One Mechanism, Two Victims

A study into inter-paradigmatic neutralization in the plural

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Abstract

This study investigates the relationship between verb agreement and the neutralization of gender in pluralized pronouns. I will present an empirical study of the importance of having or not having rich agreement of the verb, and account for the presumed correlation within the existing theoretical framework. The results of this study bring cross-linguistic complications to the surface. These complications point to the conclusion that even though patterns of neutralization may be observed, it is hard to argue for a bidirectional, inter-paradigmatic correlation between the neutralization patterns in the two domains. The primary goal of this paper was to examine if there is reason to assume that neutralization can inter-paradigmatically target domains in the morphology.

Keywords: agreement, features, morphology, neutralization pronouns, RAH, syncretism.

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1. Introduction

A small sample of languages gives away that there is variation when it comes to gender distinctions on pronouns in the plural. French and Icelandic, for example, retain a difference between at least masculine and feminine on their plural pronouns. English, Norwegian, Danish, and Swedish, however, distinguish for gender in the singular, but go with one form in the plural. At first sight, the divide between languages seems similar to the divide between languages with rich or poor agreement morphology on the verb (Bobaljik, 2002; Koeneman & Zeijlstra, 2014).

In this paper I will investigate whether having rich or poor agreement correlates with having or not having gender on pronouns in the plural. This study builds on earlier research on rich agreement morphology and its correlation with V-to-I movement by Bobaljik (2002), Koeneman and Zeijlstra (2014), and Tvica (2017). By doing so, we will get a clear insight in what exactly constitutes rich agreement, which enables us to get a more informed idea of rich agreement as a trigger of variation in gender distinctions on plural pronouns.

In the next chapter, I will present background on the debate about rich agreement and V-to-I movement, and formulate a hypothesis based on agreement morphology and neutralization patterns. Chapter 3 will contain a closer examination of the languages that have led to suggesting this hypothesis. In the same chapter, I will introduce a more rigid generalization, and discuss how this generalization can be accounted for theoretically. In chapter 4, I will introduce an empirical study that is designed to test the hypothesis against an extended empirical base. After that, I will discuss the data and its implications for the presumed correlation in chapter 5, and lastly conclude this paper with final remarks on the findings, including directions for further research.

2. Agreement, Verb Movement, and Gender Neutralization

In this chapter, some of the existing literature on so-called V-to-I movement will be discussed. I will first elaborate on the diagnostics of verb movement, and what it looks like syntactically. After that, I will give an overview of the recent discussion on V-to-I movement, and how the notion of inflectional richness plays a key role in the debate. Section 2.1. contains a discussion of theoretical approaches of V-to-I movement by Bobaljik (2002) and Koeneman & Zeijlstra (2014), which argue for different approaches of how V-to-I movement works and what it is that triggers this movement. This will pave the way for section 2, in which gender neutralization in the plural will be discussed in light of the Rich Agreement Hypothesis. Lastly, I will move toward a new hypothesis, which will be more closely examined in the next chapters.

2.1. The Rich Agreement Hypothesis

Over the past decades, there has been debate over so-called V-to-I movement. This debate revolves around the idea of the verb moving out of the Verb Phrase (VP) into the Inflection Phrase (IP), as a result of rich agreement on the verb (cf. Roberts 1985; Pollock 1989; Roberts 1993; Rohrbacher 1994; Holmberg and Platzack 1995; Vikner 1995; Bobaljik and Thráinsson 1998; Koeneman and Zeijlstra 2014; Tvica 2017, among others). The diagnostic for verb movement out of the VP into I is the position of the adverb or negation relative to the verb. This is illustrated in (1) for English, and in (2) for Icelandic:

(1) The position of the finite verb in English

a.		I			rarely		play	soccer
b.		*I	play		rarely		\<v\>	soccer
	[IP	subject	Infl	[VP	adverb	[V'	V	object]]]

(2) The position of the finite verb in Icelandic[1]

a.	Maria	spurði	hvern	hann	talaði	oft		við
	Maria	asked	whom	he	talked	often	\<v\>	to
[IP	main clause	[CP	C	[IP	subject	Infl.	[VP	adverb	V	P]]]]

[IP main clause [CP C [IP subject Infl. [VP adverb V P]]]]
"Maria asked whom he had often talked to"

<p style="text-align:right">(Franco, 2010, p.9)</p>

Examples (1) and (2) present how the verb is positioned relative to the adverb. Adverbs and negation are taken to mark the left edge of the VP. In case a verb is located left of the adverb, the verb must have moved past it. Under this assumption, the verb is in situ in English and has moved in Icelandic. See (3) for abstraction of V-to-I movement.

(3)
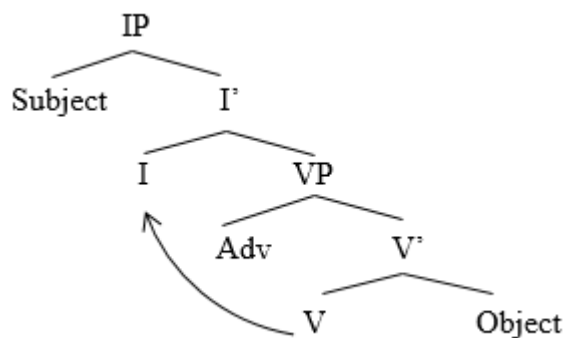
The structure in (3) shows that in order to create a canonical order in which the verb precedes the adverb, the verb must hop over the adverb into the I-position. I will outline theoretical approaches of this phenomenon below, beginning with Bobaljik (2002) and Bobaljik & Thráinsson (1998) (henceforth, B&T).

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[1] Icelandic has V2 in the embedded clause, and V-to-I is therefore only visible in contexts in which V2 is blocked, such as embedded questions.

2.2.Bobaljik (2002)

The hypothesis Bobaljik (2002) introduces is a correlation with a one-way implication, given in (4):

(4)   If a language has rich inflection then it has verb movement to Infl. (Bobaljik 2002, p.4).

This hypothesis does not have consequences for poor languages, as the hypothesis only explicitly states consequences for rich languages. In other words, Bobaljik claims that if a language is rich, it needs to have the verb moving out of V into I. If a language is poor, it could either stay in V, or move to I. Let me explain how exactly Bobaljik uses rich agreement in relation to V-to-I. Consider the verb conjugations of Icelandic and English in (5a-b):

(5)   a. Icelandic: heyra 'hear'   b. English: walk

	Present	Past	Present	Past
1 psn sg.	heyr-**i**	heyr-**ði**	walk-**Ø**	walk-**ed**
2 psn sg.	heyr-**ir**	heyr-**ði-r**	walk-**Ø**	walk-**ed**
3 psn sg.	heyr-**ir**	heyr-**ði**	walk-**s**	walk-**ed**
1 psn pl.	heyr-**um**	heyr-**ðu-m**	walk-**Ø**	walk-**ed**
2 psn pl.	heyr-**ið**	heyr-**ðu-ð**	walk-**Ø**	walk-**ed**
3 psn pl.	heyr-**a**	heyr-**ðu**	walk-**Ø**	walk-**ed**

(Bobaljik 2002, p.3)

Bobaljik argues that Icelandic, with its variety of affixes, can agree for person and number, and has an independent marker for tense. In the second person plural, for example, 'ið' marks the person in the present tense. In the past tense, this final '-ð' is still there, but preceded by 'ðu'. This suggests that 'ðu' can be taken as an agreement marker for tense, and final '-ð' for person agreement. English only has third person singular '-s' as a person marker in present,

and the present forms lack an affix. In past tense, all endings are similar, namely '-ed'. It thus appears that English can only bear one type of inflection, and that the various inflectional morphemes are in complementary distribution. There are the options of either person, '-s' or 'Ø', or past '-ed', but never a co-occurrence of tense and agreement. Hence, (6a) is ungrammatical in English, contrary to (6b-c):

(6)   a.   *He trembleds
       b.   He trembled
       c.   He trembles

Icelandic, under Bobaljik's definition, now counts as rich, because the verb carries separate morphemes for on the one hand person and number agreement, and tense on the other. It has just been established that Icelandic can bear different morphemes for agreement and tense, and that English cannot. Bobaljik argues that having different morphemes for agreement leads to V-to-I movement. He claims that because tense and person agreement are represented simultaneously by a different affix, those affixes must both have a different structural position. Those positions are the AgrP for person agreement and TP for tense. The structure that has an AgrP and a TP is called a Split-IP. English does not have an AgrP and TP, and therefore has a Simple-IP. The two different structures are illustrated in (7a-b).

(7a)

```
        AgrP
        /    \
            Agr'
            /    \
         Agr     TP
                /   \
                    T'
                   /   \
                 Tns ←→ VP
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(7b)

```
        IP
       /   \
            I'
           /   \
    Infl[tns/agr]  VP
                  /   \
                 V    Object
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The structure in (7a) shows that the VP, which hosts V, sits right next to Tns. Therefore, Bobaljik argues, it can check features and carry the tense morpheme on the verb. The Agr is too far away from the VP to have features checked against one another. For Agr to check features with the verb, the verb needs to be close to Agr, in the way that Tns is close to the verb. Therefore, the verb has to move out from the VP into Agr, so that it can check features. Hence, the verb has hopped over the left edge of the VP, past the adverb. At the same time, poor languages do not need to have the verb move out of V into I, because the checking relationship between V-to-I is the same as the one between the VP and Tns in (7a). In this way, the checking requirements are met. Bobaljik has not only established that richness and movement correlate, but under this analysis it is the case that the movement operation follows logically from having rich agreement on the verb.

Bobaljik then moves on to explain why it is not necessarily the case that poor languages lack the ability to have V-to-I movement. Faroese is taken as an example for this claim. First consider the sentence structure of Faroese in (8).[2]

(8) a. Taþ var ovæntaþ at dreingirnir voru als ikki ósamdir
it was unexpected that boys-the were at-all not disagreed
b. Taþ var ovæntaþ at dreingirnir als ikki voru ósamdir
it was unexpected that boys-the at-all not were disagreed

(Jonas, 1995, in Koeneman, 2000, p.81)

Example (8) shows that two possibilities exist in Faroese. Even though all speakers accept option (b), there is a subset of speakers that can opt for option (a). In (8a), the verb precedes

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[2] Just like Icelandic, Faroese has a V2 structure in the embedded clause. Only in certain cases, such as with negation, V2 is neutralized.

negation, whereas in (8b) negation precedes the verb. Example (8a) presents a situation in which the verb may have moved out of the VP into I.

Now consider the inflectional paradigm of Faroese in (9).

(9) Faroese: kasta 'throw'

	Present	Past
1 psn sg.	kast -**i**	kasta -**ði**
2 psn sg.	kasta -**r**	kasta -**ði**
3 psn sg.	kasta -**r**	kasta -**ði**
1 psn pl.	kast -**a**	kasta -**ðu**
2 psn pl.	kast -**a**	kasta -**ðu**
3 psn pl.	kast -**a**	kasta –**ðu**

(Bobaljik, 2002, p.10)

Different conclusions can be drawn from the paradigm in (9). One is that Faroese, just like Icelandic, carries multiple inflectional elements for tense and agreement on the verb. This follows from the difference in (10):

(10)   Past singular: kasta –**ð** – **i**
        Past plural: kasta –**ð** – **u**
                    (Bobaljik, 2002, p.14)

Bobaljik points out that there are numerous problems with this analysis. First of all, '-u' in itself cannot be the plural marker following the consonant that would indicate past tense. It turns out that '-u' is only a plural marker in the past tense, and that plural is indicated by '-a' in present tense. If one would like to decompose '- ðu' into '-ð – u', one will run into trouble. Morpheme '–ð' would be marked for past tense, and '– u' needs to be marked for both past tense and plural to create the correct instantiation of the plural in present and past tense. Bobaljik argues that such a segmentation would overcomplicate the morphological distinctions for tense

and agreement, and that paradigm (9), in which the affixes cannot be decomposed further, is a more likely analysis of the morphology of Faroese. Bobaljik has now provided an alternative analysis for Faroese, in which he argues that the agreement affixes in Faroese are not suitable for further decomposition. This means that Faroese is poor under Bobaljik's analysis. Under a bi-directional hypothesis, Faroese should not have V-to-I movement. However, example (8a) provides a sentence in which the verb sits left of the adverb, and which Bobaljik takes this as an instantiation of V-to-I movement. This means that Faroese is a poor language with V-to-I movement, which leaves no other conclusion than that poor languages can possibly have a structure that allows for V-to-I movement. In this way, Bobaljik presents the problematic nature of Faroese, and how it therefore excludes a hypothesis that is bidirectional. That is, predictions can only be made for rich languages, but not for poor ones. Rich languages always have the verb moving to Infl., whereas poor languages might have V-to-I movement (7a), but could also have the verb remaining in V (7b).

One important fact that follows from Bobaljik's account is that under this one-way generalization syntax drives morphology, and that morphology does not drive syntax. The fact that one cannot make predictions for poor languages, based on their poor inflectional morphology, leads to the conclusion that it is only syntax that is responsible for verb movement.

2.3.Koeneman & Zeijlstra (2014)

Koeneman & Zeijlstra (2014) (henceforth K&Z), argue that there is a strong, two-way correlation between rich inflectional morphology and V-to-I movement, contrary to Bobaljik's argument. K&Z begin with providing an alternative definition for richness, in which they link richness to the building blocks of pronominal inventories. Those building blocks are taken to be the features [± Speaker], [± Participant], and [± Plural]. Based on universal 42 by Greenberg (1963), and Harley & Ritter's pronominal geometry (2002), K&Z argue that the most minimal

pronominal inventories make distinctions between those three features. More precisely, K&Z propose that the number of featural distinctions that the poorest pronoun systems distinguish marks the lower bound of featural distinctions that agreement morphology on the verb should have in order to have V-to-I movement. The language Kuman is a language that instantiates the poorest possible pronominal system, and is therefore taken as a diagnostic for a language that has the lowest number of featural distinctions on its pronouns, shown in (11) and (12).

(11) Kuman's pronoun inventory

	SG	PL
1st	na	no
2nd		ene
3rd		ye

(12) Kuman's featural distinctions

na → [+ speaker], [- plural]

no → [+ speaker], [+ plural]

ene → [-speaker], [+ participant]

ye → [- speaker], [- participant]

(K&Z 2014: 574)

The data in (11) leads to the analysis in (12) as follows. First person singular *na* is specifically marked for first person features [+speaker], and cannot be mistaken for a plural form, leading to [- plural]. This works the same for first person plural *no*, in that it is unmistakably first person plural [+ speaker] [+ plural]. The second and third person forms *ene* and *ye* do not specify for number since they can be used both in the singular and the plural. Second person *ene* is marked for the second person feature [+ participant], and is therefore in contrast with third person *ye*, which is marked for [-participant]. Hence, the analysis in (12) represents the configuration in (11). Since Kuman is an instantiation of the poorest pronominal system, K&Z provide a definition of rich agreement based on the number of featural distinctions in the poorest pronominal systems, in (13):

(13)   A language exhibits rich subject agreement if and only if agreement involves at least the same featural distinctions as those manifested in the smallest (subject) pronoun inventories universally possible (K&Z, 2014, p.574).

Under this definition of richness, a language needs to have at least three relevant featural distinctions to have it count as a language with rich agreement morphology. That means that adjacent pairs of affixes can either be morphologically similar or different. In case they differ, there is evidence for featural distinctions. It is therefore important to note that the notion of richness depends on underlying features and not on surface forms.

Assuming the definition in (13), Icelandic counts as rich, whereas English does not, as shown in (14) and (15):

(14) a. Icelandic   b. English

Inf. seg-ja 'to say'   Inf. walk

	SG	PL		SG	PL
1st	seg-i	seg-jum		walk-Ø	walk-Ø
2nd	seg-ir	seg-ið		walk-Ø	walk-Ø
3rd	seg-ir	seg-ja		walk-s	walk-Ø

(15) a. Icelandic   b. English

-i   → [+speaker], [- plural]   -s   → [- participant] [- plural]

-ir   → [- speaker], [- plural]   Ø   → *elsewhere*

-jum   → [+ speaker], [+plural]

- ið   → [- speaker], [+ participant], [+ plural]

-ja´   → [- participant], [+ plural]

(K&Z, 2014, p.575)

Icelandic has three featural distinctions. In the adjacent couples, there are distinctions between [+/- speaker], [+/- participant], and [+/- plural], and therefore counts as rich. English only has two, and counts as poor. After K&Z established the definition of richness, they argue that for a language to show V-to-I movement, it must exhibit rich agreement, and that when a language has V-to-I movement, it must also have rich agreement, as it has been defined in (14). According to this hypothesis, Icelandic should have V-to-I movement, and English should not, which turns out to be correct.

K&Z then turn to show how apparent counterexamples to the strong RAH in fact turn out to comply with their strong generalization. For details of this, I refer to K&Z (2014), although I will now illustrate the difference between K&Z and Bobaljik with the case of Faroese.

Like Bobaljik, K&Z count Faroese as a poor language, be it based on a different definition of richness. That means that K&Z predict that Faroese cannot have V-to-I movement. Bobaljik, however, argues that there are speakers of Faroese that have a grammar with V-to-I despite its poor inflectional paradigm. This problem is presented in example (8), repeated here.

(8)	a. Taþ	var	ovæntaþ	at	dreingirnir	voru	als	ikki		ósamdir
	it	was	unexpected	that	boys-the	were	at-all	not		disagreed
	b. Taþ	var	ovæntaþ	at	dreingirnir		als	ikki	voru	ósamdir
	it	was	unexpected	that	boys-the		at-all	not	were	disagreed

(Jonas, 1995, in Koeneman, 2000, p.81)

In (8a), the verb moves past negation, which is a type of sentence which Bobaljik takes as an instantiation of V-to-I movement. This should be impossible under the strong Rich Agreement Hypothesis (RAH), which is indeed what K&Z argue. In accordance with Heycock,

Hansen, and Sorace (2010), they propose that the apparent case of V-to-I in fact does not exist, and that verb movement in the embedded clause is a V2-effect, and therefore V-to-C movement.

Faroese, just like many other Scandinavian languages, has V2 in the embedded clause. Heycock et al. (2010) show that the Scandinavian languages have restrictions to V2 in the embedded clause. In other words, Scandinavian languages do not allow V2 in, for example, embedded questions or embedded negation. In those environments where embedded-V2 is blocked in Icelandic, such as embedded questions and negation, the verb still sits left of the negation or adverb. This must then be caused by V-to-I movement. In similar environments in all the tested dialects of Faroese, all examples in which the adverb or negation preceded the verb were deemed ungrammatical. This means that the verb does not move past the negation or adverb, and that there is no V-to-I movement. This means that in Heycock et al.'s analysis, there is no evidence for V-to-I movement in any variant of Faroese. This has important implications for K&Z's proposal of a strong, two-way correlation between rich agreement and V-to-I movement, which now appears to be tenable. The counterexample by Bobaljik turns out to be no more than an apparent counterexample.

After K&Z countered the arguments against a strong RAH, they formulate a proposal as to what rich agreement (and poor agreement, for that matter) would look like in the syntax. In order to do so, the Argument Phrase (ArgP) is introduced for languages with rich agreement morphology. The structures of rich languages and poor language are given in (16a) and (16b), respectively.

(16a)

ArgP

[argument]   vP

Adv/Neg   vP

DP   v'

v   VP

V   DP

(16b)

vP

v   VP

v   [plural]
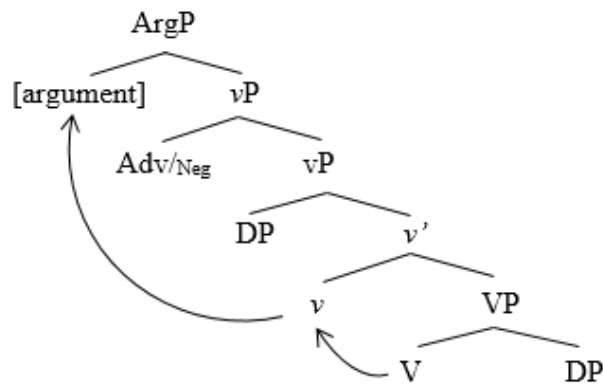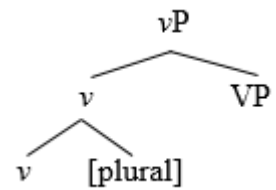
(K&Z, 2014, p. 597)

The structures in (16a-b) show that for poor agreement languages, the inflection features for those languages reside within the *v*P and that they can check features there. [3] Hence, no movement is required. For rich languages, K&Z assume the superfeature [Argument] that hosts the features [speaker], [participant], and [plural]. They argue that only rich languages have the ArgP, which is a formal feature. Arg is a grammatical counterpart of the semantic notion of argumenthood. This is derived from the principle that the verb and its complement must merge with an external argument – the subject – for semantic reasons. The Arg, in which the agreement features are base-generated, triggers the subject to move to specifier-ArgP to match its features (Tvica, 2017). Since the inflectional morpheme is attached to the verb as an affix, the verb is forced to move out of the VP into Arg, so that the inflectional morpheme can be attached to the verb. This, in short, is how verb movement to Arg is constituted. For languages that lack the inflectional properties as defined by K&Z it is the case that their agreement features are a property of the *v*P. Within the *v*P, agreement features can check, and no movement is required.

K&Z's analysis of the Rich Agreement Hypothesis argues that there is a strong, bidirectional relation between agreement morphology on the finite verb, and the verb moving

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[3] K&Z (2014) assume the existence of little v '*v*P', following Kratzer (1996).

to I, or Arg. Importantly, this theory not only states that languages with rich agreement morphology have V-to-I movement, it shows why this is the case. The notion of richness in terms of featural distinctions similar to pronominal inventories is key to the proposal. Not only does the RAH under this definition make the correct predictions for the languages discussed by K&Z, it also provides a clear framework for analyzing agreement morphology in other languages.

2.4. Interim Summary

In the previous section, I have discussed how rich agreement correlates with V-to-I movement. Bobaljik (2002) proposed a generalization that only goes one way, and which states that if a language has rich agreement, the verb should move to Infl. Languages with poor inflection can have the verb either remaining in V, or moving into Infl. Koeneman and Zeijlstra (2014) show that Bobaljik's hypothesis is too weak, and that there actually is one rule for the rich, and another one for the poor. This means that if a language is rich it has to move to verb from V-to-I, and that if a language is poor, it cannot constitute this movement. Based on K&Z's proposal, a schematization of the divide is presented in Table 2.1.

	no *v*-to-I	*v*-to-I
Rich agr.	✗	✓
Poor agr.	✓	✗

Table 2.1 Predicted Typology of the RAH by K&Z

In the next section, I will discuss gender neutralization in plural, in relation to the RAH by K&Z (2014).

2.5.Gender Neutralization in the Plural

In this section, I will discuss differences between languages' pronominal inventories in a variety of languages, and show that there seems to be a correlation with the RAH. I will devote attention to differences between third person singular and third person plural forms, and how some languages have contrastive gender forms in the singular but neutralize these contrastive forms to one in the plural. This will then form the framework for the next section, in which I will move towards a new hypothesis.

With respect to variation between third person singular and plural pronouns, an elaborate examination by Greenberg (1963) led to the generalization that "[a] language never has more gender categories in nonsingular numbers than in the singular" (p. 95; attested by Harley & Ritter, 2002). This means that a language can only have as much as, or less gender categories in plural than in singular. This is borne out by the Germanic languages, Swedish and Norwegian here serving as an example in (17).

(17) a. <u>Swedish</u>   b. <u>Norwegian</u>

SG	PL	SG	PL
han/hon/hen	de	han/ho/det	dei
he/she/it	they.ɪ	he/she/it	they.ɪ

Swedish and Norwegian show three distinct gender categories in the 3rd person singular: *han* and *det* 'masculine', *hon* and *ho* 'feminine', and *hen* and *det* 'neuter'. In the plural, there is only one gender category, *de* and *dei* 'impartial'. The Icelandic and French inventories, in contrast, structurally differ from the Swedish and Norwegian ones in third person:

(18) a. <u>Icelandic</u>   b.   <u>French</u>

SG	PL	SG	PL
Hann/hún/það/hán	Þeir/þær/þau	il/elle/on	ils/elles
He/she/it/it	they.M/F/N	he/she	they.M/F

The inventories in (18a-b) show that here, too, the number of gender categories in plural do not exceed the number of gender categories in singular. In contrast to Swedish and Norwegian in (17a-b), however, there is more than one gender category in the plural in French and Icelandic. In the singular, Swedish, Norwegian, Icelandic, and French do not differ from one another. They all show three gender categories in the singular. In the plural, it appears to be the case that Icelandic and French only drop one gender category, namely neuter, but retain at least masculine and feminine. Swedish and Norwegian show complete gender neutralization in the plural, and end up having one uniform third person plural pronoun.

Altogether, it is possible to group languages together based on their pronominal forms in the third person plural. The first group consists of Icelandic and French, which show gender distinctions (as can be seen in (18)). The other group has English, Swedish and Norwegian, which have complete gender neutralization in the plural. Danish can be added to this list, with *de* 'they' as their only plural form in third person.

When we revisit the Rich Agreement Hypothesis by K&Z (2014), it turns out that there is a striking similarity in the grouping of languages. Icelandic and French are languages that have rich agreement morphology. It has just been established that those three languages all have gender-distinct forms for their third person plural pronoun. Swedish, Danish, English, and Norwegian, then, are all considered to be poor. Those four languages also have complete gender neutralization in plural. In the previous section I have outlined the correlation between richness of agreement and V-to-I. Based on the data presented in this section, there appears to be a

correlation between having rich agreement on the verb, and having pronouns marked for gender in the third person plural. The languages with rich agreement are the languages with distinct plural forms for gender, whereas the languages that are poor have complete neutralization.

Based on the data presented above, one could assume a correlation of the same type as K&Z's RAH. This would mean that if a language is rich, it has to have both V-to-I and distinct third person plural pronouns marked for gender, and vice-versa. Poor languages, however, can neither have V-to-I nor gender expressed on the third person plural pronoun. Such a correlation would be too strong, however. One counterexample to such a strong correlation comes from Yiddish. Yiddish is a language that has rich agreement and V-to-I, but, contrary to what is predicted by a bidirectional correlation, does also have gender neutralization in plural, given in (19).

(19)   Yiddish

    SG   PL

    er/zi/es   zey

    He/she/it/   they.ɪ

This leads to the conclusion that if there is a correlation between rich agreement morphology on the verb and gender neutralization in plural, it only goes one way. Yiddish shows that predictions about gender on third person plural pronouns cannot be made for rich languages. The other claim, that poor languages are poor and have complete gender neutralization on their plural pronouns, remains. This one-way correlation is schematized in Table 2.2.

	Gender neutralization	Gender distinctions
Rich agr.	✓	✓
Poor agr.	✓	✗

Table 2.2 Predicted Correlation between gender neutr. and *v*-to-I

If we compare the generalization schematized in Table 2.1. and Table 2.2., it is clear that they overlap in one particular aspect. Table 2.1. shows that if a language has poor agreement, it is ruled out to have V-to-I. Table 2.2. shows that if a language is poor, it cannot have gender distinctions in the third person plural. In other words, there is a shared condition of poor agreement, but the entailment is different in both cases. Based on this hypothesis correlation, I will present a new hypothesis in the next section, and provide a more full-fletched generalization in chapter 3, to which end I will carry out an empirical study that is presented in chapter 4.

2.6. A New Hypothesis

Based on the data from the Germanic languages, and French and Italian, which were discussed in K&Z, there is reason to assume that when a language has no V-to-I movement, it has pronominal gender neutralization in plural. Considering this, a generalization can be made that is at least tenable across the languages examined in K&Z, in (20):

(20)   If a language has poor agreement morphology on the verb, it must have neutralized pronominal gender in the plural.

Hypothesis (20) is a one-way generalization, and only makes predictions about poor languages. For rich agreement languages, the hypothesis does not make any predictions, which means that those languages could either have gender neutralization in the plural, or have a full-fletched inventory that is also marked for gender in the plural.

In the next chapter, I will introduce a more specific generalization which expands the scope of the hypothesis in (20), and put forward a suggestion with respect to the mechanism that is possibly responsible for the neutralization patterns observed in this chapter.

3. From hypothesis to generalization

The hypothesis presented in the previous chapter suggests a correlation between having or not having gender in the plural and having or not having rich agreement. In this chapter, I will formulate a more comprehensive generalization, and provide suggestions as to what could potentially underlie the observed neutralization. Before moving on to formulating a concrete generalization, however, I will first discuss Faroese. Based on the hypothesis outlined above Faroese appears to be a problematic case. In this section I will show why this might be the case, and how this could be addressed. This will then enable us to move on with an analysis of the other languages that have been discussed in K&Z (2014).

3.1. Faroese

Faroese is expected to neutralize gender in the plural if we take K&Z's definition of richness. Faroese retains gender distinctions on its pronouns in the plural, contrary to expectation. Consider (21).

(21)   Faroese agreement   Faroese pronouns

      -i   →   [+ speaker]   SG   PL

      -ir   →   [- speaker]   hann/hon/tað   teir/tær/tey

      -a   →   [+ plural]   he/she/it   they.M.F.N

The status of Faroese is therefore largely problematic. If Faroese indeed constitutes a counterexample to the generalization, there is no point in further testing it against a bigger sample of languages. It must be noted, however, that the status of Faroese is much debated in the literature. Recall from the previous chapter that Bobaljik (2002) classifies Faroese as a poor

language with V-to-I movement. Heycock and Sundquist (2017), moreover, argue that the movement in Faroese's embedded clauses might in fact be V-to-C movement. In other words, the morphosyntactic status of Faroese is far from uncontroversial, and it can be argued that the language shows a type of verb movement that is typically associated with rich agreement.

If rich agreement is taken to be the main prerequisite for retaining gender distinctions in the plural, there two are definitions of richness, which both lead to different conclusions. Under the K&Z definition, where richness is defined by featural distinctions in the agreement morphology, Faroese is undoubtedly poor and forms a counterexample to the generalization. However, Bobaljik defines richness in terms of decomposition of morphemes, and argues that if a language is able to decompose separate morphemes for tense and agreement, it is rich. Under such a definition Faroese could be rich, and therefore retain its gender in the plural.

Alexiadou and Fanselow (2000) assume Bobaljik's definition of richness and consequently derive Faroese as a rich language. Reconsider the agreement paradigm of Faroese in (8), repeated here.

(8)   Faroese: kasta 'throw'

	Present	Past
1 psn sg.	kast -**i**	kasta -**ði**
2 psn sg.	kasta -**r**	kasta -**ði**
3 psn sg.	kasta -**r**	kasta -**ði**
1 psn pl.	kast -**a**	kasta -**ðu**
2 psn pl.	kast -**a**	kasta -**ðu**
3 psn pl.	kast -**a**	kasta –**ðu**

(Bobaljik, 2002, p.10)

Alexiadou and Fanselow propose the following segmentation of tense and agreement morphemes for the past tense in Faroese, in order to have it count as rich (p.10).

(22)   Past singular: kasta **–ð – i**

        Past plural: kasta **–ð – u**

They derive this segmentation as follows. Alexiadou and Fanselow argue that the vowel change from the singular to the plural in the past is a change that indicates an agreement change for number. If this is indeed the proper segmentation for Faroese, the language would count as rich, and retention of gender distinctions in the plural is expected.

The proposal by Alexiadou and Fanselow, however, is controversial. A number of problems arise if we indeed take Alexiadou & Fanselow's segmentation of agreement morphemes.

First of all, Bobaljik argues, as has been discussed in chapter 2 as well, that this would unnecessarily complicate morphological segmentation of Faroese. Bobaljik shows that if one follows Alexiadou and Fanselow's segmentation method, there is only one proper segmentation for the Faroese plural past tense, given in (23).

(23)   kasta **-ð -u**

        throw-[Past]-[Plural, Past]

Bobaljik argues that this is the case based on the present tense paradigm. It would be desirable to segment the '-ð-' as a separate [past] feature, and '-u' as the morpheme carrying [plural]. This, however, does not work, since '-u' is the plural marker in the past tense only. In the present tense, 'a' marks plurality. According to Bobaljik, this segmentation would overcomplicate the morphological distinctions in Faroese, and the vowel change in Faroese is according to him nothing more than a vowel change, rather than a morphological change instantiated through the syntax.

In short, there appears to be no clear way to define the morphological status of Faroese. If it is a poor language, it does have certain syntactic treats that are usually not associated with poor languages, and retaining gender distinctions in the plural would add up to that. If it is in fact a rich language (cf. Alexiadou & Fanselow, 2000), the retention of gender on its plural pronouns is not unexpected if we assume that poorness is the trigger for losing gender. What can be concluded is that the status of Faroese is questionable at best, and that there is no conclusive way to account for its behavior. It would be too early to regard the co-occurring phenomena, namely richness or poorness of agreement morphology and neutralization of gender on plural pronouns, as coincidental based on the controversial counterexample of Faroese. I will therefore get back to Faroese in the discussion, but put it aside for the remainder of this chapter.

3.2. Inclusion of OV-languages

In the next section, I will more closely examine the neutralization patterns in the Germanic and Romance languages that have been discussed in K&Z (2014). I will also incorporate a number of other Germanic languages that have not been analyzed in their study. K&Z (2014) and Bobaljik (2002) exclude OV-languages from analysis. The reason for excluding these languages in their papers is as follows. OV-languages are head-final languages, which means that they always put the head of the VP and IP at the end of the phrase. If in such a language the verb moves out of V to I, it moves to a phrase-final position, and is therefore always realized after the negation. In other words, the movement the verb undergoes cannot be derived from the position of the verb relative to the adverb or negation, while this is the main diagnostic to see if a language has V-to-I movement. Therefore, OV-languages have been excluded from RAH analyses.

Whether a language is OV or VO is irrelevant to the study presented here, however. The hypothesis introduced in the previous chapter is impartial to the issue of the RAH and verb movement. The subject of this study is a morphological correlation, based on agreement morphology, and does not concern other syntactic properties. Hence, there is no reason to exclude OV languages from the analysis. OV-languages such as German and Dutch, which have not been analyzed for V-to-I in the studies mentioned above, will nonetheless be relevant for the purposes of this research.

3.3. Towards a generalization

In the previous chapter I hypothesized that there is a correlation between agreement morphology and gender neutralization on plural pronouns. In this section, I will look at the morphological build-up of the agreement and pronouns. I will first look at languages with poor agreement morphology that have been discussed in K&Z, after which I will turn to rich languages.

Danish, Norwegian, and Swedish all behave identically. All three languages have the exact same agreement, or non-agreement, on the verb, given in (24).

(24)   Danish, Norwegian, Swedish agreement

-er → [+ finite]

The agreement in those three languages shows that person and number agreement has been completely neutralized, and that all distinctions for both person and number are not spelled out. The neutralization pattern is also similar: Danish, Swedish, and Norwegian have three pronouns in the singular for masculine, feminine, and neuter, but neutralize these distinctions

in the plural.   The agreement morphology is slightly different in English and Dutch, given in (25) and (26).

(25)   a. English   b. Dutch 'lopen' to walk
    1sg   walk-**Ø**   loop-**Ø**
    2sg   walk-**Ø**   loop-**t**
    3sg   walk-**s**   loop-**t**
    1pl   walk-**Ø**   lop-**en**
    2pl   walk-**Ø**   lop-**en**
    3pl   walk-**Ø**   lop-**en**

(26)   a. English agreement   b. Dutch agreement

    -s   →   [- participant] [- plural]   -ø   →   [+ speaker]

    -ø   →   elsewhere   -t   →   [- speaker]

                                                    en   →   [+ plural]

English only has an agreement marker for the non-participant in the singular, and has neutralized agreement for the other two persons in the singular, and in the plural. Dutch and Faroese both have agreement for the speaker and non-speaker persons in the singular, but the agreement is neutralized in the plural. English and Dutch neutralize gender on the pronouns, which falls in line with the hypothesis. So far, it could still be the case that it is poorness that constitutes neutralization of gender on plural pronouns, although, as we have seen in the previous chapter already, this alone cannot account for all the data since there are rich languages that neutralize gender in the plural as well. Reconsider the Yiddish inventory in (19), repeated here, as well as its agreement morphology.

(19)   a. Yiddish agreement   b. Yiddish pronouns

    -ø   →   [+ speaker]   SG   PL

    -st   →   [+participant]   er/zi/es   zey

    -t   →   [- speaker] [-participant]   he/she/it   they

    -n   →   [+ plural]

    -t   →   [-speaker] [+ plural] [+ participant]

Yiddish is unmistakably rich, and is under the hypothesis in (20) not necessarily expected to neutralize. However, Yiddish does neutralize in the plural, namely first and third person, which both agree with '-n.' Even though it is a rich language, it neutralizes in the plural. German, a rich language that neutralizes gender in the plural, shows the same pattern as Yiddish.

(27)   German agreement   German pronouns

    -e   →   [+ speaker]   SG   PL

    -st   →   [+ participant]   er/sie/es   sie

    -et   →   [- speaker] [- participant]   he/she/it   they

    -en   →   [+ plural]

    -t   →   [+ participant] [+plural]

What (19) and (27) show, is that despite the fact that German and Yiddish are rich, they neutralize gender in the plural. Moreover, they also neutralize agreement, at least to an extent, in the plural. If we now consider Icelandic and French, we see a different pattern of agreement, but also a different spell-out of pronouns in the plural.

(28) a. Icelandic agreement   b. Icelandic pronouns

    -i   → [+ speaker]   SG   PL

    -ir   → [- speaker]   Hann/hún/það/hán   Þeir/þær/þau

    -jum → [+ speaker] [+ plural]   He/she/it/it   they.M/F/N

    -ið   → [- speaker] [+ participant] [+ plural]

    -já   → [- participant] [+ plural]

(29) a. French agreement[4]   b. French pronouns

    Je   →   [+speaker]   SG   PL

    tu   →   [+ participant]   il/elle/on   ils/elles

    il/elle/on →   [- participant] [- speaker]   he/she   they.M/F

    nous   →   [+ speaker] [+plural]

    vous   →   [+ participant] [+plural]

    ils/elles→   [- speaker] [- participant] [+ plural]

Both French and Icelandic show that all plural features are combined with a person feature. That leads to specific forms for speaker, participant, and non-participant in the plural, without syncretic forms. This obviously differs from German and Yiddish, for example, which only have a specific form for participant. The speaker and non-participant have only been marked for the plural, which constitutes syncretic forms.

The hypothesis only indicated a divide between rich and poor languages, but this appears not to be strong enough. So far, all languages that have syncretism in the plural neutralize

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[4] K&Z (2014) argue that in Colloquial French, the pronominal subject clitics are in fact agreement markers. I follow this assumption. Do note that a different analysis of French agreement does not have consequences for the proposal, and that the agreement markers on the verb are also non-syncretic in the plural.

gender on their plural pronouns. The languages without syncretism, which have here been limited to two, retain their gender distinctions.[5] There have been no languages without syncretism in the plural that neutralizes gender on its plural pronouns, and nor has there been a language with syncretic form in the plural, that retain the gender distinctions on plural pronouns. This leads to a generalization that is bidirectional.

(30)   Iff a language has syncretic form in the plural part of the agreement paradigm, it neutralizes gender in the plural of the pronominal paradigm.

In the next chapter, I will present an empirical study in order to test this generalization, but I will first elaborate on the theoretical implications of such a generalization.

3.4. Theoretical implications

The generalization in (30) suggests a correlation in which neutralization in the agreement paradigm results in gender neutralization in the plural, or vice versa. In other words, a generalization such as the one in (30) implies a neutralization rule that transcends the verbal and pronominal paradigms, and is effective in both at the same time. Moreover, the inter-paradigmatic neutralization pertains to the plural specifically. The next step is to see if there is any theoretical ground for a rule that has inter-paradigmatic neutralization effects.

There is a common pattern of neutralization as an effect of markedness (Aalberse & Don, 2011; Bennis & Maclean 2006; Nevins, 2007; Nevins & Parrot, 2009). That is, languages have a tendency to impoverish certain features in the context of a marked feature. Furthermore,

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[5] Here, too, Faroese would be problematic. Even if it were included as a rich language, it still has syncretism in the plural. Faroese will be elaborated upon further in the discussion chapter.

it is generally accepted that the plural is the marked option for number, and that the singular is unmarked for number (Corbett, 2000; Aalberse & Don, 2011; among others). As expected, in the context of the marked value of plural, neutralization is common (Aalberse & Don, 2011; Bennis & Maclean 2006; Nevins, 2007; Grimm, 2009). In unmarked singular contexts features are spelled out, and neutralization of features mostly occurs in the plural. This is exactly what has been observed so far in this study. It must be noted, however, that it is not the same feature that neutralizes. In the agreement paradigm, it is person that neutralizes in the context of number, whereas gender is neutralized on the pronoun.

Even though different features get neutralized in the plural domains of the verb and the pronouns, both neutralizations occur in the plural. That the neutralization targets differ follows from hierarchically derived, systematic impoverishment (Harley, 2008; Noyer 1992, 1998). Let me briefly explain hierarchical impoverishment.

Noyer (1992) introduced the concept of feature hierarchies. The basic idea in a hierarchy of features is a 'first-in first-out principle'. That is, the features lower on the hierarchy are the latest to be spelled out, and therefore also the first ones to be impoverished if the context requires feature impoverishment, for example because of restrictions on the number of features.[6] A more schematic representation of a feature hierarchy (cf. Noyer, 1992) is given in (31).

(31)
        [X]
         |
        [Y]
         |
        [Z]

---
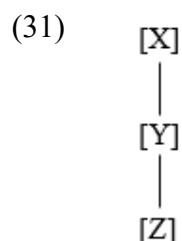
[6] It is generally accepted that there are so-called feature co-occurrence restrictions, which entails that some features can only occur independently of a certain other feature. See Noyer (1992, p.48)

Based on (31), Noyer (1992) proposes the following. Feature [Z] sits lowest on the hierarchy, and so it is the first to get deleted in case no more features can be inserted into the structure. Moreover, [Z] is dependent on the content of [Y]. If [Y] contains a feature, but is impoverished, [Z] must be impoverished too. If [Y] contains a feature and is spelled-out, [Z] is also spelled out. To summarize, [Z] is dependent on the content and spell-out of [Y]. An impoverishment of [Y] leads to impoverishment of [Z]. If markedness is a part of the impoverishment mechanism, another instance of impoverishment of [Z] straightforwardly follows.

Under the hierarchy Noyer (1992) proposes, the dependency of [Z] on [Y] is limited to spell-out or impoverishment of [Y] which leads to spell-out or impoverishment of [Z]. We have observed earlier that a marked feature can trigger impoverishment (Aalberse & Don, 2011; Nevins & Parrot 2009, among others), and it logically follows from this that markedness is in fact another trigger of impoverishment in the hierarchical dependency described above. This would lead to the following configuration. If [Y] is a marked feature, [Z] can be impoverished, and the marked feature [Y] triggers impoverishment of [Z]. In the context of this paper, the concrete effects of this assumption on the pronominal hierarchy are shown in (32).
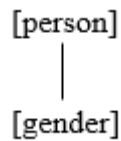
(32)

[Person]
|
[Number: **plural**]
|
[~~Gender~~]
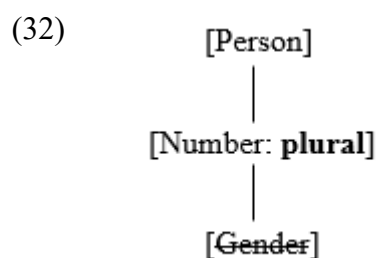
The hierarchy in (32) assumes person sits higher than number. This is a generally accepted idea (Bennis & Maclean 2006; Harley, 2008; Noyer, 1992), which I follow. A hierarchy as in (32) would then account for neutralization of gender on plural pronouns. On the agreement

morphology, however, we see that the person feature impoverishes in the plural. If we assume that number is below person, the person neutralization does not straightforwardly follow from the hierarchy. According to Aalberse and Don (2011), total person neutralization on plural verbs is rather rare, but that in the languages that do so, the person feature sits below number in the hierarchy of agreement morphology. This accounts for the fact that person can be impoverished in the plural agreement paradigm. Note that in Dutch all person features are neutralized, but that in German specific person features are targeted, namely [person: -participant/+speaker]. Even though the person neutralization appears to be more specific in German than in Dutch, the underlying mechanism is the same: person features neutralize under the marked plural feature. This is hierarchically represented in (33).

(33)   [Number: **plural**]
                 |
           [~~person~~]
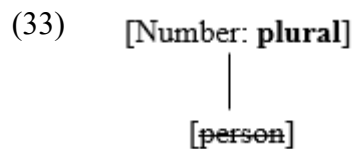
This analysis comprehensively captures the neutralization of the person feature of person in the plural agreement paradigm, and the neutralization of gender on plural pronouns. In the singular, however, those features are spelled out. This follows from the idea that number is not only the marked feature for number, but also the feature that indicates the nonsingular. In other words, singular is the absence of plural (Aalberse & Don, 2011; Nevins & Parrot, 2009). In that case, there is no intermediate feature on which the gender or person feature depends, which is visualized in (34).

(34)   a. Singular pronoun hierarchy   b. Singular agreement hierarchy

                [person]   [person]
                   |
                [gender]

It has to be said that the mechanism relies heavily on the interpretation of the hierarchy, but it is the case that under this hierarchy, it is the same markedness, namely plural, that leads to the neutralization of the subordinate branch. This paradigm-transcending, markedness-driven neutralization allows for formulating one impoverishment rule that applies to the two paradigms.

(35)   [Z] → Ø in the context of [Y], where [Y] is a marked feature

The impoverishment rule in (35) encompasses the neutralization of gender in the plural as follows. If [Z] is gender, and [Y] is the marked feature plural, [Z] becomes a zero form. The application is similar in the agreement paradigm, in which the person feature, or specific subfeatures of the person feature, neutralizes under the marked feature of plural.

        In short, there is a clear indication that based on the neutralization patterns in the Germanic languages and French, there is an impoverishment rule that applies to multiple paradigms simultaneously.

    3.5. Chapter summary

In the previous sections, I have more closely examined the correlation that had been proposed in chapter 2. First of all, it turns out that Faroese is highly problematic. Faroese, however, has been much debated with respect to its agreement morphology and its implications. For that

reason, Faroese cannot straightforwardly be taken to be a counterexample to the hypothesis, and due to its 'status aparte' it has been left out of further accounts.

Moving past Faroese, all of the other languages that have been discussed in K&Z (2014) show an interesting pattern with respect to neutralizing gender on their plural pronouns. More concretely, facts from the various languages give reason to postulate a bidirectional generalization that connects neutralization patterns in two different domains, formalized in (30), repeated here.

(30)   Iff a language has syncretic form in the plural part of the agreement paradigm, it neutralizes gender in the plural of the pronominal paradigm.

An explanation for the generalization in (30) follows from Noyer's feature hierarchy (1992), with an additional markedness effect (cf. Aalberse & Don, 2011; Bennis & Maclean 2006; Grimm, 2009; Nevins, 2007). In this way, the neutralization simply follows from markedness-driven impoverishment within the feature hierarchy of two domains.

Altogether, the generalization in (30) has been derived from the data of the languages discussed in K&Z (2014). Table 3.1. explicitly shows the predictions that follow from (30).

	No Syncr.	Syncr.
Neutr.	✗	✓
No Neutr.	✓	✗

Table 3.1. Predicted neutralization patterns in the plural

It is clear that the languages that have been looked at so far only allow us to generalize for Germanic languages, and the Romance languages Italian and French. So far, the predictions given in Table 3.1 are tenable, with the exception of Faroese. In the next chapter, I will extend

the empirical base in order to see if the generalization is tenable across a larger sample of languages, and to find out if it is indeed only Faroese that appears to be problematic. In that case, a closer analysis of Faroese is needed.

4. Extending the empirical domain

In the previous chapter, I introduced a generalization that encompasses inter-paradigmatic neutralization as an effect of markedness within the feature hierarchy. Table 3.1 comprehensively shows the typology of languages based on their neutralization patterns, and also indicates what two options are predicted not to exist based on the generalization.

This chapter will provide an empirical study that has an expanded sample of languages against which the generalization can be tested. In the next section, I will present the diagnostic criteria for the language sample, and the selection of languages. The second part of this chapter will include an overview of the results and a brief discussion of those in light of the generalization.

4.1. Methodology and language sample

In the first subsection I will discuss Tvica (2017) and his sampling method, and elaborate on why I will for the most part follow his approach.

4.1.1. Tvica (2017) and the expansion of the empirical base

Bobaljik (2002) and K&Z (2014) have studied the RAH in the Germanic languages, and in a number of Romance languages. It has been noted by Tvica (2017) that the RAH, and thereby agreement status, has not been studied systematically beyond these Indo-European languages. The purpose of this study is to further evaluate the hypothesis, and provide additional data in order to do so. Following Tvica (2017), I will expand the sample with languages that are non-Indo-European. Data from multiple languages will allow us to make a generalization over a linguistic property that is independent of properties that follow from their genetic classification. Additionally, the languages of the sample must have sources at their disposal that provide their

agreement morphology on the verb.

The sampling method Tvica (2017) uses, which will be used here as well, ensures maximal genetic distance between the languages. After the exclusion of languages that cannot be tested for the diagnostic criteria of the RAH, Tvica carried out his study with languages from twelve language families. Tvica has thereby provided classification of the agreement morphology of those languages, which enables us to use the same sample of languages for the purposes of this study.

4.1.2.   On languages without gender and/or agreement

In addition to the criteria set out above, which pertain to classification of agreement morphology and the genetic variation of the languages in the sample, there are two other criteria which need to be defined. I will here propose that, and explain why, languages that do not show morphological gender should be excluded from analysis, but that languages that do not show morphological agreement should nonetheless be included.

Beginning with the first criteria, I argue that languages without morphological gender should be excluded from the sample. The process of gender neutralization in the plural has as a prerequisite that the target language must have gender distinctions in the singular. Following Greenberg's Universal 37 (1963), it cannot be the case that a language has more gender categories in the plural than in the singular (attested by Harley & Ritter 2002, among many others). The languages that have only one gender category in the singular are therefore not informative for the purposes of this paper, since there is nothing to be neutralized. Furthermore, I assume that if a language does not most prominently present gender in pronominal paradigms, it does not have gender in its grammar. This falls in line with Greenberg's Universal 42 suggesting that all languages at least have person and number categories in their pronominal inventories (1963), which means that gender is an additional property. Therefore, languages

that do not show gender on singular pronouns will not be included for analysis.

It has been concluded that if a language does not display gender in its morphology, it must also lack gender in the syntax. Since this leads to the exclusion of languages without grammatical gender, the fate of null-agreement languages should also be addressed. In the previous chapter I did include Norwegian, Danish, and Swedish, even though those languages lack person and number agreement. I argue that agreement morphology fundamentally differs from grammatical gender, and that if agreement is not spelled out, it is arguable that there has still taken place an agreement operation between the subject and the verb in the syntax. Under this assumption, languages that do not display any agreement in their morphological spell-out should not be excluded from analysis. Let me briefly discuss how this assumption is conceptually motivated.

It is not a novel assumption that markedness in the syntax is not spelled out in the morphology. There are languages which do not overtly distinguish accusative forms from nominative, even though they are marked for a different function. This can be seen in (36)

(36)   a. The man.NOM walks to school

b. The car hit the man.ACC

In example (36), there is no morphological difference between the two instantiations of *the man*. *The man* is subject in (36a), and direct object in (36b). This is not visible on the DP itself, however. In order to yield the correct interpretation of the sentences in (36), it must be the case that *the man* is licensed in such a way that in (36a) it is the subject, and in (36b) the object. A way to account for the different interpretations is structural case.

In languages that do not have overt morphological case marking, the position of arguments is fixed (Neeleman & Weerman, 1999). Changing the word order, and thereby the

position of arguments, leads to a different interpretation of the arguments. In languages that have overt morphological case, the word order is usually freer, because morphological case indicates the argument's function in the sentence. For languages without morphological case, there must be something else that accounts for the fact that arguments take specific positions, namely structural case (Chomsky, 1993).

Structural case, as the name might suggest, is engrained in the structure of a language. That means that specific positions in the structure by default carry case. In English, accusative case is structurally assigned to the complement of the verb.[7] Independent evidence in favor of structural case comes from pronominal objects. One could easily argue that if a language does not spell out case in the morphology, it might have a fixed position for the object, which is unrelated to case. Pronominal objects in English, however, rule out this idea, since they do still undergo morphological change. Consider example (37).

(37)   a. **He** walks to school

         b. A car hits **him**

The examples (36a-37a) have an identical structure, and so have (36b-37b). The only difference is that the DPs in (36) has been replaced by pronouns in (37). In (37b), it is clearly visible that the pronoun is assigned accusative case. Pronominal objects trigger morphological case, which suggests that there is evidence that objects in English structurally receive their accusative case in a specific object position. This, then, would explain why an object sits in its specific position, because this is the only place in which it can receive the case needed to be an object.

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[7] It is also assigned to complements of the preposition, although I will not discuss that here.

Let us now get back at subject-verb agreement. In the paragraph above, arguments were presented to show how case is, even if invisible, structurally present in the syntax. This implies that it is possible to have operations in the syntax that are not overtly realized in morphology. I argue that when a language does not show agreement morphology on the verb, it is still the case that an agreement operation has taken place in the syntax. English is a language which only has agreement spelled out in the morphology in the third person singular, with zero-forms elsewhere. This is schematized in (38).

(38)   -s   → [- participant] [- plural]

        Ø   → elsewhere

This contrast shows the following. English only has one instance in which the agreement relation between the subject and the verb is realized, so there is evidence that the agreement operation has taken place in the syntax. This suggests that in the other instances, the agreement operation works similarly, but that this does not compute into the morphology. In other languages, such as Icelandic, the agreement operation that takes place in the syntax is spelled-out morphologically in more persons than in English. However, the operation in the syntax follows the exact same mechanism. In other words, even though there are differences in the morphological spell-out of agreement, the underlying syntactic process works the same for all languages. More concretely, where structural case does not imply morphological case, this is similar for agreement: structural agreement does not imply morphological agreement.[8]

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[8] There is debate on whether the subject is marked for the normative by structural case, or whether this happens through agreement only. This debate is irrelevant for the purposes of this paper. For further details I refer to Neeleman and Weerman (1999).

The arguments outlined above, in short, have two major consequences for this study. The first one is that if a language does not realize gender in its morphology, it may be assumed that it does not have grammatical gender at all. Those languages are therefore uninformative for the purposes of this paper and will be excluded from analysis. Languages without agreement morphology will be included for analysis, since it may for those languages still be assumed that the relevant agreement operations take place in the syntax. Another consequence is that by taking this measure, more languages can be included for analysis, which increases the likelihood of falsification. This is a desirable consequence, since any language that could pose a counterexample but does not, adds to the robustness of the hypothesis.

4.2. Language sample

In this section, I will present the languages that will be analyzed, as well as the selection process.

4.2.1. From Tvica (2017), and available languages

The two criteria outlined above have consequences for the language sample. Most of the languages discussed in Tvica (2017) are not suitable for analysis under those criteria due to the lack of grammatical gender. Nonetheless, there are still four rich languages from Tvica's sample that will be part of the sample in this study. Italian, Spanish, and European Portuguese have been added to the sample as well. In K&Z's study, French has elaborately been discussed, and little attention went to the other Romance languages, which have rich agreement morphology. Here, I will add them to my sample.

4.2.2. From the World Atlas of Language Structures

In addition to languages discussed in works on the RAH, I have attempted to gather more languages from the World Atlas of Language Structures (Dryer & Haspelmath, 2013) (WALS), which has comprehensive lists of languages which can be grouped together based on linguistic properties. One property that can be singled out in the WALS is gender distinctions in the nonsingular. This resulted in a list of languages that are said to have gender distinctions in the nonsingular, which suggests that they may have these distinctions in the pronominal inventories. Firstly, I have excluded languages that had already been included in the sample from K&Z (2014), and Tvica (2017). After the exclusion of those, I have attempted to track down relevant sources to include them for analysis. This yielded the following results: 22 languages could not be classified due to a lack of sources.[9] There were sources available for ten languages, and for nine of the languages the relevant information was provided.[10] Those nine languages are Oshindonga, Kongo, Tyrio, Polish, Latvian, Albanian, Kashmiri, Russian, and Japanese.

Oshindongo (Crane, Lindgren-Streicher & Wingo, 2004), Kongo (De Clerqu, 1921), and Tyrio (Carlin, 2004) do not realize grammatical gender on pronouns in the singular, contrary to what the WALS indicated, and are therefore excluded from analysis. Japanese, Polish, Albanian, Kashmiri, Russian, and Latvian adhered to the criteria set out in previous sections, and have therefore been added to the sample. Six extra languages have eventually been included from the WALS database.

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[9] The languages in question are Huitoto, Godoberi, Kawaiisu, Axininca Campa, Waorani, Quilete, Tidore, Babungo, Sahu, Noon, Hamtai, Diola-Fogny, Carib, Nkore Kiga, Maung, Luvale, Ju|'hoan, Zulu, Fula, Au, Koromfe, Hixkaryana, Drehu.

[10] Halkomelem, Swahili, and Yuchi had sources which did not provide a clear overview of both the agreement and pronominal paradigms, and were not included for analysis. Kannada is an agglutinative language, which for the purposes of this study will be excluded.

4.2.3. The definitive sample

Six languages with poor agreement morphology were analyzed, which are of Indo-European origin. Four of them are North-Germanic, and two West-Germanic. There are eleven languages with rich agreement morphology that are suitable for further analysis. Seven of those are Indo-European, and the other four come from a variety of language families. The four languages taken from the WALS will be classified for the type of agreement morphology in the following section. Details of the languages in the sample are given in Table 3.1.

Family	Subfamily	#	Language	Agr.
Afro Asiatic	Semitic	1	Egyptian Arabic	Rich
	Equatorial-Tucanoan	2	Wari	Rich
Australian	Unclassified	3	Tiwi	Rich
Indo-Pacific	Toricelli	4	Bukiyip	Rich
Indo-European	Romance	5	Italian	Rich
		6	Spanish	Rich
		7	European Portuguese	Rich
	Slavic	8	Polish	t.b.d.*
		9	Russian	t.b.d.*
	Albanian	10	Albanian	t.b.d.*
	Baltic	11	Latvian	t.b.d.*
	Indo-Iranian	12	Kashmiri	t.b.d.*
Japonic	Unclassified	13	Japanese	t.b.d.*

Table 4.1. Selected languages for typological study
*Included from the WALS, classification of agreement morphology to be determined.

4.3. Results

In this section, I will address the results of the empirical study, and briefly discuss how the results impact the hypothesis. Of all the languages, I will present the third person singular pronouns compared to the one(s) in the plural. Additionally, I will include an overview of the agreement morphology in the plural. Those are the two diagnostic criteria on which the

generalization depends.

(39) – (51) Show the pronominal data of the languages indicated in Table 4.1.

(39)   <u>Egyptian Arabic agreement</u>   <u>Egyptian Arabic pronouns</u>

PL	SG	PL
1 **ni-**[...]**-ø**	huwwa/hiya	humma
2 **ti-**[...]**-u**	he/she	they
3 **yi-**[...]**-u**		

(40)   <u>Wari agreement</u>   <u>Wari pronouns</u>

PL	SG	PL
1 –xi/iri	wirico/wiricam/je	wiricoco/wiricacam
2 –hwe	he/she/it	they.M/F
3 –caca/cacama		

(41)   <u>Tiwi agreement</u>   <u>Tiwi pronouns</u>

PL	SG	PL
1 Na-/nə-pə-	Ɲarra/Njirra	Wuta
2 nə-pə-	he/she	they
3 wu-		

(42)   <u>Bukiyip agreement</u>   <u>Bukiyip pronouns</u>

PL	SG	PL
1 m-	énan/okwok	omom mami/owow wawi
2 p-	he/she	they.M/F
3 h-/w-/ch-		

(43)   <u>Italian agreement</u>   <u>Italian pronouns</u>

PL	SG	PL
1 –amo	lui/lei/esso/essa	essi/esse
2 –ato	he/she/it/it	they.M/F.
3 –ano		

(44) <u>Spanish agreement</u>   <u>Spanish pronouns</u>

PL   SG   PL

1 –amos   él/ella/usted   ellos/ellas/ustedes

2 –áis   he/she/it/it   they.M/F/N

3 –an

(45) <u>European Portugese agr.</u>   <u>European Portuguese pronouns</u>

PL   SG   PL

1 –amos   ele/ela   eles/elas

2 –ais   he/she   they.M.F.

3 –am

(46) <u>Polish agreement</u>   <u>Polish pronouns</u>

PL   SG   PL

1 –mie   on/ona/ono   oni/one

2 –cie   he/she/it   they.M.F

3 –ja

(47) <u>Russian agreement</u>   <u>Russian pronouns</u>

PL   SG   PL

1 –em   ono/on/ona   oni

2 –ete   he/she/it   they

3 –at

(48) <u>Albanian agreement</u>   <u>Albanian pronouns</u>

SG   SG   PL

1 –më   ai/ajo   ata/ato

2 –ni   he/she   they.M.F

3 –në

(49) Latvian agreement   Latvian pronouns

PL   SG   PL

1 –am   viņš/ viņa   viņi/viņas

2 –at   he/she   they.M/F

3 –a

(50) Kashmiri agreement   Kashmiri pronouns

PL   SG   PL

1 - ɨ/a   yi/hu/su   yim

2 -v/avɨ   he/she/it   they

3 - ɨ/a   (Koul & Wali, 2006)

(51) Japanese agreement   Japanese pronouns

PL   SG   PL

1 –u   Kare/Kanojo   Kare-**ra**/Kanojo-**ra**

2 –u   he/she   they.M.F

3 –u

4.4. Taking stock

In this section, I will present a brief overview of where we stand. I have presented data in light of the generalization in (30), repeated here.

(30)   Iff a language has syncretic form in the plural part of the agreement paradigm, it neutralizes gender in the plural of the pronominal paradigm.

Table 3.1 gave an overview of the division of languages based on the languages discussed in K&Z (2014). The new division, based on the surface forms given in (39) – (51), is given in Table 4.2.

	No syncretism in pl. (A+)	Syncretism in pl. (A-)
Pronominal Neutralization (N+)	Russian, Egyptian Arabic	Dutch, Swedish, English, Norwegian, Danish, German, Yiddish, Tiwi, Kashmiri
No Pronominal Neutralization (N-)	Icelandic, French, Wari, Bukiyip, Italian, Spanish, European Portuguese, Polish, Albanian, Latvian	Japanese

Table 4.2. Configuration of agreement classification and neutralization pattern

Let us break down the four possibilities, and their consequences for the hypothesis. The possibility of [A-, N+] is the one that is expected, and that is indeed what we find in nine of the languages, namely Dutch, Swedish, English, Norwegian, Danish, German, Yiddish, Tiwi, and Kashmiri. The combination [A+, N-] is the other possibility that the generalization allows, and of the sample there are a total of eleven languages that show this, namely Icelandic, French, Wari, Bukiyip, Italian, Spanish, European Portuguese, Polish, Albanian, and Latvian. In total, there are twenty languages that do exactly what is predicted by generalization (33).

There are, however, a number of languages that do not comply with the generalization. Russian and Egyptian Arabic neutralize gender in the plural, whereas they have no person syncretism in the plural domain of their agreement on the verb. This is an unexpected outcome, and threatens to falsify the generalization. Japanese does exactly the opposite of what Russian and Egyptian Arabic do, which is an unexpected outcome as well. Japanese does not spell out agreement on the verb, but retains gender distinctions in the plural.

To summarize, there appear to be three counterexamples to the generalization in (23). In the next chapter I will more closely analyze Egyptian Arabic, Japanese, and Russian, to find out whether they indeed falsify the generalization, or whether there are independent properties in the language that explains their behavior.

5. Discussion

This chapter is divided into three parts. In the first part, I will provide a discussion of the data, and in particular the data from Egyptian Arabic, Japanese, and Russian, since those appear to falsify the generalization in (30). In the second part, I will discuss the larger implications that the problematic data have on our generalization. In the third part, I will briefly return to the problematic nature of Faroese, and discuss some limitations of the study presented here.

5.1. Egyptian Arabic, Japanese, and Russian

5.1.1. Egyptian Arabic

The first language that I will discuss, and which goes against the generalization in (30), is Egyptian Arabic (EA). Reconsider the plural agreement of EA, and its pronominal neutralization in (39), repeated here.

(39)	Egyptian Arabic agreement	Egyptian Arabic pronouns	
	PL	SG	PL
	1 **ni-**[...]**-ø**	huwwa/hiya	humma
	2 **ti-**[...]**-u**	he/she	they
	3 **yi-**[...]**-u**		

EA lacks a syncretic form. The affixes in the second and third person are similar, but the prefixes of the same persons distinguish in such a manner that it is not syncretic. However, a closer analysis of the agreement paradigm suggests otherwise. Consider the EA agreement paradigm, including the singular agreement.

(52)   a. EA agreement   b. Pronominal inventory

PL   PL   SG   PL

a-[stem]-**ø**   **ni**-ktib-**Ø**   huwwa/hiya   humma

yi-[stem]-**ø/i**   **yi**-ktib-**u**   he/she   they

ti-[stem]- **ø**   **ti**-ktib-**u**

An alternative analysis that eliminates EA as a counterexample is based on the complete paradigm in (52). EA verbs are licensed for agreement by circumfixes, which Tvica (2017) assumes to form one agreement marker. If it is possible to analyze the prefixes separately from the affixes, one can immediately see that EA does have syncretism in the plural. This segmentation would actually be fairly plausible, given the fact that the second and third person prefixes are similar in the singular and plural. This indicates that those could be numberless person markers, and that the number markers in the plural are syncretic after all. Under the following proposal of featural distinctions, EA would not violate the generalization in (30), and would adhere to the hypothesis.

(53)   yi- [+ addressee]

ti- [- addressee]

-u [- speaker, + plural]

Egyptian Arabic is a *pro*-drop language and is therefore heavily dependent on agreement morphology on the verb for the correct interpretation. If we assume that 'ti-' and 'yi-' function as subjective markers, regardless of number, this prefix becomes irrelevant for analysis of syncretism in the plural. This is, in fact, a likely analysis for the prefixes, given that the second and third person prefixes do not vary for number, but only for person. Under this assumption,

EA would have syncretic form in the plural, show gender neutralization in the plural, and form no objection to (30).

5.1.2. Japanese

Japanese poses a problem on the other side of the correlation compared to EA. It is a language with syncretism in its plural agreement, but it nonetheless appears to have gender distinct pronouns in the plural, as can be seen in (51), repeated here.

(51)   <u>Japanese agreement</u>   <u>Japanese pronouns</u>

	PL	SG	PL
1	-u	Kare/Kanojo	Kare-**ra**/Kanojo-**ra**
2	-u	he/she	they.M.F
3	-u		

Even though the retention of gender distinctions in the plural looks problematic at first sight, it is in fact unproblematic for our generalization. First of all, even though there appear to be two pronouns in the plural, Maynard (2011) advises in his textbook that language users use one single form for the third person plural, which is neither one of the pronouns, but instead a full DP. Furthermore, the pronouns in the Japanese plural, as (54) shows, are essentially the singular pronouns with the affix 'ra' added to it. This is a common pattern in Japanese. Cipris & Hamano (2002) and Maynard (2011) describe Japanese as a language without real plurals. Due to its agglutinative nature, it has an unmarked stem, the singular, and pluralization is created by the insertion of a separate morpheme. This falls in line with analyses of case in Japanese, which is also interpreted through agglutinative topic markers (Neeleman & Szendrői, 2005, 2007; Sato, 2011).

Based on this analysis of Japanese, it can be argued that Japanese only has a singular pronoun for the third person, and that pluralization is done by a neutralized marker. This would constitute the following segmentation of Japanese pronouns.

(54)   Segmentation of Japanese pronouns

SG   PL

Kare/Kanojo   Kare-**ra**/Kanojo-**ra**

he/she   he+PL/she+PL

Under this analysis, Japanese does not retain nor neutralize its pronouns in the plural, because it in fact has no plural pronouns at all.[11] Following this analysis, the problem of Japanese readily solves itself, and does not constitute a counterexample to (30).

5.1.3. Russian

Russian has a pronominal paradigm that is in contrast with the expectations based on generalization (30). It has no syncretism in its plural agreement paradigm, but nonetheless it neutralizes gender in the plural. Have another look at the Russian paradigm in (55).

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[11] Note that this is at odds with Greenberg's Universal 42 (1963), in which it is claimed that all pronoun systems minimally consist of three persons and two numbers. This is not problematic for the purposes of this paper, if we follow the Person Number Universal (PNU) introduced by Tvica (2017). He argues that the three persons and two numbers need not all be represented on pronouns, but can also be expressed through agreement morphology or by a nominal subject. The latter analysis would then be the case for Japanese.

(55) Russian agreement   Russian pronouns
      PL   SG   PL
      1 –em   ono/on/ona   oni
      2 –ete   he/she/it   they
      3 –at

An analysis similar to the one for EA is not possible for Russian. Russian is a language without circumfixes, which disables a separate person-number segmentation similar to EA. In other words, Russian shows a pattern that is excluded according to our generalization, and there appears to be no straightforward way to deal with Russian. This has major complications for the generalization in (30), and it must be concluded that a strong, bidirectional hypothesis is untenable, since it can in no way account for the neutralization pattern of Russian.

5.2. A weaker correlation

Russian poses a problem for the generalization that cannot be overcome easily, and therefore we will have to let go of a bidirectional hypothesis. Despite the fact that the bidirectional hypothesis is untenable, the suggestion that there is a systematic difference between neutralizing and not-neutralizing languages is overwhelming. Russian is problematic for a bidirectional generalization, but a correlation with a one-way implication can still be upheld. All languages that have syncretism in the plural – including EA – neutralize gender on their plural pronouns. Russian merely shows that it is not possible to make predictions for languages without syncretism. This leads to the following, weaker, hypothesis.

(56) If a language has syncretic form in the plural part of the agreement paradigm, it neutralizes gender in the plural.

Under this hypothesis, only the neutralization pattern of languages with plural syncretism is predicted. Nonetheless, the one-sidedness of the hypothesis leaves a gap as to what exactly happens to languages that have no syncretism, but still neutralize.

There are two possible options in order to account for the one-directionality of the hypothesis. The first one is to accept the fact that only syncretism triggers a certain response in the pronominal build-up and hence constitutes neutralization, and that having no syncretism leaves an open space. The second option is to attempt to provide a specific analysis for Russian in order to create a better understanding of what is at the root of neutralization in the plural. So far, the generalization falls short of including all neutralizing languages, and more research into other similarities between all the neutralizing languages is therefore much desired.

5.3. Faroese and design limitations

5.3.1. Faroese revisited

I will briefly address Faroese one more time. In chapter 3, it has been made clear that Faroese is problematic, and that there still is debate in the literature about the status of the language. If we were to include Faroese in the sample, however, it would even pose problems to the weaker hypothesis. Faroese has full neutralization of person in the plural, with only the affix '-a.' This means that the weakened correlation in (56) would still be under pressure. In order to solve this, the correlation could be further weakened, and have us end up with the hypothesis in (20), repeated here.

(20)   If a language has poor agreement morphology on the verb, it must have neutralized pronominal gender in the plural.

This would still be a far from ideal solution, because in order for this hypothesis to be tenable cross-linguistically, Faroese must be counted as rich. In chapter 3, I have discussed the analysis by Alexiadou & Fanselow (2000), by means of which Faroese would count as rich. I have also shown that it is not conceptually straightforward to go by their analysis. Altogether, this means that Faroese remains somewhat problematic, regardless of how the language is analyzed. A more comprehensive, unified account of Faroese is desirable, and I will leave that for further research.

5.3.2.   Limitations of the research design

The languages that have been analyzed in this study have been selected carefully. The fact that languages without grammatical gender are uninformative for the purposes of this paper has led to a rigidly restricted sample. In order to test the hypothesis, it was required that each language had been classified for rich or poor agreement on the verb. The extensive work by Tvica (2017) would have formed an ideal framework for this study, had it not been the case that most of the languages in his research needed to be excluded here on the basis of not having grammatical gender. This has especially had repercussions for poor agreement languages, which generally tend to neutralize person in the plural, since all of the poor languages that Tvica analyzed lack grammatical gender. The generalization makes bidirectional predictions about neutralization behavior, and few languages that neutralize person in plural agreement could be added to the sample, unfortunately.

The WALS (Dryer & Haspelmath, 2013) indicates that there are at least 42 languages that have multiple gender categories in nonsingular numbers (this includes the dual and the plural). For reasons of time and space, it has been impossible to classify those languages for agreement type and use it for testing the hypothesis. It would be worthwhile to further classify those languages for agreement in the plural, as well as gender neutralization in the plural, after

which the hypotheses put forward in this study can be tested against a bigger sample.

Moreover, the analysis performed in this paper is synchronic. Even though the bidirectional hypothesis is untenable, a weaker one-way correlation survives. The predictions made by the weaker hypothesis are borne out on a synchronic level. This might still be coincidental, as a consequence of diachronic deflection rates. It could be that diachronic deflection rates are behind the fact that when languages are in a certain phase of deflection, gender and person features are neutralized, although not because they trigger one another to neutralize. There could also be a causal relationship of the kind that has been described in chapter 3. This entails that if a language loses person marking in its plural agreement paradigm, it should consequently lose its gender distinctions on the plural pronoun. The research conducted here does not provide diachronic evidence to support this claim. In order to test if the theory is tenable diachronically, more research needs to be done. A language that could be informative for these purposes would be Swedish. Early and Middle Swedish used to have both rich agreement and gender on the plural pronouns. A diachronic analysis of Swedish could provide valuable insights into cross-domain impoverishment.[12]

To conclude this section, this research has provided valuable insights into inter-paradigmatic neutralization patters in languages. The research has been limited to a modest scope, however. In order to get a more concrete and conclusive impression of the phenomenon, both an expansion of the empirical domain, and a diachronic perspective on the hypothesis are advisable.

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[12] Erik Petzell (personal communication) notes that Swedish lost its gender distinctions in the plural in the 14th century. It lost V-to-I movement approximately two hundred years later. The way in which the language developed in between, however, remains unclear.

6. Concluding remarks and future challenges

In this study, I have investigated whether having or not having rich agreement correlates with having or not having gender neutralization on plural pronouns. Based on studies carried out by Bobaljik (2002) and Koeneman and Zeijlstra (2014), it indeed appears to be the case that richness of agreement correlates with neutralization patterns in the plural domain of pronouns. More specifically, it can be argued that neutralization of the person feature in the plural part of agreement morphology correlates with neutralization of the gender feature in the plural part of the pronominal domain. Such a correlation could be encapsulated by an application of markedness-triggered neutralization onto feature hierarchies (Nevins, 2007; Noyer, 1992; Noyer 1998). An empirical study across a larger sample of languages, however, showed that a bidirectional correlation between neutralization in the two domains is untenable. Altogether, the results of this study lead to the conclusion that at most a one-way implication can survive. In conclusion, this study has been a first step into researching this presumed correlation, and there is evidence to suggest that neutralization of gender on plural pronouns correlates with poor agreement morphology on the verb.

Nonetheless, based on the study carried out here, it could be the case that the neutralizing patterns occur simultaneously as a result of one specific impoverishment rule. Diachronic research is needed to shed more light on this. Furthermore, due to reasons of space, time, and source availability, it was not possible to account for the fact that Russian and Faroese behave differently from other languages analyzed in this paper. Additionally, a number of languages remain that still need to be analyzed in light of the discussion in this paper. The WALS (Dryer & Haspelmath, 2013) leaves room for analysis of twenty more languages, which I have left unaddressed. These issues, including the fact that this research was limited to a synchronic design, will be left for future research.

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