore be regarded as more relevant for adjectives than gender or definiteness. Alternatively, to the extent that agreement markers convey information about the noun that they agree with (see discussion in Dahl 2004: 9-11, 202 and Corbett 2006: 274-275), number can be seen as more relevant than gender in adjectives simply because it affects the semantic representation of the controlling noun more than gender.

In any case, number agreement seems to be more diachronically robust than gender agreement, not only in English:[38] e.g. Kru languages have lost gender agreement but retain number agreement (Marchese 1988), and Cappadocian Greek has lost nominal gender and case agreement but not number agreement, perhaps as the result of contact with Turkish, which lacks all three (Bond et al., forthcoming).

8. Syntactically conditioned loss of inflection

The examples above have shown how changes which would simplify inflection if they occurred instantaneously and across the board can actually make inflection more complex when they move gradually through the lexicon. In a similar way, the loss of inflection can also move gradually through syntactic environments, leading to the complication of syntactic rules.[39]

This can be seen in the different treatment of adjective agreement in predicative vs. attributive contexts. Some varieties of Mainland Scandinavian have lost number agreement only in predicative environments, while retaining it in attributive environments (in line with the predictions of Corbett's 1979 agreement hierarchy). For instance, the Bergen dialect of Norwegian does not distinguish *vi er god* 'we are good' from *han er god* 'he is good', despite retaining a distinction between *en god bil* 'a good car' (singular) and *gode menn* 'good men' (plural). The same phenomenon is familiar from many dialects in Northern Norway (e.g. Bull 1990: 165). In the Danish dialect of Vendsyssel, Jutland,

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[38] Number marking also tends to be diachronically robust in nouns, but it is impossible to make a fair comparison with gender in nouns, since gender fundamentally depends on agreement in a way that number doesn't.

[39] The claim that all languages are equally complex, so that simplification in one area of grammar must increase complexity in another, is well-known, although far from universally accepted (see e.g. Dahl 2009, Nichols 2009). Our intention here is not to make this claim, but merely to show that the loss of an inflectional contrast is capable of increasing syntactic complexity when it moves gradually through syntactic contexts.

gender agreement is retained only predicatively, not attributively (Skautrup 1968: 271). This goes counter to the general pattern in Scandinavian (as Jutish does, from time to time, though a similar case is admittedly reported from Estonian Swedish), but confirms the more general pattern that predicative and attributive agreement can differ.

This is perhaps not too surprising; predicative and attributive are major syntactic categories in that they tend to crop up repeatedly, both within the grammars of individual languages and cross-linguistically. However, we also find the loss of inflection moving gradually through idiosyncratic and local syntactic contexts which have no general relevance in the grammar. For example, in Norwegian, the adjective *glad* 'glad, happy' has lost its plural agreement (at least for some speakers)[40] in the construction *vi er glad i deg* 'we are fond of you'. This is not predictable from the phonological environment, as shown by the presence of explicit plural agreement in *vi er glade i dag* 'we are glad today'. This absence of agreement is characteristic of copula + adjective + preposition constructions that typically predicate a property of an animate noun, and where the combination of the adjective and preposition often gives a slightly different meaning from that of the adjective alone (compare the difference in the English translations, 'happy' vs. 'fond of'). Other examples include 5-7 below:[41]

(5)   Politikerne var *klar over* problemet. (absence of agreement)
        'The politicians were *aware of* the problem'
        (Cf. Bussene er *klare* 'The buses are *ready*', with agreement)

(6)   Hermione og Harry blir veldig *lei av* Ronny iblant. (absence of agreement)
        'Sometimes, Hermione and Harry really get *fed up with* Ron'
        (Cf. De bakkene var jammen *leie* 'Those uphills were really *nasty*', with agreement)

(7)   For de er *fri for* lidelser inntil sin død (absence of agreement)
        'for they are *free from* suffering until their death' (Psalm 73, 4)
        (Cf. Som *frie*, og ikke som de som har friheten til ondskaps skjul, men som Guds tjenere (1 Pet 2, 16) '..as *free people*, and not like those who use freedom as a cover for evil, but as God's servants', with agreement)

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[40] This is probably found more often in the cities than in the rural dialects and more in Bokmål than in Nynorsk. Similar constructions are found, if perhaps to a lesser extent in Danish, even if it is described differently.

[41] The first two pairs of examples are from Holmes & Enger (2018), the third from the same 1930 translation of the Bible into Bokmål published by the Norwegian Bible Society.

However these exceptions to the general pattern of adjective agreement are treated in models of syntax, they must surely be regarded as complications of grammar, since they do not eliminate the need for speakers to learn the general rule for adjective agreement, but they make it necessary for them to learn a number of circumstances in which the general rule is suspended.[42]

9. Conclusion

The changes we have looked at illustrate a number of ways in which the loss of inflection, despite reducing the size of paradigms, can nonetheless increase morphological complexity. The merger of masculine and feminine agreement forms in Norwegian adjectives has reduced complexity in the sense that fewer forms need to be learnt for the majority of adjectives, but because it has left behind the adjective *liten*, it has increased complexity in the sense that it necessitates a lexical exception to the general rule for adjective agreement. The loss of a distinct neuter form in the class of adjectives to which *norsk* belongs has added a new inflection class to the language – i.e. a new set of exceptions to the general rule – without eliminating either the category 'neuter' or the suffix *-t* which is its exponent, since speakers still need these for regular adjective inflection. In the case of indeclinable adjectives, the complete loss of agreement reduces their paradigms to a single form, but the resulting inflection class cannot be captured fully by either phonological or semantic criteria, so that speakers must learn which adjectives belong to the class on a lexeme-by-lexeme basis. Moreover, the introduction of periphrastic gradation for certain groups of lexemes has reduced the number of forms in those lexemes' paradigms, but again created an additional lexically specified pattern of inflection. And finally, we have shown how the gradual progression of agreement loss through syntactic environments can also introduce new lexical exceptions to the general rule for adjective agreement.

As argued in section 5, these developments have to be regarded as making the grammar more complex, whether or not we term them 'inflection classes'. This is because they involve exceptions to general rules, and this fact needs to be represented at some level in any formal grammar. However, we also argued on the basis of diachronic evidence that speakers do in fact analyse these changes as introducing new inflection classes – that is, speakers are liable, at least in certain circumstances, to attribute surface differences in inflection to a property of the lexeme, even if it is possible to come up with an alternative analysis in which surface differences are attributed to morphophonological rules or semantic properties. This suggests that speakers do not always operate with a maximally elegant, reductionist approach to inflection classes.

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[42] Several colleagues have objected that such examples may be lexicalised. That is, however, our very point; speakers have to learn *which* combinations of copula + predicative adjective should not be inflected.

Thus a reduction of agreement does not necessarily entail simplification, and what might look like simplification from close up can be complication from the perspective of the whole grammar. This can unfold over a very long time period – in this case over a millennium – so that the theoretical end point will be reached only after many generations of speakers have lived and died, if at all. Grammar simplification may one day be the eventual result, but it can hardly be the driving force.

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