



Universiteit Leiden

**Individuation and agreement:
Grammatical gender resolution in Icelandic**

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Abstract

Agreement with conjoined noun phrases is an interesting topic of research for languages that have a gender distinction in the plural. The central aim of this thesis is to provide a comprehensive account of agreement with conjoined noun phrases in one such language: Icelandic.

It is generally assumed that there are two agreement options with conjoined noun phrases in languages: resolution and agreement with one conjunct. The focus in this thesis is on the availability of these options in Icelandic, and whether the distribution of resolution is affected by two typological hierarchies: The Individuation Hierarchy and the Agreement Hierarchy. Another principal aim is to establish whether the gender resolution rules that have been described for the language are always used by speakers and to what extent agreement with one conjunct is used. An agreement form elicitation survey was constructed to gain insight into these issues. It was completed by 405 native speakers of Icelandic.

The results of this survey indicate that the distribution of resolution in Icelandic is indeed affected by the Individuation Hierarchy, while it does not adhere to the prediction made by the Agreement Hierarchy. This is argued to be due to interaction effects of the two hierarchies and the approach of the present study.

Gender resolution rules are followed by speakers in most cases. However, speakers use neuter agreement in resolution where it was not anticipated. The same applies to singular agreement: when agreement with one conjunct was expected, the neuter singular is widely used instead. Two gender defaults are argued to account for these patterns: a normal case default in resolution and an exceptional case default in singular agreement.

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0. Introduction

Conjoined noun phrases – e.g. ‘gin and tonic’ - are important for the understanding of agreement (Corbett, 2006). This is especially true for languages that have a gender distinction in the plural: conjoined noun phrases can provide valuable insight into the gender agreement system. In this research, I will explore conjoined noun phrases in Icelandic, their agreement patterns, and the distribution of these patterns. The focus of this study will be how grammatical gender is reflected in agreement with such phrases in the language.

Languages are generally said to have two possible options for agreement with conjoined noun phrases: agreement can be found with either one conjunct, or all (Corbett, 2006, p. 238). Usually, when there is agreement with only one conjunct, it is with the conjunct that is nearest to the agreement target (Corbett, 2006, p. 170). Some languages – such as Icelandic - can make use of both options. This is illustrated in the following examples (adapted from Friðjónsson, 1989, pp. 18–19):¹

- (1) a. *Örvænting-in* *og* *vonleysi-ð* *var* *algjör-t*.
despair-the.F.SG_i and hopelessness-the.N.SG_j be.SG_j complete-N.SG_j
‘The despair and hopelessness was complete.’
- b. *Stelpa-n* *og* *barn-ið* *eru* *veik-Ø*.
girl-the.F.SG_i and child-the.N.SG_j be.PL_{i+j} sick-N.PL_{i+j}
‘The girl and the child are sick.’

The predicate agreement pattern for these two structurally identical conjoined noun phrases is not the same. The first sentence, (1a.), is an example of agreement with one conjunct. The main verb is singular, and the predicate adjective is singular and neuter in agreement with the second conjunct of the conjoined noun phrase: *vonleysið* ‘the hopelessness’. The sentence in (1b.), however, shows the type of agreement that is generally called ‘full agreement’ or **resolution**; the main verb now has a plural form, and the adjective appears in neuter plural and thus agrees

¹ Note that I only gloss grammatical features that are relevant for the study: gender and number. To simplify, I have not glossed the inflectional endings of nouns.

with the whole conjoined noun phrase. The two **resolution rules** involved in this sentence are a number resolution rule that determines that two singular conjuncts should yield plural agreement, and a gender resolution rule that specifies that the combination of one feminine and one neuter conjunct yields neuter agreement.

Looking at the two sentences above, the following questions arise: How often do Icelandic speakers choose agreement with one conjunct, such as we see in (1a.)? How often do they choose the resolution option illustrated in (1b.)? Under what circumstances is one agreement option chosen over the other? Does it matter what semantic features the nouns have or what the agreement target is? This study will address these questions, and thus aims to provide a comprehensive account of agreement with conjoined noun phrases in Icelandic. I will pay special attention to grammatical gender in the analysis. Moreover, I will explore how resolution can be related to notions of animacy or individuation.

In the first two chapters, I will outline the theoretical background of my study. Chapter 1 will provide an overview of the features of grammatical gender in Icelandic that are relevant for this research. In chapter 2, resolution will be introduced and discussed in connection to Icelandic and two typological hierarchies: The Agreement Hierarchy and the Individuation Hierarchy. Chapter 3 provides a summary of the first two chapters, and the research questions and aims of the study are stated. In the following two chapters (4 and 5), I will describe the methodology and results of the elicitation survey constructed to shed light on the topic. Finally, I will discuss the results and their implications for the understanding of agreement with conjoined noun phrases in Icelandic.

1. Grammatical gender in Icelandic

Icelandic is a North Germanic language, spoken by approximately 340.000 speakers. Nouns in Icelandic can be classified into three grammatical genders: masculine, feminine, and neuter. The language retains a three-way gender distinction in both the singular and the plural, while gender marking in the plural has been lost in many modern Germanic languages. This gender distinction is reflected in the inflectional paradigms of adjectives, pronouns, participles, and the declinable numerals in Icelandic – there are usually separate forms for all three genders in both numbers in at least part of the paradigm (Þórhallsdóttir, 2015a, p. 189). Icelandic is thus a good candidate to examine plural gender agreement like gender resolution. In this chapter, I will discuss gender assignment in Icelandic, as well as syntactic and semantic gender agreement. Finally, I will illustrate the gender agreement forms that are relevant for this study.

1.1 Gender assignment in Icelandic

Nouns in Icelandic are assigned their gender predominantly based on formal features such as inflectional class (cf. Grönberg, 2002, p. 166 and references provided there). However, semantic gender assignment is found for many nouns with animate and sex-differentiable referents. The kinship terms *faðir* ‘father’, *móðir* ‘mother’, *bróðir* ‘brother’ and *systir* ‘sister’ are good examples of this: all belong to the same inflectional class – but their grammatical gender is based on semantics: *faðir* and *bróðir* are masculine, while *móðir* and *systir* are feminine. This, of course, reflects the ‘natural gender’ of the referents. The same principle can be found in the gender assignment of words for many sex-differentiated domestic animals: *göltur* ‘boar/hog, male pig’ is masculine and *gylta* ‘gilt/sow, female pig’ is feminine.

For human referents of unknown sex, the neuter gender is sometimes found, e.g. *barn* ‘child’ or *fólk* ‘people’. However, the number of human nouns that are of neuter gender is very low. The masculine gender is more frequent for nouns that refer to humans of unspecified sex (cf. Table 1 in Grönberg, 2002, p. 167). Countless nouns like *krakki* ‘kid’, *nemandi* ‘pupil’, *kennari* ‘teacher’, *gagnrýnandi* ‘critic’, *starfsmaður* ‘staff-member’ are masculine, but can be used for people of all genders. In contrast, only a handful of feminine nouns are used generically in this

way with human referents: the feminine gender seems to be largely restricted to nouns that denote females only.²

1.2 Gender agreement in Icelandic

1.2.1 Syntactic gender agreement

When gender agreement in Icelandic is described, it is generally assumed that adjectives (predicative and attributive), participles, pronouns and declinable numerals should agree with their nouns in gender and number (Grönberg, 2002, p. 165). In (2), we see one example of syntactic gender agreement for each available gender/number combination:

(2) a. *Málfræðingur-inn er skemmtilegur.*

linguist-the.M.SG be.SG fun-M.SG

‘The linguist is fun.’

b. *Hvalir-nir eru mikilfenglegir.*

whales-the.M.PL be.SG magnificent-M.PL

‘The whales are magnificent.’

c. *Flugfreyja-n er hjálpleg.*

stewardess-the.F.SG be.SG helpful-F.SG

‘The stewardess is helpful.’

d. *Söguhetjur-nar eru trúverðugar.*

story.heroes-the.F.PL be.PL believable-F.PL

‘The main characters are believable.’

² The occupational titles of a stereotypically female-dominated occupation can provide a good example: the feminine *flugfreyja* ‘flight attendant (lit. ‘flight-lady’) is generally not used for male flight attendants, who are called *flugþjónn* (lit. ‘flight-waiter’) instead - a masculine noun. One Icelandic airline has resorted to simply referring to all flight attendants by the masculine noun *flugliði* ‘lit. flight-member’, which is perceived as gender-neutral. However, the reverse situation does not seem to pose a problem: the masculine noun *flugmaður* ‘flight-man’ is not considered problematic when referring to female pilots.

e. *Barn-ið er krúttleg-t.*
 child-the.N.SG be.SG cute-N.SG
 ‘The child is cute.’

f. *Tré-n eru græn-Ø.*
 tree-the.N.PL be.PL green-N.PL
 ‘The trees are green.’

Gender agreement in Icelandic thus seems to be very straightforward. However, the semantic gender assignment rules sometimes pose problems in agreement choice - as we will see in the next section.

1.2.2 Semantic gender agreement

In the previous section we saw that Icelandic makes use of the masculine for most nouns that denote humans, when the referent has no specified natural gender (Þórhallsdóttir, 2015a, p. 190). According to syntactic rules these nouns should take masculine agreement. Some neuter and feminine nouns, such as neuter *skáld* ‘poet’ or feminine *hetja* ‘hero’, are also used generically, and should generally yield neuter and feminine agreement, respectively. However, this straightforward syntactic gender agreement principle can come into conflict with semantic gender agreement. There is a tendency to use agreement forms that are based on semantic gender for generic nouns, which gives rise to considerable variation in gender agreement in Icelandic (Þórhallsdóttir, 2015a, p. 191). Consider one example found on a cooking website, where the adjective *fljótur* ‘quick’ appears in the neuter plural with the masculine noun *krakkarnir* ‘the kids’:

(3) *Þessi ostakaka er æðisleg og*
 This cheesecake is great and
*krakkar-nir voru fljót-Ø að hreinsa skálina [...]*³
 kids-the.M.PL were quick-N.PL to clean bowl.the [...]
 ‘This cheesecake is great and the kids were quick to clean the bowl [...]’

³ Example from <https://ljufmeti.com/2014/03/29/nutellaostakaka-med-oreobotni/>, accessed 5 June, 2017.

The neuter plural adjective agreement makes it clear that the kids who cleaned the bowl are a mixed group of boys and girls. In Icelandic, the neuter is frequently used to denote humans in mixed gender groups (Corbett, 1991, p. 298). A good example is the plural noun *hjón* ‘married couple, husband and wife’, which takes neuter plural agreement forms (Corbett, 1991, p. 298).⁴ The neuter plural is also used when referring deictically to a group of men and women. This is a semantic principle that surfaces in adjective and pronoun agreement: there is a tendency to use the neuter plural in agreement with e.g. masculine plural nouns that denote people - when the group is known to be mixed.

This strategy for referring to mixed groups of people with the neuter plural is unique among the modern Germanic languages. It is restricted to Icelandic and its closest relative Faroese - the only Germanic languages that still have a gender distinction in the plural (Þórhallsdóttir, 2015b, p. 162). Þórhallsdóttir (2015a, p. 191) observes that the distribution of this type of semantic gender agreement in Icelandic seems to align with the predictions made by Corbett’s **Agreement Hierarchy**:

- (4) The Agreement Hierarchy (Corbett, 1979)
 attributive < predicate < relative pronoun < personal pronoun

The likelihood of semantic agreement increases as we move rightwards on the Agreement Hierarchy. The larger the domain, the more likely semantic agreement becomes. Semantic agreement (i.e. agreement based on natural sex/gender) in Icelandic is unacceptable with attributive modifiers (5a.), while it occasionally occurs with predicate targets (5b.) and quite frequently with personal pronoun targets (5c.):⁵

- (5) a. *Dugleg-ir/*Dugleg-Ø* *nemendur* *sitja* *yfirleitt fremst.*
 diligent-M.PL/*N.PL pupils.M.PL sit.PL usually in front
 ‘Diligent pupils usually sit in the front.’

⁴ The fact that *hjón* ‘married couple, husband and wife’ is in neuter plural has in fact been considered problematic by speakers of Icelandic when they try to refer to same-sex couples that are married. The semantically based forms *hjón-ur* (F.PL.) ‘wife and wife’ og *hjón-ar* (M.PL.) ‘husband and husband’ have even been proposed by ingenious speakers as a way to avoid this semantic conflict.

⁵The level of the relative pronoun in Corbett’s Agreement Hierarchy (1979) cannot be accounted for, as Icelandic does not have a relative pronoun. Instead, the indeclinable conjunctions *sem* or *er* are used to introduce relative clauses (Þórhallsdóttir, 2015a, p. 192).

b. *Nemendur-nir eru dugleg-ir/?dugleg-Ø.*
 pupils-the.M.PL be.PL diligent-M.PL/?N.PL
 ‘The pupils are diligent.’

c. *Nemendur-nir eru dugleg-ir. Þau leggja á sig.*
 pupils-the.M.PL be.PL diligent-M.PL they.N.PL lay.PL on themselves
 ‘The pupils are diligent. They work hard.’

The interaction of semantic and syntactic gender agreement in Icelandic is therefore in line with the Agreement Hierarchy. We will come back to the Agreement Hierarchy in the next chapter when we discuss the topic of this thesis – resolution – and its status as semantic agreement.

1.2.3 Relevant gender agreement forms

In the remainder of this section, I will show the agreement forms that are relevant for this study: the available gender forms for predicate adjectives and personal pronouns. As mentioned above, adjectives (and participles) in Icelandic are inflected for the three genders in the singular and plural. Adjectives that occur in predicate position follow the so-called strong declension. In (6), the strong adjective inflectional endings (in the nominative case) are shown (adapted from Kvaran, 2005, pp. 248–249):

(6) Gender forms of Icelandic adjectives (strong declension):

	masculine	feminine	neuter
singular	<i>-ur/-n/-r/-l</i>	<i>-Ø/-ur</i>	<i>-t/-tt/-ð</i>
plural	<i>-ir</i>	<i>-ar</i>	<i>-Ø/-ur</i>

To illustrate this, the adjective *fallegur* ‘beautiful’ is shown in every gender and number combination in the nominative case in (7):

(7) *fallegur* ‘beautiful’ in the nominative:

	masculine	feminine	neuter
singular	<i>falleg-ur</i>	<i>falleg-Ø</i>	<i>falleg-t</i>
plural	<i>falleg-ir</i>	<i>falleg-ar</i>	<i>falleg-Ø</i>

As seen in (6) and (7) above, there is always syncretism between feminine singular and neuter plural in the nominative case in the inflectional paradigm of Icelandic adjectives. We now move on to the second form of interest: personal pronouns. In (8), the different forms of the third person personal pronoun are illustrated:

(8) Icelandic third person personal pronouns in the nominative:

	masculine	feminine	neuter
singular	<i>hann</i>	<i>hún</i>	<i>það</i>
plural	<i>þeir</i>	<i>þær</i>	<i>þau</i>

The third person pronouns have unique forms for every gender and number combination available in the language. The clearly distinguished gender forms for both adjectives and pronouns provides an excellent opportunity to look closely at the principles behind gender resolution in Icelandic. We now turn to resolution.

2. Resolution

As we saw before, agreement with conjoined noun phrases can either be with one conjunct or all. Usually, when languages make use of agreement with one conjunct, it is controlled by the conjunct that is nearest to the agreement target (cf. (1b.) above) (Corbett, 2006, p. 170). Resolution, however, is found when agreement is determined by all conjuncts - that is, when the features of each conjunct must be accessed in order to determine the appropriate form of an agreeing element (Corbett, 2006, p. 238).

Resolution rules thus derive agreement features based on the features of each conjunct in the conjoined noun phrase. As such, they can be seen as ‘patterns of feature computation’, as Corbett has noted (2006, p. 238). To operate, resolution rules require reference to the heads of at least two noun phrases (Corbett, 2006, p. 239).

Resolution rules can provide means to resolve conflicting agreement values in conjoined noun phrases. In the English example in (9), the singular and plural are resolved with the plural form of the verb:

- (9) The children.PL and the teacher.SG are.PL happy.

Although resolution rules can indeed resolve clashes of values, they operate regardless of whether the nouns in question have identical or conflicting values (Corbett, 1991, p. 261). Thus, if *children* in (9) were replaced with the singular form *child*, the main verb would still appear in the plural.

Another important characteristic of resolution is the fact that if it occurs, all resolution rules that can operate, must operate (Corbett, 2006, p. 258). We should therefore never expect to find examples such as (10), where only number resolution is found on the personal pronoun, while its gender is determined by agreement with the second conjunct (with *manninn* ‘the man’). The correct agreement form, with resolution of both number and gender, is provided in (11):

(10) *Sjáðu konu-na og mann-inn. *Þeir eru úti.*
 see.you woman-the.F.SG and man-the.M.SG *they.M.PL be.PL outside
 ‘Look at the woman and the man. They are outside.’

(11) *Sjáðu konu-na og mann-inn. Þau eru úti.*
 see.you woman-the.F.SG and man-the.M.SG they.N.PL be.PL outside
 ‘Look at the woman and the man. They are outside.’

It is crucial to keep in mind that resolution is not always available or acceptable for conjoined noun phrases, especially when the conjuncts are semantically different from each other. In those cases, agreement with one conjunct is often found - or speakers may avoid agreement altogether by making use of a different strategy (Corbett, 2006, p. 239).

Resolution forms can be formulated for person, number and gender. For the purposes of this study, only number and gender resolution will be described. Number resolution is generally quite straightforward in the languages of the world, while gender resolution rules are cross-linguistically far more diverse (as illustrated in Corbett, 1991, Chapter 9, 2006, Chapter 8).

2.1 Number resolution

Resolution rules for number are generally semantically based (Corbett, 2006, p. 242), which makes number resolution relatively easy to describe. In English, whenever resolution occurs with conjoined phrases, the verb will appear in the plural – as the plural is used for two or more entities (and conjoined noun phrases, by definition, always include at least two referents):

(12) Kate.SG and Laura.SG are.PL having a great time.

Number resolution rules are said to follow the semantics of the number feature in more elaborate number systems as well. In Slovene, which has dual number in addition to the singular and plural, the number resolution rules are also transparent. The combination of two singulars yields a dual resolution form, while all other number combinations (as well as combinations of more than two noun phrases) yield plural agreement on the target (Corbett, 2006, p. 242). In 2.3 we will see that number resolution in Icelandic behaves in a similar way.

2.2 Gender resolution

While number resolution is predominantly based on semantics, gender resolution can follow two principles; it can be **semantic** or **syntactic** (Corbett, 1991, p. 269). However, as Corbett acknowledges himself (Corbett, 2006, p. 258), a clear-cut typology based on this distinction is not sufficient, as there are gender resolution systems that are mixed. I will now illustrate the difference between semantic and syntactic gender resolution by looking at the resolution rules of a single language: French.

Gender resolution that is based on a semantic principle includes reference to the meaning of the conjoined noun phrases (e.g. ‘natural gender’ or biological sex of referents for many Indo-European languages), even if this goes against the grammatical gender of the conjuncts (Corbett, 1991, p. 269; Wechsler, 2009, p. 573). (13) is an example of semantic gender resolution in French. French appears to have simple gender resolution rules: for all feminine conjuncts the resolution is feminine, while masculine is the resolution form for all other combinations. However, this rule does not hold when there is a mismatch in semantic and grammatical gender, as we see in (13):

(13) Example adapted from Wechsler (2009, p. 572):

La sentinelle et sa femme
the sentry.F.SG and POSS.ADJ wife.F.SG
*ont été pris /*prises en otage.*
have.PL been taken.M.PL/*F.PL in hostage
‘The sentry and his wife were taken hostage.’

Grammatical gender always has a semantic core, even in gender systems that are predominantly formal (Corbett, 1991, p. 63). As Wechsler notes (2009, p. 568), grammatical gender often seems to have optional semantic content that can affect gender resolution as well as other types of gender agreement. In French, the semantic features of the two grammatical genders (masculine, feminine) are linked to biological sex (male, female). *La sentinelle* ‘the sentry’ in (13), however, is a feminine noun that has a male referent. The resolved form, masculine plural, therefore seems to be derived from semantic features. In fact, syntactic gender resolution (which would require the feminine plural form *prises*) is not acceptable for this sentence.

When gender resolution is based on syntax, it is solely dependent on the grammatical gender of the conjoined elements, and meaning does not play a role (Corbett, 1991, p. 279). Another example from French illustrates this clearly:

(14) Example adapted from Wechsler (2009, p. 572):

*Ce savoir et cette adresse sont merveilleux/*merveilleuses.*
this knowledge.M.SG and this skill.F.SG be.PL marvellous.M.PL/*F.PL
'This knowledge and this skill are marvellous.'

As *savoir* 'knowledge' and *adresse* 'skill' cannot have biological sex, it is the formal (or syntactic) grammatical gender that determines the resolution form. A combination of masculine and feminine yields masculine on the target: an example of purely syntactic gender resolution. Similarly, the resolution form for two feminine inanimate conjuncts should be feminine according to the syntactic resolution rules – while, as we have seen, this does not always hold (cf. (13)).

As the examples above illustrate, there is always a semantic component in gender resolution (Corbett, 2006, p. 260). It has in fact been proposed that gender resolution generally follows semantic principles for animate conjuncts while inanimate conjuncts are resolved syntactically (Wechsler, 2009; Wechsler & Zlatic, 2003, p. 177).⁶ In his generative approach to resolution, Wechsler (2009) accounts for patterns in gender resolution by taking into account semantic criteria (restricted to animacy), thus making room for examples of semantic agreement like (13).

Taking this notion further, Corbett argues that gender resolution directly reflects gender assignment, and thus “semantic resolution must refer to *whatever the semantic gender assignment rules of the languages refer to*” (2006, p. 262, italics from source). As gender assignment is always partly based on semantic criteria, semantic properties should be reflected

⁶ The examples Wechsler (2009) gives of animate noun phrases all have human referents. From what I can gather, 'animates' in his account are essentially sex-differentiable referents. Animals that have a known sex, like cows or bulls, may therefore fall under this analysis, but it is unclear whether the same principle applies to other animals – as their sex is not always obvious (or relevant).

in the grammatical gender resolution in every language that has gender.⁷ Gender resolution must therefore be at least partly based on semantic criteria, but can be based on syntactic criteria as well (Corbett, 2006, p. 260). We will see in 2.3 that this holds for Icelandic.

2.3 Resolution in Icelandic

Icelandic allows for the conjoining of noun phrases quite easily. Whenever there is agreement (i.e. resolution) with two or more conjuncts, the agreeing form appears in the plural. It is tempting to say that number resolution in Icelandic is purely semantically based, as it has been proposed that number resolution for languages in general has a very close connection to semantics (cf. section 2.1 on number resolution above). However, at least in Icelandic, semantic and syntactic principles can never come in conflict in number resolution. There are only two number values in the language, so whenever a singular form is found in agreement with a conjoined noun phrase it is not resolution. If a plural form is used, it is always appropriate both from a syntactic perspective (two or more conjuncts yield plural agreement) and semantic (two or more referents yield plural agreement). We might therefore just as well state that the principle behind resolved forms appearing in the plural in Icelandic is syntactic. In any case, Icelandic number resolution is not especially perplexing and is perfectly comparable to languages like English.

Gender resolution in Icelandic, however, has a different pattern from what can be found in most related languages. Gender resolution in Icelandic works as follows; whenever two conjuncts share the same gender value, the resolved form has the same gender in the plural. In resolution with conjoined noun phrases of all gender combinations, neuter plural is used (Corbett, 1991, p. 283; Friðjónsson, 1991, p. 101). This has often been assumed to hold for both animates and inanimates (cf. examples of resolution in Friðjónsson, 1991), making the Icelandic resolution system a syntactic one (Corbett, 1991, p. 283).⁸ Resolution in Icelandic is illustrated below:

⁷ It is worth noting that cross-linguistically, semantic gender assignment rules are not always based on a distinction between male and female. In some languages, inanimates can also be assigned semantic gender based on certain characteristics, e.g. gender III in Dyrbal has the semantic base ‘non-flesh food’ (Corbett, 1991, p. 16).

⁸ As will be shown, the distribution of resolution in Icelandic is affected by animacy/individuation. That is the topic of the next section.

- (15) a. *Mamma og amma eru glað-ar.*
 mother.F.SG and grandmother.F.SG be.PL happy-F.PL
 ‘Mother and grandmother are happy.’
- b. *Strákar-nir og þjálfari-nn eru ánægð-ir með leikinn.*
 boys-the.M.PL and coach-the.M.SG be.PL pleased-M.PL with game.the
 ‘The boys and the coach are pleased with the game.’
- c. *Bók-in og dagblað-ið eru auðlesin-Ø.*
 book-the.F.SG and newspaper-the.N.SG be.PL easily-read.N.PL
 ‘The book and the newspaper are easy to read.’

The gender resolution rules that have been described for Icelandic are, to my knowledge, mostly based on evidence from texts and the language intuition of Icelandic linguists. One of the aims of this research will be to establish whether the following rules always hold in resolution when different factors are controlled for:

- (16) Gender resolution rules in Icelandic:⁹

masculine + masculine = masculine

feminine + feminine = feminine

neuter + neuter = neuter

all gender combinations = neuter

The use of the neuter plural as a resolution form for mixed gender conjuncts such as in (15c.) is semantically justified (cf. section 1.2 on gender agreement above) – but as it applies to inanimate conjuncts, it is obviously not a case of semantic resolution.

Although Icelandic has been described as having syntactic gender resolution (Corbett, 1991, p. 306), there is a semantic component that overrides grammatical gender in resolution when nouns denote human beings of a certain gender, just like gender resolution in e.g. French (cf.

⁹ Note that there is no need to specify number in the gender resolution rules, as it is already established that a resolved target form with a conjoined phrase will be in the plural.

(13) above) (Wechsler, 2009, p. 573). This can be illustrated with the neuter noun *skáld* ‘poet’, which should – according to the rules in (16) - yield neuter plural agreement when combined with either a masculine or feminine conjunct:

(17) a. *Skeggjað-a skáld-ið og Jón eru góð-ir/*góð-Ø.*
 bearded-N.SG poet-the.N.SG and Jón.M.SG be.PL good-M.PL/*N.PL
 ‘The bearded poet and Jón (man’s name) are good’

b. *Ófrisk-a skáld-ið og Jóna eru góð-ar/*góð-Ø.*
 pregnant-N.SG poet-the.N.SG and Jóna.F.SG be.PL good.F.PL/*N.PL
 ‘The pregnant poet and Jóna (woman’s name) are good’

From (17) it is apparent that the male/female characteristics have a clear impact on resolution, which follows the semantic gender.¹⁰ The semantic gender, or ‘natural’ gender, of animate conjuncts is therefore important in Icelandic gender resolution. This principle, of course, only involves sex-differentiable referents. Additionally, the sex of the referent must be known to the speaker. If the biological sex of the poet in the examples above were unknown, neuter plural agreement would be acceptable.

Essentially, this is the same principle we saw for semantic gender agreement in 1.2.1. What sets semantic gender resolution apart from semantic gender agreement in general in Icelandic, is that syntactic agreement in resolution is not an option for human nouns when the semantic gender is known. In contrast, syntactic agreement is always available with singular human nouns (a sentence like *ófríska skáldið er veikt* ‘the pregnant poet.N is sick.N’ is perfectly normal).

As we saw in the section on Icelandic gender agreement forms, there is always syncretism between the agreement forms for feminine singular and neuter plural in the nominative case. However, context provides means to distinguish between the two forms in agreement, as number is marked on the verb. Remember that resolution always must apply to both features at once: it either happens or it does not (Corbett, 2006, p. 258). For this reason, number can be

¹⁰ I am aware that some women are bearded, and some men can become pregnant. This example, however, makes use of stereotypical sex/gender characteristics that would trigger masculine/feminine agreement for the largest part of the population.

regarded as indication of whether a given agreement pattern is resolution or agreement with one conjunct. I will now illustrate what this looks like in the context of resolution.

The example in (18a.) shows feminine singular agreement with the nearest conjunct (no resolution), while (18b.) is a case of resolution and the agreement target is thus found in neuter plural. The form of the adjective is the same in both examples, but the number (and thereby gender) can be discerned from the verbal form:

- (18) a. *Áhugi-nn* *og* *eftirvænting-in* *er* *áþreifanleg-Ø*.
 interest-the.M.SG and expectation-the.F.SG be.SG palpable-F.SG
 ‘The interest and the expectation is palpable.’
- b. *Áhugi-nn* *og* *eftirvænting-in* *eru* *áþreifanleg-Ø*.
 interest-the.M.SG and expectation-the.M.SG be.PL palpable-N.PL
 ‘The interest and the expectation are palpable.’

The choice between resolution and agreement with one conjunct, along with a third option: avoidance, can be influenced by several factors. I will now move on to describe the two factors that I will focus on in this thesis: the agreement target domain and animacy features. As we will see, both can influence which strategy is chosen by speakers.

2.4 The Agreement Hierarchy and resolution

We first look at how the agreement domain can influence the distribution of resolution. Corbett sees the opposition between resolution and non-resolution (i.e. agreement with one conjunct) as “a particular case of semantic versus syntactic agreement” (Corbett, 1991, p. 268, cf. also 2006, p. 256). In his view, the fact that resolution marks agreement with all conjuncts is what gives it greater semantic justification than agreement with one conjunct (Corbett, 1983, p. 210). It is therefore expected that the distribution of resolution compared to agreement with one conjunct (note that avoidance is not accounted for) should be constrained by the Agreement Hierarchy (Corbett, 1979, repeated for reference):

- (19) The Agreement Hierarchy
 attributive < predicate < relative pronoun < personal pronoun

As was noted earlier, the likelihood of semantic agreement increases as you move rightwards on the hierarchy. This means that the larger the domain, the more likely semantic agreement (in this case: resolution) becomes.

Indeed, resolution has been shown to follow the Agreement Hierarchy in modern literary Russian, where the percentage of number resolution in agreement with conjoined noun phrases increased monotonically in the expected direction (Corbett, 1983, p. 158). An agreement hierarchy effect has also been observed for Serbo-Croat number and gender resolution (Corbett, 1983, p. 210). This alignment with the Agreement Hierarchy supports the notion that resolution is indeed semantic agreement. One of the questions this research deals with is whether the distribution of resolution in Icelandic reflects the same pattern.

2.4.1 The Agreement Hierarchy and resolution in Icelandic

We now turn to the distribution of resolution in Icelandic. It has already been demonstrated (in section 1.2.2) that the Agreement Hierarchy influences the availability of semantic gender agreement with e.g. masculine nouns that can denote humans of different genders. This has not been systematically researched for agreement with conjoined noun phrases. One of the aims of this study is therefore to look for effects of the Agreement Hierarchy on the distribution of resolution versus non-resolution in Icelandic.

The Agreement Hierarchy predicts resolution to be more likely with personal pronouns than with predicates. I thus expect to find that resolution is more likely to occur with sentences like in (20a.), where the agreement target is a personal pronoun, than sentences like (20b.), where the agreement target is an adjective in predicate position:

- (20) a. *Réttu mér skurðarbretti-ð og hnif-inn.*
 hand.you me cutting.board-the.N.SG and knife-the.M.SG
Þau eru á borðinu.
 they.N.PL be.PL on table.the
 ‘Hand me the cutting board and the knife. They are on the table’

b. *Skurðarbretti-ð* *og* *hnifur-inn* *eru* *nytsamleg-Ø*
cutting.board-the.N.SG and knife-the.M.SG be.PL useful-N.PL
‘The cutting board and the knife are useful’

Turning away from the agreement domain, we will now consider another factor that might be expected to influence the distribution of resolution in Icelandic: animacy.

2.5 The Animacy Hierarchy and resolution

Animacy is a pervasive feature in grammar. Comrie (1989, p. 185) describes it as an extra-linguistic conceptual property and shows various examples of how it is manifested in languages as well as how it can be relevant for language change. Animacy effects can be found on a range of different structures and, as they reflect a conceptual property, show up in unrelated languages. Comrie (1989, p. 185) presents the **Animacy Hierarchy** as follows:

- (21) The Animacy Hierarchy
human > animal > inanimate

The animacy hierarchy is often ascribed to Silverstein (1976). Several different versions of the hierarchy have been used in typological research. This reflects the fact that animacy distinctions in languages vary: some languages have finer animacy distinctions, while others may e.g. only have a distinction between animate and inanimate (Comrie, 1989, p. 185). In (22) and (23), we see examples of hierarchies that are variants of The Animacy Hierarchy and have been applied in linguistic research:

(22) The ‘potentiality of agency’ scale (adapted from Dixon, 1979, p. 85)

1 st person	>	2 nd person	>	3 rd person	>	proper	>	human	>	animate	>	inanimate
pronominal		pronominal		pronominal		noun						

Common nouns

(23) The Individuation Hierarchy (Audring, 2009, p. 125)

male human	>	animal	>	bounded	>	specific mass	>	unspecified abstract/mass
female human				object/abstract				

The idea with a conceptual hierarchy of this sort is that grammatical phenomena can be restricted or influenced by it. Certain generalizations can thus apply to all cases above a certain cut-off point (Dahl, 2000, p. 99). A good example of this is the obligatory semantic agreement with sex-differentiable (i.e. human) referents in resolution that we saw before for Icelandic (cf. example (17) above). If a speaker has information about the ‘natural’ gender of a human referent (of e.g. a neuter conjunct), the ‘natural’ gender overrides the grammatical gender and the conjunct will be treated as masculine or feminine when the resolution form is specified. However, animacy effects can also influence grammatical structures in a more gradual way: a certain construction may be favored for e.g. animate referents but still used, to a lesser extent, for inanimates.

A gradual animacy effect has been found for resolution with conjoined noun phrases in several languages. Animacy affects the likelihood of number resolution with predicates in Medieval Spanish, German, Russian and Serbo-Croat texts. Resolution is favoured over agreement with one conjunct with animate referents - the effect is especially pronounced when a conjoined noun phrase precedes the predicate (cf. Corbett, 1991, p. 267 and references provided there).

Moreover, the following animacy hierarchy has been identified by Findrenng (1976) for the likelihood of semantic agreement in conjoined noun phrases in German (as cited in Corbett, 2006, p. 185):

(24) animate > concrete inanimate > abstract inanimate

Animacy can obviously be very relevant to the agreement patterns we expect to find with conjoined noun phrases. This notion also applies to Icelandic.

2.5.1 The Animacy Hierarchy and resolution in Icelandic

Cross-linguistically, resolution is generally not obligatory, as agreement can often be with one conjunct only (Corbett, 2006, p. 239). Icelandic shows a deviation from this general pattern. Notably, a sentence with conjoined human noun phrases yields judgments of ungrammaticality if there is only agreement with one conjunct.¹¹ This can be seen in (25) below, where the main verb and predicate adjective agree with the second conjunct *maðurinn* ‘the man’ in number (both targets) and gender (only the adjective):

- (25) **Kona-n* *og* *maður-inn* *er* *falleg-ur*.
 woman-the.F.SG and man-the.M.SG. be.SG beautiful-M.SG.
 ‘The woman and the man is beautiful’

On the other hand, it is perfectly acceptable to have agreement with one conjunct with abstract mass nouns, as can be seen when we go back to the adapted example from Friðjónsson (1989, pp. 18–19):

- (26) *Örvænting-in* *og* *vonleysi-ð* *var* *algjör-t*
 despair-the.F.SG and hopelessness-the.N.SG be.SG complete-N.SG
 ‘The despair and hopelessness was complete’

This difference in options between human and abstract nouns is indicative of an animacy effect on resolution. Furthermore, Friðjónsson (1991) has found, on the basis of collected natural data and speaker intuitions, that semantic features of the conjuncts in conjoined noun phrases have an effect on the distribution of resolution in Icelandic.¹² He does not consider animacy especially, but looks at the (related) features concreteness and countability. The ‘rules’ he

¹¹ This is comparable to data from e.g. Russian, where resolution has been shown to be very sensitive to animacy. Corbett (2006, p. 179) presents a table in which 93% of Russian conjoined noun phrases with animate referents take plural agreement in literary texts from the 20th century. He suggests that animacy acts as a condition on resolution in Russian. The same principle seems to be at work in Icelandic.

¹² He only looked at conjoined noun phrases in subject position.

suggests for the patterns of agreement he finds with conjoined noun phrases are the following (adapted from Friðjónsson (1991, p. 101)):

(27) Agreement patterns with conjoined noun phrases in Icelandic

- | | | |
|----|---------------------|---|
| 1. | concrete count | resolution |
| 2. | concrete mass | agreement with one conjunct |
| 3. | abstract count/mass | agreement with one conjunct or resolution |

Resolution is normally found with conjoined subjects that are concrete and countable, e.g. *blýanturinn og penninn* ‘the pencil and the pen’. Concrete mass nouns such as *rjómi og kaffi* ‘cream and coffee’ are said to only show agreement with one conjunct. However, when the conjuncts are abstract terms (this includes both count and mass nouns in his analysis), there is variation in language use: either resolution or agreement with one conjunct is used. Whenever there is agreement with one conjunct, it is usually found with the conjunct that is nearest to the agreement target (Friðjónsson, 1991, p. 86). As resolution with conjoined abstract terms is never found in Old Icelandic texts, Friðjónsson suspects that this use of resolution may be indicative of a diachronic change in their agreement pattern (1991, p. 101).

Friðjónsson (1991) thus studies the distribution of resolution by making use of two semantic dimensions: countability and concreteness. It is of interest to see whether a more fine-grained pattern can be found when more levels are used in the analysis. As we have seen, human conjoined noun phrases seem to have a special status. I therefore think it is crucial to include animacy distinctions. I propose that a clearer picture of the distribution of resolution in Icelandic may be found by using a modified version of the Individuation Hierarchy (cf. (23) above), which is an extended version of the Animacy Hierarchy (cf. discussion in Audring, 2009, p. 126). This hierarchy is presented in (28). Examples of Icelandic noun phrases that fall into the proposed categories are included for illustrative purposes:

(28) The Individuation Hierarchy

human > animal > countable object > abstract mass

móðir ‘mother’ > *mörgæs* ‘penguin’ > *skál* ‘bowl’ > *hamingja* ‘happiness’

This hierarchy reaches beyond the dichotomy in Friðjónsson's analysis between count nouns and mass nouns – it can be used to see whether animacy also influences the distribution of resolution while still retaining a distinction between count and mass. In the Individuation Hierarchy in (28), count nouns now have three components (human, animal, countable object) and abstract nouns are more narrowly specified as abstract mass nouns. For the sake of brevity as well as to establish a clear distinction between count nouns and mass nouns, I have left concrete masses (i.e. mass nouns such as *hveiti* 'flour') and countable abstract nouns (such as *ást* 'love', which can sometimes be pluralized) out of this hierarchy.¹³

I will use the Individuation Hierarchy in (28) to evaluate the distribution of resolution vs. non-resolution in the language across different semantic categories. The hierarchy forms the basis of a survey that was administered in this research, as I will discuss in more detail in the methodology chapter below (chapter 4).

¹³ This also makes this hierarchy more comparable to the hierarchy found for semantic agreement with conjoined noun phrases in German (cf. (24) above).

3. Summary and aims

In the first chapter I have introduced Icelandic gender and gender agreement. In the second chapter I have described the agreement pattern called resolution, and illustrated the number and gender resolution rules in Icelandic. I have then shown how the Agreement Hierarchy relates to resolution, and further demonstrated how semantic gender agreement in Icelandic seems to adhere to its predictions. Additionally, I have shown how animacy is relevant to resolution in Icelandic and presented an adapted version of the Animacy Hierarchy to use as an instrument in this research: The Individuation Hierarchy.

In this study of resolution in Icelandic, I will address the following questions:

1. Do Icelandic speakers adhere to the gender resolution rules that have been described for Icelandic?
2. To what degree is the distribution of resolution in Icelandic restricted by:
 - a. The Individuation Hierarchy (type of controller)?
 - b. The Agreement Hierarchy (type of target)?

In addition to these concrete questions, I am interested in what strategies Icelandic speakers employ instead of resolution. I will look at the extent to which agreement with the nearest conjunct is used, and I will also focus on what types of avoidance speakers resort to when resolution or agreement with nearest conjunct does not seem to work. The distribution of avoidance will also be considered. Although number resolution is an inherent part of this work (as all applicable resolution rules must operate if resolution operates at all, cf. chapter 2 above), the focus of this research is on the resolution of grammatical gender.

For the first research question, I expect that Icelandic speakers will adhere to the gender resolution rules that have been described. As for the second question, my hypothesis is that the distribution of resolution will adhere to both hierarchies in line with what has been found in other languages and what has previously been observed for Icelandic. I thus expect that the distribution of resolution will be affected by the semantic properties of the agreement controller (i.e. the conjoined noun phrases), namely that highly individuated conjoined phrases (e.g. from

the levels HUMAN, ANIMAL) will yield more instances of resolution compared to agreement with noun phrases that come from lower levels of the Individuation Hierarchy (e.g. OBJECT, ABSTRACT). I will look at resolution compared to agreement with one conjunct and avoidance, as I think that the individuation level may play a role in the fact that resolution is sometimes avoided altogether.

Similarly, I expect that when agreement targets from different levels of the Agreement Hierarchy will be compared, more instances of resolution should occur with personal pronouns than adjectives in predicate position, thus confirming that the Agreement Hierarchy holds for this type of agreement. For this hierarchy, I will only compare resolution to agreement with one conjunct – as the Agreement Hierarchy only makes predictions about the likelihood of semantic agreement (here: resolution) vs. syntactic agreement (agreement with one conjunct). To test these predictions, it is crucial to use a method that allows for careful controlling of the different factors. This is the topic of the next chapter.

4. Methodology

As has been described in the previous chapter, the main purpose of this research is to explore whether the Icelandic gender resolution rules that have previously been described, can be confirmed by the gender of resolved agreement forms:

(29) Gender resolution rules in Icelandic

$M + M = M$

$F + F = F$

$N + N = N$

all gender combinations = N

Another important aspect of this study is to evaluate to what degree the distribution of resolution with conjoined noun phrases in Icelandic is restricted by the Individuation Hierarchy and the Agreement Hierarchy. The Individuation Hierarchy refers to the semantics of the agreement controller (i.e. the conjoined noun phrase), while the Agreement Hierarchy refers to the type of agreement target. The two hierarchies are repeated below for reference:

(30) The Individuation Hierarchy

human > animal > countable object > abstract mass

(31) The Agreement Hierarchy (Corbett, 1979)

attributive < predicate < relative pronoun < personal pronoun

The fourth and final objective of this research was to explore what Icelandic speakers use instead of resolution: the avoidance strategies and the extent of agreement with one conjunct that Icelandic speakers may use instead of resolution in agreement with conjoined noun phrases.

Clearly, a quantitative approach should be taken to evaluate whether and to what extent the distribution of resolution in Icelandic is restricted by the two typological hierarchies presented above. This also applies to evaluating the gender of resolved forms (i.e. whether speakers adhere to the gender resolution rules) and the non-resolved forms (i.e. to what extent agreement

with one conjunct is used). To explore the avoidance strategies, it should be sufficient to assess the language data qualitatively. Surely, it is preferable to choose a research method that can encompass all aspects of the research question. In the remainder of this chapter, I will present the method that was used.

4.1 Design

4.1.1 Rationale

The method that was chosen to research the distribution and use of resolution in Icelandic was a fill-in-the-blanks agreement form elicitation survey. As the conjoined noun phrase construction is quite peripheral and the research question calls for full control over the dependent variables, the use of corpora was not a suitable option. A fill-in-the-blanks survey allowed for careful construction of stimuli sentences, making it possible to account for all relevant variables in one design. Also, by asking people to fill in blanks instead of choosing from a set of predefined options, I could gain some insight into the avoidance strategies that participants might use while not ruling out unexpected answers beforehand. Another good reason to use a survey of this type was the fact that it could be distributed online, thus making it easier to reach a larger number of native Icelandic speakers.

4.1.2 Variables

For agreement controllers (i.e. the conjoined noun phrases), all four levels of the Individuation Hierarchy had to be accounted for in the survey, as well as all possible gender combinations. With regards to agreement targets, two levels of the Agreement Hierarchy were elicited: adjectives in predicate position and personal pronouns. The conjoined noun phrases included singular conjuncts only. The independent variables individuation level, gender combination, and agreement target are illustrated below:

- (32) Individuation level
HUMAN
ANIMAL
COUNTABLE OBJECT
ABSTRACT MASS

(33) Gender combination

M+M

M+F

M+N

F+F

F+M

F+N

N+N

N+M

N+F

(34) Agreement target

predicate adjective

personal pronoun

Other dependent variables that were collected from participants were age (in years) and gender (male, female, genderqueer).

From the data obtained with the survey, the following dependent variables were coded for: agreement form (i.e. what participants wrote in the blanks), number (singular, plural, no number), gender (masculine, feminine, neuter, no gender), resolution (resolution, non-resolution, avoidance), agreement with second conjunct (yes, no), agreement with first conjunct (yes, no). The only avoidance strategy that I coded for specifically was *ekkert passar* ‘nothing fits’ (yes, no).

4.1.3 Pilot studies

Before the construction of the final design, two pilot surveys were run. One tested for predicate adjectives (13 participants), and the other for third person pronouns (10 participants). The pilots were short fill-in-the-blanks elicitation surveys. The pronoun survey tested for three levels of the Individuation Hierarchy (HUMAN, ANIMAL, OBJECT), while the survey for predicate adjectives included all four levels (HUMAN, ANIMAL, OBJECT, ABSTRACT). Both pilots had six different gender combinations (i.e. all possible gender combinations, without controlling for the order of the conjuncts).

From the results of these surveys, I observed that it was very important not to include any indicators of number or gender in the sentences that could prompt e.g. singular over plural. In the pilot for third person pronouns I had included plural verbs in some sentences. This would be likely to force resolution where speakers would perhaps not have used it, thus making the survey a poor predictor of what will happen in a real language situation.

It was also clear that I should make sure to avoid metaphorical expressions which could inadvertently give objects or abstract terms agency (i.e. animate characteristics). One sentence in the OBJECT category stood out in the pilot survey for personal pronouns and had a result pattern that resembled the pattern for animates. On a closer look, I had personified the two conjuncts *borðið* ‘the table’ and *mottan* ‘the mat’ in the context provided, by saying that they looked alive.

Overall, the two short pilot surveys made it clear that degree of individuation might be involved in the distribution of resolution. I therefore went ahead with this type of task, although I modified the personal pronoun elicitation to avoid any indication of number or gender (cf. 4.2.2 below). The adjective pilot, which was done later, had no hints at number or gender in the stimuli and the same structure was therefore used in the final design.

Initially, 144 sentences were constructed for the final design. The list included two unique combinations of the three dependent variables (cf. section 4.1.2 above). However, I decided to shorten the survey as some preliminary testing with the 144 sentences made me aware that the task was very arduous and too long: it took participants up to an hour to complete. Furthermore, they reported that their level of concentration decreased radically towards the end of the survey. A total of 72 sentences was therefore utilized in the final design, one sentence representing each unique combination of the three variables above.¹⁴

¹⁴Unfortunately, mistakes were made in the stimuli construction and therefore six unique combinations were missing from the final survey that was distributed, while six other unique combinations of variables were repeated. See 4.2.3, for a list and discussion.

4.2 Stimuli construction

The 72 sentences that were constructed for the survey included all possible combinations of individuation level, gender combination, and agreement target. For example, the conjoined phrase *ikorninn og rottan* ‘the squirrel and the rat’, is from the ANIMAL level of the Individuation Hierarchy and has the gender combination M+F. The agreement target elicited then depends on the construction of the whole sentence and the position of the blank. (35) illustrates how adjectives in predicate position were elicited (for a thorough explanation see section 4.2.1 below):

- (35) conjunct1 *og* conjunct2 ____ <vera> ____ <adjective>
 conjunct1 *and* conjunct2 ____ <be> ____ <adjective.M.SG>

Certain combinations of noun phrases are often avoided, especially when they are semantically different (Corbett, 2006, p. 239). Actually, in some languages, conjoined noun phrases are only fully acceptable when the conjuncts have the same animacy status (Corbett, 1991, p. 304). Therefore, the nouns that were chosen for the stimuli sentences were always matched in their semantic fields, i.e. both were always from the same level of the Individuation Hierarchy. Moreover, the nouns in each sentence were carefully chosen, with the objective of making the combinations and the sentences themselves semantically plausible. Crucially, the same combinations of nouns were used for both adjective and pronoun elicitation (for a complete list of sentences, see Appendix). This was done to make the two agreement target levels as comparable as possible. The instructions asked for only two words to be put in the blanks for each sentence, one word per blank. This was an effort to counter too much paraphrasing that would make the data analysis nearly impossible to carry out. In the next two subsections, I will show how the stimuli construction was done for adjective elicitation (4.2.1) and pronoun elicitation (4.2.2).

4.2.1 Adjective elicitation

To elicit adjectives, each conjoined noun phrase was presented as the subject of either a main clause (19 sentences), or a subordinate clause (17 sentences). The reason for choosing two types of clauses was to make the survey more varied. The elicitation sentences had an empty space for the main verb, followed by the infinitive of *vera* ‘be’ between brackets, which was the verb that was intended for the main verb slot in all sentences. After the verb blank, another

blank was presented followed by an adjective in the masculine singular nominative form between brackets.¹⁵ Each sentence had a different adjective to suit the context. The adjectives that were chosen had separate gender paradigms for all genders in both numbers.

Participants were asked to fill in the blanks with the form of the verb and adjective that seemed most appropriate (and that would make the sentence plausible according to their intuition). Furthermore, it was stated in the task instructions that it was possible to write *ekkert passar* ‘nothing fits’ in the blanks, if the speaker for some reason was not able to form a plausible sentence. The sentence in (36), below, is an example of an elicitation sentence with a main clause. (37) shows a sentence where the conjoined noun phrase is the subject of a subordinate clause:

(36) Sentence 20

Hlébarðinn og tigrisdýrið ___ <vera> ___ <grimmur>.
 leopard-the.M and tiger-the.N ___ <be> ___ <ferocious-M.SG>
 ‘The leopard and the tiger <be> <ferocious>.’

(37) Sentence 49

Ég sé að smábarnið og afinn
 I see that small.child-the.N and grandfather-the.M
 ___ <vera> ___ <týnd-ur> í verslunarmiðstöðinni.
 ___ <be> ___ <lost-M.SG> in mall.the
 ‘I see that the small child and the grandfather <be> <lost> in the mall.’

As can be seen from the sentences above, some additional context was sometimes provided (e.g. *í verslunarmiðstöðinni* ‘in the mall’ in (37)) to make the sentences more natural. For a complete list of the sentences used, see Appendix. We now move on to the other agreement target type: personal pronouns.

¹⁵I chose the masculine form of each adjective for the brackets, as it is the citation form used in dictionary entries. Another option would have been to use the stem, but the stem of adjectives in Icelandic has the same form as adjectives in the feminine singular and neuter plural. I therefore decided to stick to masculine singular, as I consider it the most neutral form available.

4.2.2 Pronoun elicitation

To elicit personal pronouns, the conjoined noun phrases were presented in an introductory sentence in object position followed by a sentence that had two blanks. The first was in the subject position and had no word between brackets, it was completely ‘free’ in the sense that the participants could choose whatever they liked for that first blank. The second blank was followed by the infinitive *vera* ‘be’ between brackets, and participants were meant to write the appropriate form of the verb in the blank.

(38) Sentence 36

Ég elska telpuna og drenginn. ____ <vera> alltaf brosandi.

I love girl-the.F and boy-the.M. ____ <be> always smiling.

‘I love the girl and the boy. ____ <be> always smiling’

It should be noted that in constructing the second sentence, I took care not to include any agreeing elements that were specified for number or gender. In (38), for example, the present participle *brosandi* ‘smiling’, does not inflect at all.

The reason for presenting the conjoined noun phrase in the object position when eliciting pronouns (instead of subject position as with the adjective elicitation), is the fact that a complete introductory sentence with the conjoined phrase as a subject would have to include a verb that inflects for number. This might prompt the same number to be used for the pronoun in a following sentence. In 6.1.2 below, I will discuss the potential effect of this discrepancy on the distribution of resolution and the implications it has when comparing pronominal agreement targets with predicate adjectives.

4.2.3 Errors in the stimuli construction

Unfortunately, some errors slipped past me in the stimuli construction, and I did not notice until after the data collection was over:

(39) List of errors:

- a. The condition HUMAN N+F is missing from the data and HUMAN N+M was repeated instead for both adjective (sentence 39 in Appendix) and pronoun (sentence 70 in Appendix) elicitation.

b. The condition ANIMAL N+M is missing from the data and ANIMAL N+N was repeated instead for both adjective (sentence 49 in Appendix) and pronoun (sentence 71 in Appendix) elicitation.

c. The condition ABSTRACT N+M is missing from the data and ABSTRACT N+F was repeated instead for both adjective (sentence 53 in Appendix) and pronoun (sentence 12 in Appendix) elicitation.

From (39) it is apparent that a total of six sentences with a unique combination of variables were missing from the survey. Instead, six unique combinations of variables were repeated. Fortunately, all missing variables had a gender combination equivalent (cf. section 4.5 for more discussion). I will now go on to describe the procedure and participants.

4.3 Procedure and participants

The survey was distributed online with Google Forms, and the order of the elicitation sentences was randomized for each participant by using an option provided in the program. Participants were procured using Facebook. No attempt was made to control the population.

A total of 418 participants took part in the survey, but 13 were excluded due to incomplete answers or obvious misunderstanding of the instructions. Out of the remaining 405 participants, 318 were women, 86 men, and 1 was genderqueer. The average age was 47.5 years, and the participant age ranged from 18 to 81 years of age.

4.4 Data processing and analysis

As has been noted, 418 native Icelandic speakers participated in the survey, but some participants had not followed the instructions or not completed the survey, and were excluded from the analysis (a total of 13 participants). Answers from 405 participants thus served as basis for the data analysis.

The data from the survey was cleaned up: spelling mistakes were corrected and additional symbols and comments that some participants had written were taken away. Whenever a participant had included two agreement options, the first option was chosen as their answer. Incomplete answers and answers that showed clear frustration with the task (e.g. with

comments like ‘I would put x, but I don’t like it at all’) were replaced with *ekkert passar* ‘nothing fits’. The answers were then coded for the dependent variables (as discussed in 4.1.2 above). I found several (N=111) instances of *bæði eru* ‘both are’ in the responses. I chose to code this form as resolution, since this indefinite pronoun shows both number (always plural) and gender: the masculine form is *báðir*, the feminine form is *báðar* and the neuter form is *bæði*. In the data, it appeared in the neuter plural and could easily be substituted with plural forms of personal pronouns. Indeed, *bæði eru* ‘both are’ shows – semantically speaking – ‘more’ resolution than plural personal pronouns.

The data analysis included mostly descriptive statistics: frequency tables, bar charts and the calculated percentages of resolved forms and gender choices, as well as one chi-square calculation. Moreover, two inferential statistical analyses were carried out. The level of significance chosen was $p = <.05$.

To check for a significant Individuation Hierarchy in the distribution of resolution that could show the difference between levels, a binary logistic regression model was fit to the data with resolution as a dependent variable, and individuation level (HUMAN, ANIMAL, OBJECT, ABSTRACT) as an independent variable. The three-level resolution variable was turned into a binary variable by collapsing non-resolution and avoidance into one category. The variable thus indicated whether resolution was found or not.

To evaluate interaction effects between the Agreement Hierarchy and the Individuation Hierarchy in the distribution of resolution, a binary logistic regression model was fit to the data with resolution as a dependent variable and individuation level (HUMAN, ANIMAL, OBJECT, ABSTRACT), agreement target (predicate adjective, personal pronoun) and the interaction of individuation level and agreement target as independent variables. This time the avoidance level of the resolution variable was left out, making the variable binary and retaining only the opposition between resolution and non-resolution (agreement with one conjunct).

4.5 Limitations

There are several limitations to the selected approach when attempting to shed light on the distribution of resolution and gender choices with conjoined noun phrases in Icelandic. The obvious limitation to this type of task is the fact that answers to an elicitation survey are

secondary linguistic data, and can only be regarded as an indication of what forms language users really use. All results must therefore be evaluated with that fact in mind.

Additionally, a survey of this type may give rise to an effect of metalinguistic awareness as to what ‘should’ be put in the blanks, e.g. to choose neuter plural agreement with two neuter conjuncts - even if it may not feel right in every context. However it should be noted that agreement with conjoined noun phrases in Icelandic has not been subject to prescriptivism, and the use of e.g. resolution instead of agreement with one conjunct for abstract nouns (cf. Friðjónsson, 1991) is not stigmatized at all.¹⁶

Another drawback is that the task may yield ‘forced resolution’, as participants were asked to fill in agreement forms for conjoined noun phrases that they might never use themselves. Also, I asked people to put one word in each blank. To counter this ‘forced resolution’ effect, I included in the instructions that the participants should write *ekkert passar* ‘nothing fits’ whenever they felt that nothing could be put in the blanks to make a given sentence plausible. Nevertheless, it is to be expected that some speakers still felt obliged to make an agreement choice for a sentence that they would normally have paraphrased. This is especially true for the predicate adjective elicitation, as it included a certain word that should go in the blank. The only option to express discomfort for the adjective sentences was therefore to write *ekkert passar* ‘nothing fits’. In the pronoun elicitation, however, the first blank was free – making it easier to choose something other than a personal pronoun. As will be discussed, participants often used other forms than the expected – especially for the pronouns. These avoidance strategies will be discussed in 5.3 below.

As listed in 4.2.3 above, some mistakes were made in the stimuli construction. Fortunately, all gender combinations that were missing from the stimuli had a gender combination equivalent with a different order of the conjuncts (e.g. even though HUMAN N+F is missing, HUMAN F+N is still included in the data). The dependent variable these errors may influence is therefore only where we would expect agreement with first conjunct or agreement with second conjunct. Data points for these gender and individuation combinations will therefore be missing, while their

¹⁶ I base this my own experience as an Icelandic speaker raised in Iceland, and from asking friends and family about their experience. In fact, no one I asked recalls that this was a special topic in classes of Icelandic grammar in school.

repeated counterparts have more data points than the other unique combinations of variables in the survey.

Still, a fill-in-the-blanks survey like the one described above is very useful to catch a glimpse of what may or may not influence the choice of using resolution over agreement with one conjunct or avoidance. It is especially well-suited for detecting a potential hierarchy.

5. Results

The results of the fill-in-the-blanks agreement form elicitation survey will be presented in this chapter. I will first evaluate the distribution of resolution – i.e. the occurrence of any plural form (M.PL, F.PL or N. PL) - and determine whether and to what extent it fits the Individuation Hierarchy and the Agreement Hierarchy. In the second section, I move on to the gender resolution rules as well as looking at what gender is used in non-resolution. The third and final section of this chapter is an account of the most common avoidance strategies that were employed by speakers in completion of the survey.

5.1 Distribution of resolution

First, we will look at the distribution of resolution vs. non-resolution (and avoidance) in relation to the two typological hierarchies that were to be tested for with this research. I will first look at the distribution of resolution for each of the four levels of the Individuation Hierarchy (HUMAN, ANIMAL, OBJECT, ABSTRACT), and then move on to look at the distribution of resolution for the two agreement target levels of the Agreement Hierarchy (predicate adjective, personal pronoun) that were tested. Finally, I will look at how the two hierarchies interact.

5.1.1 The Individuation Hierarchy

For the four levels of the Individuation Hierarchy, the overall distribution of the three resolution variables (non-resolution, resolution, avoidance) in the survey was as represented in Table 1:

		Individuation				Total
		Human (%)	Animal (%)	Object (%)	Abstract (%)	
Resolution	Non-resolution	91 (1.2%)	61 (0.8%)	879 (12%)	4173 (57.2%)	5204
	Resolution	7027 (96.4%)	7050 (96.7%)	5885 (80,7%)	2401 (32.9%)	22363
	Avoidance	172 (2.3%)	179 (2.4%)	526 (7.2%)	716 (9.8%)	1593
Total		7290 (100%)	7290 (100%)	7290 (100%)	7290 (100%)	29160

Table 1. Distribution of resolution by individuation level.

Figure 1 shows this distribution visually in a bar chart. The HUMAN and ANIMAL levels of the Individuation Hierarchy show a very similar pattern: only a relatively small number of

responses include non-resolution or avoidance. On the other hand, there is a clear drop in the frequency of resolution in the OBJECT category, and a drop even more pronounced in the ABSTRACT category:

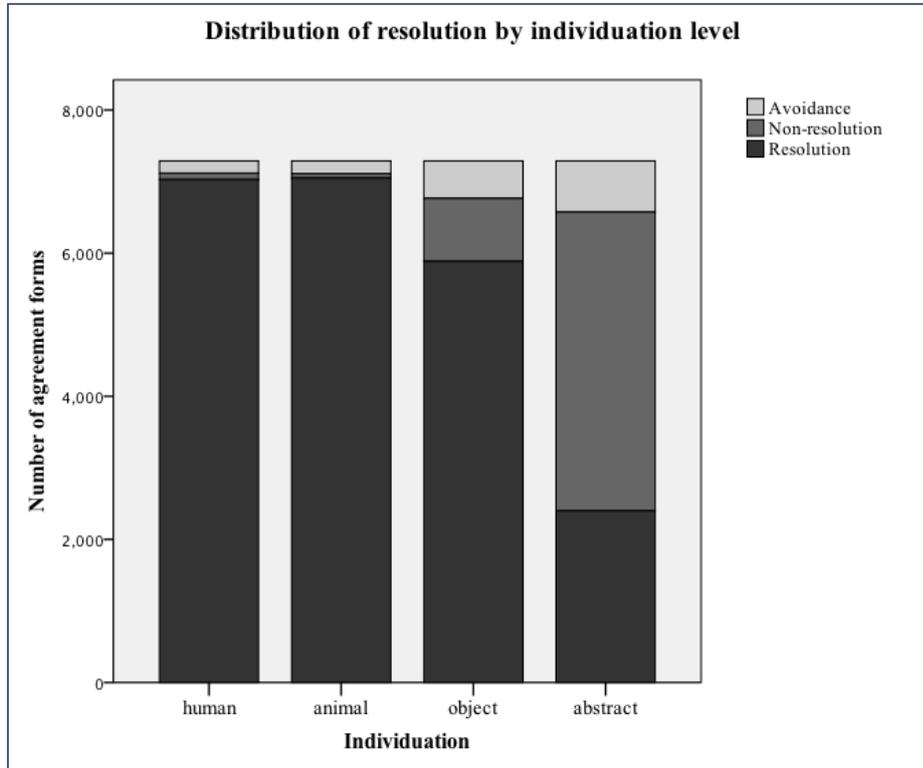


Figure 1. Distribution of resolution by individuation level.

This difference between levels is also clear when we consider the resolution across levels in terms of percentages – shown in Table 2:

HUMAN	ANIMAL	OBJECT	ABSTRACT
N=7290 96,4%	N=7290 96,7%	N=7290 80,7%	N=7290 32,9%

Table 2. Percentage of resolution (vs. non-resolution and avoidance) by individuation level.

As the hypothesis presumes that the distribution of resolution should be restricted by the Individuation Hierarchy when contrasted with both non-resolution *and* avoidance – i.e. the likelihood of resolution occurring in general - I fit a logistic regression model to the data after collapsing the avoidance and non-resolution levels of the resolution variable into one level. The three-level resolution variable was thus turned into a binary variable: resolution vs. non-resolution (including avoidance). The results of the logistic regression can be seen in Table 3.

It shows how the likelihood of resolution is influenced by the four Individuation Hierarchy levels:

Logistic regression: Association between resolution and individuation level

Variable	B		Odds Ratio
Constant	3.385		26.719
Individuation level			
ANIMAL	0.95		1.099
OBJECT	-1.853	***	.157
ABSTRACT	-3.996	***	.018
(base = HUMAN)			
Nagelkerke R2			.471
Hosmer & Lemeshow test			p=1
Classification accuracy			85.2%

Significance level:

* =p<.05, ** = p<.01, *** =p<.001

Table 3. Association between resolution and individuation level.

Table 3 highlights that when the ANIMAL category is compared with the HUMAN category, the difference in the likelihood of resolution is not significant (hence the indiscernible difference between the two categories in the bar chart above). In contrast, significant results are obtained for the likelihood of finding resolution with the OBJECT and ABSTRACT levels of the Individuation Hierarchy when they are compared to the HUMAN level. The regression coefficient is negative for both OBJECT and ABSTRACT and the negative odds ratio decreases between OBJECT and ABSTRACT, showing that there are lower odds of finding resolution as we move towards the right end of the hierarchy. Note that when this model is fit to the data with

other categories as reference (in Table 3 the reference category is HUMAN), the difference between each of the three levels ANIMAL, OBJECT and ABSTRACT is always significant.¹⁷

Based on this data, it is tempting to claim that the HUMAN and ANIMAL category should be combined into one ANIMATE level of the Individuation Hierarchy. However, as we will see in 5.3, retaining a distinction between HUMAN and ANIMAL may provide some insight into gender resolution. Overall, we can establish that the data on resolution obtained by the survey aligns with the Individuation Hierarchy. The data shows gradual Individuation Hierarchy effects on the distribution of resolution. The effects seem to have a ‘cut off point’ in the OBJECT category, where we see a pronounced drop in the use of resolution.

5.1.2 The Agreement Hierarchy

I now move on to the Agreement Hierarchy. Firstly, I will look at the frequency distribution of resolution depending on the two levels of the hierarchy that were tested with the survey – predicate adjective and personal pronoun, as illustrated in Table 4:

		Agreement target		Total
		adj	pron	
Resolution	Non-resolution	1855	3349	5204
	Resolution	12523	9840	22363
	Avoidance	202	1391	1593
Total		14580	14580	29160

Table 4. Distribution of resolution by agreement target.

The numbers in Table 4 are displayed in a bar chart in Figure 2. It is obvious that resolution is more frequent with the sentences that tested for adjectives in predicate position than with pronouns:

¹⁷OBJECT as reference category: ABSTRACT vs. OBJECT: B=-2.143, OR= .117, p<.001, ANIMAL vs. OBJECT: B=1.948, OR=7.013, p<.001.

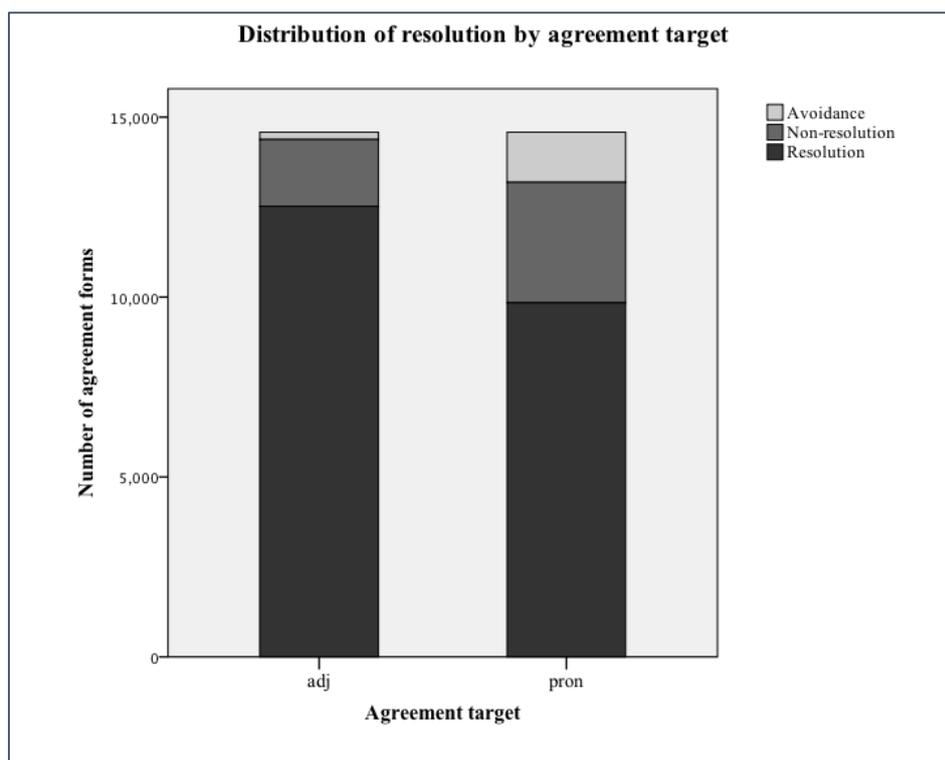


Figure 2. Distribution of resolution by agreement target.

The Agreement Hierarchy makes predictions about the distribution of semantic agreement (i.e. resolution) when contrasted with syntactic agreement (agreement with one conjunct, i.e. non-resolution). I therefore excluded the avoidance variable and calculated the percentages for resolution (out of all cases that had an agreement form, i.e. resolution and non-resolution). The percentage of resolution with predicate adjectives is 87% (N=14378) and 74,6% (N=13189) for personal pronouns. A chi-square test of independence was calculated for the data, comparing the resolution vs. non-resolution variable (excluding avoidance) for predicate adjective and personal pronoun targets. A significant interaction between resolution/non-resolution and agreement target was found: $\chi^2(2) = 700.821, p < .001$.

From this, it is evident that the distribution of resolution vs. agreement with one conjunct (non-resolution) does not follow the Agreement Hierarchy and is not in line with my hypothesis: I had expected that personal pronouns would show the same or more resolution than predicate adjectives. The pattern found in the survey results so far thus shows an effect in the opposite direction of what the Agreement Hierarchy predicts. However – as an Individuation Hierarchy has now been established – this difference between predicate adjective and personal pronoun agreement targets may be due to individuation effects. I will therefore proceed to look at the interaction of the two hierarchies.

5.1.3 Interaction effects of the two hierarchies

The distribution of resolution, taking both individuation level and agreement target into account, is shown in Table 5:

		Individuation								Total
		human		animal		object		abstract		
		Agreement								
		adj	pron	adj	pron	adj	pron	adj	pron	
Resolution	resolution	3581	3446	3586	3464	3361	2524	1995	406	22363
	non-resolution	29	62	25	36	224	655	1577	2596	5204
	avoidance	35	137	34	145	60	466	73	643	1593
Total		3645	3645	3645	3645	3645	3645	3645	3645	29160

Table 5. Distribution of resolution by individuation level and agreement target.

The distribution in Table 5 is visualized in Figure 3:

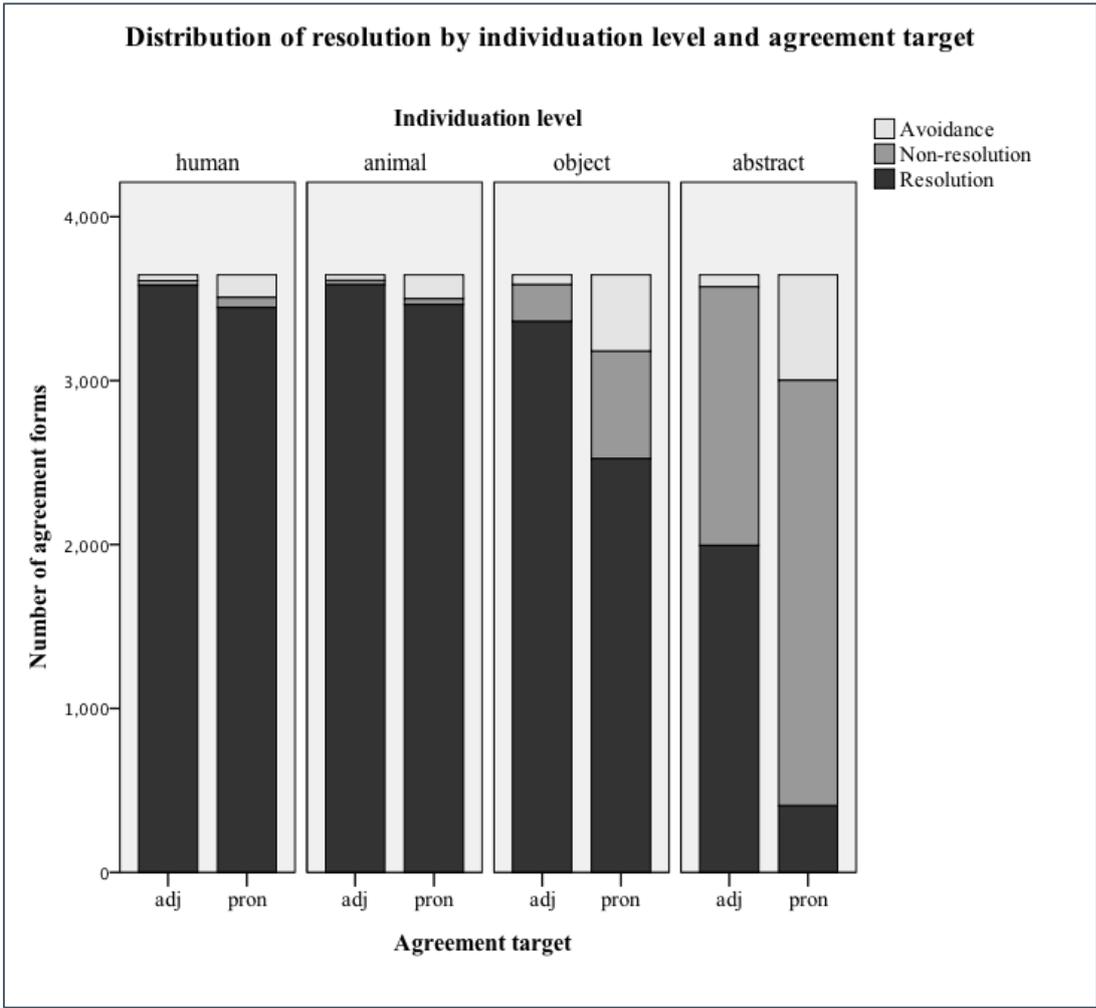


Figure 3. Distribution of resolution by individuation level and agreement target.

From this bar chart, it is apparent that the contrast between the two agreement targets seems to grow with each individuation level, starting from the OBJECT category. To gain more insight, a logistic regression model was fit to the data. Instead of the three resolution levels depicted above (resolution, non-resolution, avoidance), only two levels were used: resolution and non-resolution. All cases of avoidance were excluded from the data under analysis, as the Agreement Hierarchy only makes predictions about the distribution of resolution vs. agreement with one conjunct (non-resolution).¹⁸

¹⁸ Note that this treatment of the variable is not the same as when the Individuation Hierarchy effects were established for the data in 5.1.1: avoidance has been left out of the analysis completely.

Logistic regression: Association between resolution, individuation level and agreement target

Variable	B		Odds Ratio
Constant	4.816		123.483
Individuation level			
ANIMAL	.150		1.162
OBJECT	-2.108	***	.122
ABSTRACT (base = HUMAN)	-4.581	***	.010
Agreement target			
pronoun (base = adjective)	-.798	***	.450
Agreement target * Individuation level			
pronoun * ANIMAL	.399		1.490
pronoun * OBJECT	-.561	*	.571
pronoun * ABSTRACT	-1.292	***	.275
Nagelkerke R ²			.601
Hosmer & Lemeshow test			p=1
Classification accuracy			89.1%

Table 6. Association between resolution, individuation level and agreement target.

The coefficient for each of the interactions between agreement target and individuation level shows how much the agreement contrast (i.e. the difference in resolution between adjectives and pronouns) varies for each of the individuation levels, relative to the size of the agreement contrast for the HUMAN individuation level (the reference category). We see that the contrast between adjectives and pronouns is not significantly different in the ANIMAL level when compared to the HUMAN level. However, the contrast in the likelihood of resolution between adjectives and pronouns for the two other levels, OBJECT and ABSTRACT, is significantly different from the HUMAN level. When this model is fit to the data with the OBJECT category as

the reference category, the differences between OBJECT and ANIMAL ($B=.960$, $OR= 2.612$, $p<.001$) and OBJECT and ABSTRACT ($B=-.731$, $OR=.481$, $p<.001$) are significant as well. In other words, there is a clear interaction effect of individuation level and agreement target for the two inanimate categories (OBJECT and ABSTRACT).

If we simply look at the percentages of resolved forms (as opposed to agreement with one conjunct) in Table 7, we see that the differences between adjectives and pronouns are minimal in the HUMAN and ANIMAL categories:

HUMAN		ANIMAL		OBJECT		ABSTRACT	
adj	pron	adj	pron	adj	pron	adj	pron
N=3610	N=3508	N=3611	N=3500	N=3585	N=3179	N=3572	N=3002
99,2%	98,2%	99,3%	99,0%	93,7%	79,4%	55,9%	13,5%

Table 7. Percentage of resolution (vs. non-resolution) by individuation level and agreement target.

It thus appears that there is no Agreement Hierarchy effect for the two animate levels of the Individuation Hierarchy. The difference between resolution with adjectives and pronouns in these two categories is so minimal that I conclude that resolution is equally likely for adjectives and pronouns in the HUMAN and ANIMAL categories.¹⁹ For the two inanimate levels, however, there seems to be an Agreement Hierarchy effect in the opposite direction to what was expected. This seems to be an interaction effect with the Individuation Hierarchy, explaining the growing contrast between the two agreement targets in the OBJECT and ABSTRACT categories.

From the interaction data above we can additionally observe that there appear to be different ‘cut-off points’ in the Individuation Hierarchy depending on the agreement target. When the stimuli sentence included a blank for a personal pronoun, there is a considerable drop in resolution frequency for the OBJECT category. However, a pronounced drop in resolution does not occur until on the ABSTRACT level for the sentences that elicited predicate adjective forms.

¹⁹ The small contrast that is indeed found (e.g. the 1% difference between adjectives and pronouns in the HUMAN category), may very well be an effect of the survey design (remember that the pronoun elicitation sentences included a blank that was ‘free’ – while adjectives were always provided in brackets).

5.1.4 Summary

In the previous sections I have shown that the distribution of resolution in Icelandic is indeed affected by the Individuation Hierarchy: the null hypothesis can be rejected for that part of the research question. The Individuation Hierarchy effects on the distribution of resolution become more pronounced starting from the OBJECT category. This indicates that introducing a separate level of inanimate nouns (OBJECT) in the analysis gives a more comprehensive picture of how resolution in Icelandic is distributed.

As for the Agreement Hierarchy, there is a contrast in the distribution of resolution between predicate adjective agreement targets and personal pronoun targets, which does not adhere to the hierarchy. In fact, the effects that we see are the opposite of what the hierarchy predicts. This incongruity with the Agreement Hierarchy's predictions may, however, be explained by interaction effects from the Individuation Hierarchy. The distribution of the data across the individuation levels indicates that there is no Agreement Hierarchy effect for HUMAN and ANIMAL conjoined phrases, while the agreement target does influence the availability of resolution for the lower end of the Individuation Hierarchy: with OBJECT and ABSTRACT conjoined noun phrases. Overall, the null hypothesis must be accepted for this part of the research question: the distribution of resolution in Icelandic is not affected by the Agreement Hierarchy. That is, not in the way that was expected. I will come back to this in section 6.1.2 of the discussion chapter.

5.2 Gender of agreement forms

5.2.1 Resolution gender

We now turn to another aim of this work: to explore the adherence to gender resolution rules. The focus of this section is thus on which gender is chosen whenever resolution is found. For reference, I repeat the gender resolution rules that have been described for Icelandic:

(40) Gender resolution rules in Icelandic:

$M + M = M$

$F + F = F$

$N + N = N$

all gender combinations = N

Table 8 shows which gender forms were used for resolution in the survey, sorted by gender combination. The most frequent resolution gender value for each combination is shaded, and the expected gender value (according to the gender resolution rules) is in boldface:

		Resolution gender				Total
		F	M	N	non-resolved	
Gender combination	F+F	1463	1	1051	725	3240
	F+M	2	27	2602	609	3240
	F+N	16	1	2506	717	3240
	M+F	8	8	2543	681	3240
	M+M	0	1887	576	777	3240
	M+N	0	19	2223	998	3240
	N+F	18	1	2002	1219	3240
	N+M	0	75	2148	207	2430
	N+N	1	4	3180	865	4050
Total		1508	2023	18831	6798	29160

Table 8. Frequency of gender values of resolved forms by gender combination.

If we look at combinations of different gender values (F+M, F+N, M+F, M+N, N+F, N+F, N+M), we can calculate that the overall number of resolved forms is 14199 (total number of non-resolved: 4431). Out of these, 14024 are neuter plural – or 98% of the resolved agreement forms for conjoined noun phrases that have conjuncts of two different genders. This is exactly what has been predicted by the gender resolution rules in (40): all gender combinations yield neuter plural agreement in resolution. This resolution rule can thus be confirmed with a high degree of certainty.

We now turn to the gender congruent conjoined noun phrases. In the case of N+N, the results are in line with what was expected. Out of a total of 3185 resolved forms (total number of non-resolved: 865), 3180 are neuter plural (99,8%). The resolution rule ‘neuter + neuter = neuter’ thus looks like a robust rule. A different pattern is observed for the feminine and masculine. The overall number of resolved forms for F+F is 2515. Out of those forms, only 1463 (58%) are in the expected feminine plural. Strikingly, 1051 (42%) of the resolved forms for feminine plus feminine appear in the neuter plural. The third congruent combination of gender in the dataset, M+M, behaves in a similar way: out of 2463 resolved forms (total number of non-

resolved: 777), 1887 (77%) are in the expected masculine plural. The remaining resolved forms are in the neuter plural: 576 (23%). It thus appears that the resolution rules ‘feminine + feminine = feminine’ and ‘masculine + masculine = masculine’ do not always hold.

This unexpected pattern gives rise to the question whether the distribution of the resolution genders (feminine/masculine vs. neuter) may vary depending on the individuation of the conjuncts. Figure 4 and Figure 5 show the distribution of gender resolution with F+F and M+M by individuation level:²⁰

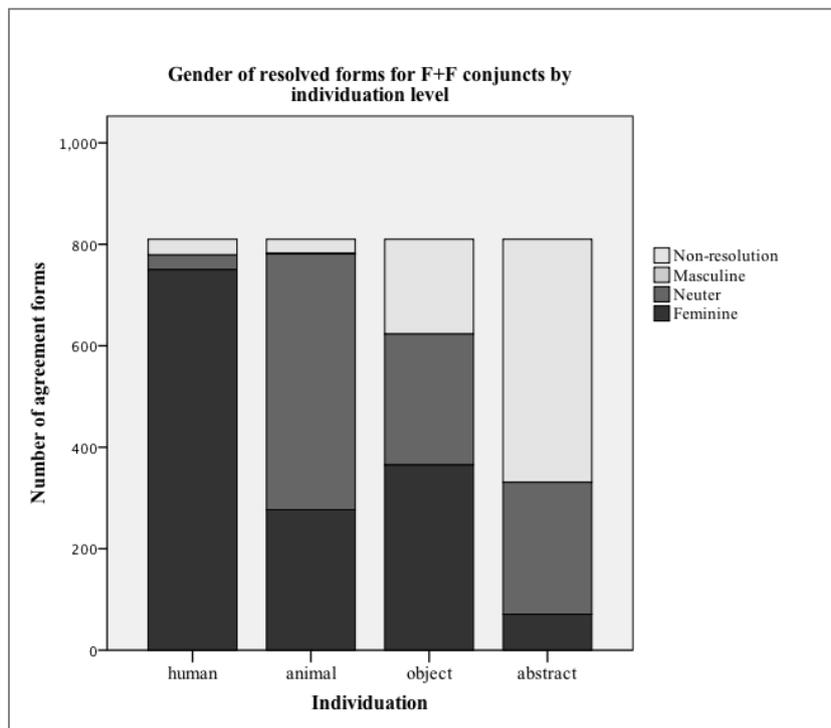


Figure 4. Gender of resolved forms for F+F conjuncts by individuation level.

²⁰ Remember that the survey included only one sentence for each unique combination of variables, and that the same conjuncts were used for both adjective and pronoun elicitation. Therefore, when dealing with e.g. F+F, we are only looking at *one* specific conjoined noun phrase for each level of the individuation hierarchy, and the results of two sentences only (one for predicate adjectives, one for personal pronouns). This means that the effects we observe may to some extent be explained by the conjuncts that were chosen. The following results can thus only be seen as an indication of what strategies are actually used with gender congruent conjoined phrases in Icelandic.

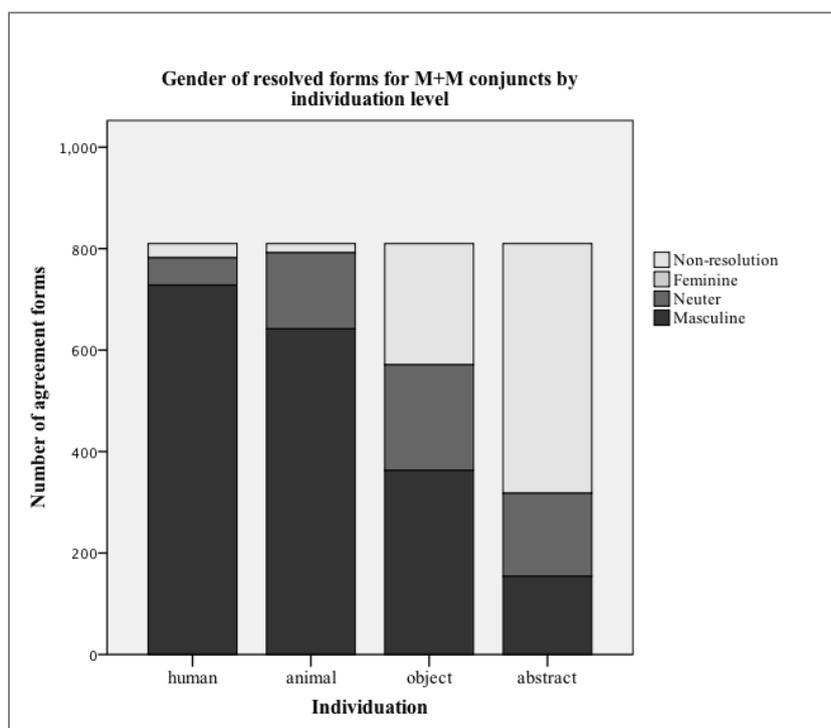


Figure 5. Gender of resolved forms for M+M conjuncts by individuation level.

Glancing at the two graphs, it appears that the distribution of neuter plural is to some extent influenced by the individuation level of the conjoined noun phrases – but of course, resolution in general is very much influenced by individuation (hence the previous results on the Individuation Hierarchy). We can gain a better picture of the distribution by calculating the percentages of neuter gender resolution (out of all resolved forms) by individuation level, as seen in Table 9:

	F+F	M+M
HUMAN	3.7% (N=29)	6.9% (N=54)
ANIMAL	64.4% (N=504)	18.9% (N=150)
OBJECT	41.4% (N=258)	36.4% (N=208)
ABSTRACT	78.5% (N=260)	51.5% (N=164)

Table 9. Percentages of neuter out of resolved forms by individuation level.

Looking at each individuation level, the neuter plural is almost never found for HUMAN conjoined noun phrases (3.7% for F+F and 6.9% for M+M).²¹ In the ANIMAL category, however,

²¹ The number of neuter resolution for M+M HUMAN is higher than for F+F HUMAN. This could possibly be explained to some extent by the fact that I accidentally included a feminine referent early in one of the sentences for M+M HUMAN (cf. sentence 31 in Appendix). The feminine referent was not part of the

there is a striking difference between F+F and M+M: neuter plural is much more prominent with the feminine conjoined phrases: 64.4% for F+F vs. 18.9% for M+M.

This effect is seen both for adjective elicitation (cf. sentence 21 in Appendix) and personal pronoun elicitation (cf. sentence 61 in Appendix), and can therefore not be an effect of an individual sentence. However, this pronounced difference can perhaps be explained by the conjuncts that were chosen for the F+F gender combination of the ANIMAL category: *górilla* ‘gorilla’ and *mauraæta* ‘anteater’. Both nouns have the typical nominative *-a* ending of Icelandic feminine nouns, but it may be that *górilla* has a masculine connotation (i.e. from popular culture, think King Kong). A masculine connotation may have pushed some speakers toward interpreting the conjoined noun phrase as M+F instead of F+F, i.e. toward semantic gender resolution (cf. 2.3 above). However, I do not think that *górilla* can explain the total extent of the neuter resolution found in the ANIMAL category with two feminine conjuncts, as neuter plural was also used as the resolution form for masculine conjuncts (18.9%). For comparison, the conjuncts chosen for the M+M ANIMAL condition were *minkur* ‘mink’ and *broddgöltur* ‘porcupine’ – neither of which has a particular masculine or feminine connotation in Icelandic.

Going back to Table 9, the OBJECT level of the Individuation Hierarchy shows comparable percentages of neuter plural between the two gender combinations (41.4% for F+F and 36.4% for M+M). Finally, the neuter plural is much more prominent with the feminine conjuncts in the ABSTRACT category (78.5% vs. 51.5% for M+M). This is an interesting difference that I have no ready explanation for.

The conclusion of this section is that there is obviously more to gender resolution with gender congruent phrases than has previously been described: the neuter plural seems to be available to speakers alongside the expected feminine/masculine, especially when we move towards the right end of the Individuation Hierarchy. I will come back to this issue in 6.2 in the discussion chapter.

conjoined noun phrase, but some speakers may have treated it as such when determining the resolution form.

5.2.2 Non-resolution gender

We have seen what gender Icelandic speakers use in resolution with conjoined noun phrases. I now turn to what gender is used in agreement when resolution is not found. Table 10 shows the frequency of each of the three genders for non-resolved agreement forms, sorted by the gender combination of the conjoined noun phrases.²² The most frequent gender value for each combination is shaded, and the expected gender value (gender of the second conjunct) is in boldface:

		Non-resolution gender				
					resolution/ avoidance	Total
Gender combination		F	M	N		
	F+F	142	11	372	2715	3240
	F+M	20	26	376	2818	3240
	F+N	15	2	547	2676	3240
	M+F	54	14	458	2714	3240
	M+M	15	63	444	2718	3240
	M+N	8	0	802	2430	3240
	N+F	104	0	937	2199	3240
	N+M	2	21	94	2313	2430
	N+N	9	9	657	3375	4050
Total		369	146	4687	23958	29160

Table 10. Frequency of gender values for non-resolved forms by gender combination.

From Table 10 we see that neuter singular is very frequently used for non-resolved forms. For the conjoined noun phrases that have at least one neuter conjunct, the neuter singular form could be analysed as agreement with the first or second conjunct. This is what was expected, considering what has been said about resolution in general as well as resolution in Icelandic. It is still surprising to see that the neuter is used so frequently when the first conjunct is neuter and the second conjunct is masculine (80.3% of non-resolved forms are neuter, N=94) or feminine (90% of non-resolved forms are neuter, N=937), as it has been noted that agreement is usually found with the nearest (in this case: second) conjunct in Icelandic if resolution is not

²² Keep in mind that the mistakes that were made in the stimuli construction (cf. 4.2.3), as this is where they can really affect the frequency numbers. An example of this is that the N+M ABSTRACT category is missing, which explains the very low number of non-resolution forms for N+M compared to the other gender combinations.

used (Friðjónsson, 1991, p. 86). In Table 11, we see clearly that agreement with the second conjunct is not as common as we might have expected (shaded rows show gender combinations that have no neuter conjunct):

	% second conjunct gender	% neuter singular
F+F	27%	70.1%
F+M	6.7%	89.1%
F+N	97%	97%
M+F	10.3%	87.1%
M+M	12.1%	85.1%
M+N	99%	99%
N+F	10%	90%
N+M	17.9%	80.3%
N+N	97.3%	97.3%

Table 11. Comparison of the percentage of agreement with second conjunct and neuter singular forms by gender combination.

The percentage of agreement with the second conjunct varies considerably across the different gender combinations, and surprisingly never exceeds 27% of the non-resolution forms – unless the second conjunct is neuter. When we consider the shaded rows in Table 11 – M+F, F+M as well as M+M and F+F – we see that the neuter gender prevails as the most-used option (by far) even where there is no neuter conjunct present in the stimuli. Remember that with conjoined noun phrases, the general agreement options with conjoined noun phrases are said to be resolution (i.e. agreement with both conjuncts) or agreement with one conjunct (cf. chapter 2 on resolution above). The Icelandic data does not conform to this. I will come back to this problem in 6.2 below.

5.3 Avoidance strategies

We now turn to the last objective of this research: to explore what avoidance strategies Icelandic speakers use when confronted with a conjoined noun phrase they feel is unsuitable for agreement. Agreement was avoided 1593 times in total (out of 29160 elicitations). Let us look at the distribution across categories, shown in a bar chart in Figure 6:

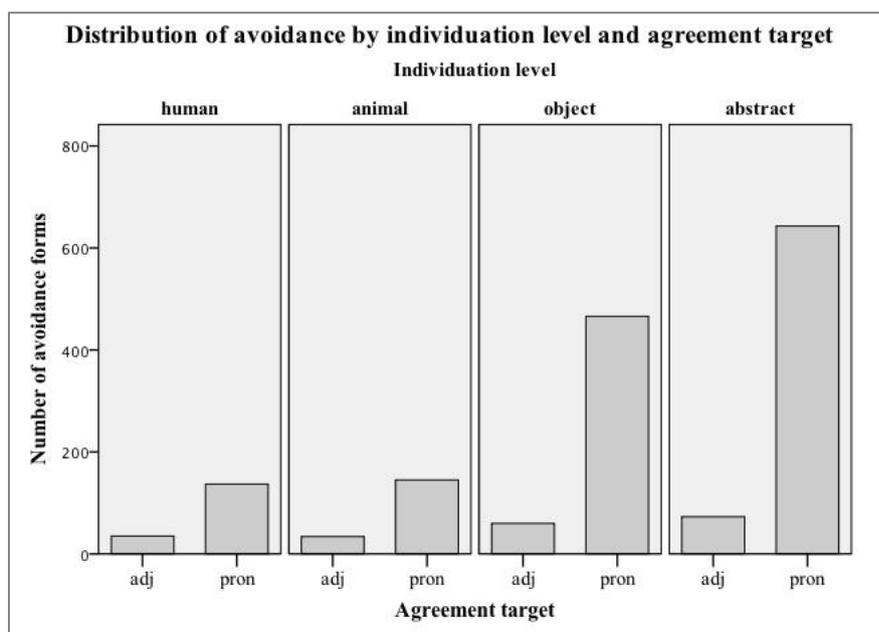


Figure 6. Distribution of avoidance by individuation level and agreement target.

It should be stressed that most of the observed avoidance strategies were used instead of agreement with personal pronouns, as can readily be seen from Figure 6. This can of course be an indication that using personal pronouns in agreement with conjoined noun phrases is harder than using an agreeing predicate adjective. However, this may also reflect the fact that the blank that was meant for personal pronouns was left ‘open’ – I did not ask speakers explicitly for personal pronouns. In contrast, an adjective was given in brackets after each adjective blank (cf. section 4.2 for a description of the stimuli construction).

As noted earlier, the survey instructions included the option for participants to write *ekkert passar* ‘nothing fits’ in the blanks, to express discomfort with using an agreement form for a given sentence. This was used multiple times (417 times to be exact). It was almost the only strategy used to avoid agreement with adjectives (only a handful of times other strategies were used). When a personal pronoun was the expected agreement target, however, participants resorted to other strategies alongside *ekkert passar*. In the remainder of this chapter, I will describe the most frequent avoidance strategies used.

5.3.1 The demonstrative pronouns *þetta* and *slíkt*

Several instances of other pronouns than the third person pronouns were observed in the data. I have already mentioned the indefinite pronoun *bæði* ‘both’, which was included in the analysis and treated as resolution (cf. 4.4 above). Other options used by speakers were the

neuter singular forms of two pronouns: *þetta* (m./f. *þessi* – used 272 times) and *slikt* (m. *slikur*, f. *slik* – used 122 times).

Þessi is a demonstrative pronoun. It can be used attributively with a noun as well as deictically (but not anaphorically). The neuter singular form *þetta*, i.e. what was found in the present data, can – in addition to the uses above – be used to refer to a whole phrase, idea or situation. In (41) we see some examples:

- (41) a. *Jóna traðkar alltaf á blómunum mínum.*
 Jóna.F.SG trample.SG always on flowers.the.N.PL mine.
Þetta gengur ekki lengur!
 this.N.SG go.SG not longer!
 ‘Jóna always tramples on my flowers. This cannot go on any longer!’
- b. *Eru þau skilin-Ø? Þetta vissi ég ekki.*
 be.PL they.N.PL divorced-N.PL? this.N.SG knew.SG I not.
 ‘Are they divorced? I did not know that.’

This use of the demonstrative pronoun is restricted to the neuter singular: masculine and feminine forms would be ungrammatical in the sentences in (41). If the masculine or feminine form is used on its own, there always needs to be an implied or omitted noun of either gender.²³ In the neuter, however, it can stand alone without any specific referent:

- (42) a. *Heyrðir þú þennan (brandara)?*
 heard you this.M.SG (joke.M.SG)?
 ‘Did you hear this (joke)?’
- b. *Heyrðir þú þessa (sögu)?*
 heard you this.F.SG (story.F.SG.)?
 ‘Did you hear this (story)?’

²³ The only instances of the masculine/feminine form *þessi* in the data were in the attributive position with a superordinate noun (cf. 5.3.4).

- c. *Heyrðir þú þetta?*
 heard you this.N.SG?
 ‘Did you hear this?’

Slikur ‘such’ is an indefinite demonstrative pronoun, often found in attributive position with a noun, e.g. *slikur.M.SG maður.M.SG er ekki góður* ‘such (a) man is not good’.²⁴ In the neuter singular – *slikt* – it can be used on its own to refer to a phrase or situation, in a similar fashion as *þetta* above. The difference is that there must be a preceding clause for *slikt*:

- (43) *Matur-inn er búin-n. Slik-t er óásættanleg-t.*
 food-the.M.SG is finished-M.SG. such-N.SG be.SG unacceptable-N.SG
 ‘The food is finished. Such (a thing) is unacceptable.’

The same restrictions apply to *slikur* in the feminine and masculine genders as we saw with *þessi*. If these forms are used, they must refer to a specific noun that has previously been mentioned. In (44a.), we see an example where feminine form is used in agreement with a feminine noun. Using the neuter singular *slikt* instead (which is always possible) makes the meaning less definite, as we see in (44b.):

- (44) a. *Ég er að leita að bleik-ri tölvu.*
 I be to look for pink-F.SG computer.F.SG.
Átt þú einhverja slik-a?
 have you something.F.SG such-F.SG?
 ‘I am looking for a pink computer. Do you have one like that?’
- b. *Ég er að leita að bleik-ri tölvu.*
 I be to look for pink-F.SG computer.F.SG.
Átt þú eitthvað slik-t?
 have you something.N.SG such-N.SG?
 ‘I am looking for a pink computer. Do you have something like that?’

²⁴ Some Icelandic linguists regard *slikur* as an adjective, some as an indefinite demonstrative pronoun (cf. discussion in Kvaran, 2005, p. 23). I have decided to adopt the latter categorisation.

Coming back to the results of the survey, what these two neuter singular pronoun forms have in common is that they can be used to refer to conjoined noun phrases without any reference to the grammatical gender of the conjuncts. Moreover, due to the expansive scope of the pronouns with regards to referents (when in neuter singular), speakers can felicitously use them to avoid the Individuation Hierarchy restrictions on agreement that we have previously seen. It is thus an effective avoidance strategy.

5.3.2 The indefinite pronoun *hver tveggja*

Another strategy that was used by speakers was to use the indefinite pronoun *hver tveggja* ‘each of two, both’. It occurred 149 times in the results in the neuter singular form: *hvort tveggja*. It appeared only two times in the masculine/feminine singular: *hver tveggja*.

The neuter form, *hvort tveggja*, is often used in agreement with conjoined noun phrases that refer to uncountable entities (Stofnun Árna Magnússonar í íslenskum fræðum, 2017, example adapted from there):

- (45) *Það vantar sykur og mjólk; kaupu hver-t tveggja*
 it needs sugar.M.SG and milk.N.SG; buy.you each-N.SG of two
 ‘Sugar and milk is needed; buy both.’

It is therefore not particularly surprising that this strategy should come up in the results, although I had not considered this option when constructing the survey – reflected in the fact that I asked for only two words in the blanks for each sentence. This may have influenced speakers: perhaps more people would have used *hver tveggja* had I not done that.

By definition, this strategy is clear avoidance of resolution. However, it is not avoidance of agreement – as it is a perfectly normal agreement form. The neuter form *hvort tveggja* gives speakers a chance to refer to both conjuncts in a conjoined noun phrase without using resolution. However, the use of this pronoun in general has decreased – with speakers opting for the gender- and number-marked indefinite pronoun *bæði* ‘both’ instead (Axelsdóttir, 2006, p. 154).

5.3.3 The relative conjunction *sem*

Some speakers resorted to ignoring the punctuation mark and inserting the indeclinable relative conjunction *sem*, which introduces a relative clause in Icelandic. In 103 cases, it was used with the singular form of the verb, and 327 times it was used with a plural verb. As the conjunction does not have gender features, there is no way of knowing which gender would have been chosen in these instances.

The conjunction *sem* does not introduce main clauses and is not inflected. This is therefore a clear example of avoidance of gender agreement, where the speakers did not find a suitable form for the subject position of a next sentence (which was a main clause). As the agreement target in question was a personal pronoun in the subject position of a main clause, I decided not to include the *sem* data in the analysis – even though number resolution could in fact have been evaluated for these cases – as it shows resolution in a construction that is not comparable to the rest of the data.

5.3.4 Superordinate nouns

Several speakers used superordinate nouns to ‘sum up’ the two conjuncts they were presented with. Examples from the pronoun elicitation are presented in Table 12:

Conjoined NP	Superordinate noun	Sentence number
HUMAN		
<i>faðirinn og ungarbarnið</i> ‘the father and the baby’	<i>feðginin</i> ‘the father and daughter’	[9]
<i>móðirin og barnið</i> ‘the mother and the baby’	<i>mæðginin</i> ‘the mother and son’	[19]
OBJECT		
<i>potturinn og pannan</i> ‘the pot and the pan’	<i>áhöldin</i> ‘the utensils’	[5]
<i>hnífurinn og mortelið</i> ‘the knife and the mortar’	<i>hlutirnir</i> ‘the things’	[28]
<i>diskurinn og bollinn</i> ‘the plate and the cup’	<i>borðbúnaðurinn</i> ‘the table utensils’	[48]
ABSTRACT		
<i>friður og frelsi</i> ‘peace and freedom’	<i>prinsipp</i> ‘principles’	[1]
<i>tækni og þekking</i> ‘technology and knowledge’	<i>þessir þættir</i> ‘these features’	[47]
<i>ánægja og árangur</i> ‘joy and success’	<i>þeir eiginleikar</i> ‘those properties’	[3]
<i>atvinnuleysi og hungur</i> ‘unemployment and hunger’	<i>ástandið</i> ‘the situation’	[64]

Table 12. Examples of superordinate nouns from pronoun elicitation.

In the adjective elicitation, some speakers added a superordinate noun to the adjective that was elicited – turning it into an attributive adjective with a noun as complement. Examples from adjective elicitation are presented in Table 13:

Conjoined NP	Superordinate noun	Sentence number
ANIMAL		
<i>hlébarðinn og tígrisdýrið</i>	<i>dýr</i>	[20]
‘the leopard and the tiger’	‘animals’	
<i>öndin og mávurinn</i>	<i>fuglar</i>	[33]
‘the duck and the seagull’	‘birds’	
OBJECT		
<i>hnífurinn og mortelið</i>	<i>áhöld</i>	[68]
‘the knife and the mortel’	‘utensils’	
ABSTRACT		
<i>stuðningur og árangur</i>	<i>hugtök</i>	[29]
‘support and success’	‘concepts’	
<i>friður og frelsi</i>	<i>fyrirbæri</i>	[13]
‘peace and freedom’	‘phenomena’	
<i>ánægja og árangur</i>	<i>atriði</i>	[41]
‘joy and success’	‘points’	
<i>samstarf og þjónusta</i>	<i>þáttur</i>	[34]
‘cooperation and service’	‘feature’	

Table 13. Examples of superordinate nouns from adjective elicitation.

5.3.5 Repetition of conjuncts

Repetition of one conjunct was also a strategy that was used a handful of times in the pronoun elicitation. There were examples of the first conjunct being repeated, as well as the second. For example, for the conjoined noun phrase *svuntan og saltstaukurinn* ‘the apron and the saltshaker’, one speaker used *saltstaukurinn* as the subject of the next sentence while another speaker used *svuntan*. Most of the instances I found of this sort of repetition were with OBJECT words. However, the overall number of cases was very low (only nine cases).

A couple of times, the whole conjoined noun phrase was repeated instead of using a pronoun to refer to it. This was only done twice for the ABSTRACT conjoined phrases: *friður og frelsi* ‘peace and freedom’ and *æsingur og reiði* ‘commotion and anger’.

Repetition of the agreement controller is a very clear avoidance strategy. Instead of giving an agreement form that does not feel right, the conjoined noun phrase is simply repeated (in part or in full) by the speaker.

5.3.6 Other strategies

Other avoidance strategies included inserting a verb without subject in the blank followed by the infinitive (e.g. *vilja vera* ‘want to be’), using different conjunctions (e.g. *til að* ‘to’), using adjectives/adverbs (e.g. *fremur* ‘rather’), or other pronouns than the ones we have discussed (e.g. *hverugt* ‘neither.N’).

Another strategy, used a handful of times, was to simply introduce a new subject referent. The chosen subject depended on the context of each sentence, and included e.g. the first person singular pronoun *ég* ‘I’, *saksóknarinn* ‘the prosecutor’, the second person plural pronoun *þið* ‘you’, and *greyin* ‘the poor things’.

This concludes the overview of the results. I now turn to the discussion.

6. Discussion

We have now seen an overview of the results. In this chapter, I will discuss the most important findings and weigh them against my hypotheses and previous literature. I will first look at the distribution of resolution with conjoined noun phrases in Icelandic, taking the Individuation Hierarchy and the Agreement Hierarchy into account. I will then go on to discuss the gender of the agreement forms, and try to explain some of the surprising patterns found in the data. In the last section, I will summarize the ideas presented and provide an overview of the agreement options that are available with conjoined noun phrases in Icelandic.

6.1 Distribution of resolution

One of the aims of this research was to see whether effects of two typological hierarchies – the Individuation Hierarchy and the Agreement Hierarchy - could be found in the distribution of resolution in Icelandic, and to what extent these hierarchies might affect it. In this section, I will review the results from 5.1 above.

6.1.1 The Individuation Hierarchy

The Individuation Hierarchy that was presented in 2.5.1 was used as the base for the agreement form elicitation survey. The nouns that were chosen as conjuncts of the conjoined noun phrases all came from the following hierarchy:

- (46) The Individuation Hierarchy
human > animal > countable object > abstract mass

I hypothesized that the distribution of resolution in Icelandic, i.e. the choice of plural agreement over singular agreement with conjoined noun phrases, would be affected by this hierarchy. This was in fact borne out by the results: the distribution of resolution shows clear effects of the Individuation Hierarchy. The most individuated conjoined noun phrases (the HUMAN and ANIMAL levels) were more likely to yield resolution in agreement than conjoined noun phrases of lower individuation levels (OBJECT, ABSTRACT). If we simply look at the percentages, we see that the HUMAN and ANIMAL levels have comparable rates of resolution, while there is a clear drop for the OBJECT category and a dramatic drop for the ABSTRACT category:

HUMAN	ANIMAL	COUNTABLE OBJECT	ABSTRACT MASS
96,4%	96,7%	80,7%	32,9%

Table 14. Resolution (vs. non-resolution and avoidance) by individuation level.

This result is in line with animacy effects on resolution that have been found for other languages (cf. section 2.5 above) and expands the analysis of Friðjónsson (1991) by establishing that the first drop in resolution in Icelandic occurs at the OBJECT level.²⁵

6.1.2 The Agreement Hierarchy

I also hypothesized that the Agreement Hierarchy, i.e. the agreement target type, would affect the distribution of resolution in Icelandic. The Agreement Hierarchy is repeated in (47) for reference, with the levels that were tested for in this study in boldface:

- (47) The Agreement Hierarchy (Corbett, 1979)
 attributive < **predicate** < relative pronoun < **personal pronoun**

In the survey, predicate adjectives and personal pronouns were elicited in agreement with conjoined noun phrases. The results of the survey show that the frequency of resolution differs significantly between the two agreement targets. However, the Agreement Hierarchy effects are not in the direction that was expected. I had expected that resolution would be more frequent with personal pronoun agreement targets than with predicate adjectives – but when the percentages of resolution for the two agreement targets are compared, we see that the overall result is the exact opposite:

PREDICATE ADJECTIVE	PERSONAL PRONOUN
87%	74,6%

Table 15. Percentage of resolution (vs. non-resolution) by agreement target.

The null hypothesis for this part of the research question must therefore be accepted. A larger agreement domain did not yield higher likelihood of resolution. When we consider the percentages of resolved forms across individuation levels, a clearer picture emerges:

²⁵ It should be noted, however, that pronominal agreement was not considered in his analysis.

HUMAN		ANIMAL		OBJECT		ABSTRACT	
adj	pron	adj	pron	adj	pron	adj	pron
99,2%	98,2%	99,3%	99,0%	93,7%	79,4%	55,9%	13,5%

Table 16. Percentage of resolution (vs. non-resolution) by individuation level and agreement target.

It is obvious that the agreement target effects are only found in the lower individuation levels: OBJECT and ABSTRACT. This indicates that resolution with conjoined noun phrases on personal pronoun targets in Icelandic is especially sensitive to individuation. This is particularly true of the ABSTRACT noun phrases, where only 13% of the pronominal agreement forms were in the plural. One reason may be that the ABSTRACT nouns were not presented with a definite article in the stimuli. I suspect that the lack of definiteness may have had an additional impact on the non-availability of resolution with personal pronoun targets. In sum, there is a clear interaction effect of the Individuation Hierarchy and agreement target – starting from the first inanimate category, OBJECT.

But why does the data not conform to previous findings? Effects of the Agreement Hierarchy on the distribution of resolution have been found for at least two languages in previous work on conjoined noun phrases (cf. section 2.4 above). However, these studies examine resolution with conjoined noun phrases in texts (Corbett, 1983, p. 158 and 210). Corbett’s analysis of modern literary Russian texts is, as far as I know, the most complete study of resolution and its restriction by the Agreement Hierarchy (Corbett, 1983, pp. 158–162, also cited as a case for the Agreement Hierarchy in 2006, p. 221). Although Corbett recognizes the importance of animacy as a factor, it was not directly controlled for when Agreement Hierarchy effects were established for modern literary Russian. The number of agreement forms with conjoined noun phrases was counted and the percentage of plural forms calculated for each agreement target - regardless of the animacy status of the referent (cf. table 9.1 in Corbett, 1983, p. 158).

Speakers of different languages have been found to be more likely to refer to animate beings with personal pronouns (cf. Dahl & Fraurud, 1996, p. 56; Vogels, Kraemer, & Maes, 2013 and references provided there). This means that it is likely that a larger number of pronouns in written and spoken language corpora will have animate referents than inanimate. When the Agreement Hierarchy is applied in the analysis of conjoined noun phrases in texts or other types of corpora, I thus believe that the data will conform to the hierarchy not least because of

this preference of using e.g. personal pronouns with animate nouns. The different nature of the present approach, especially the inclusion of OBJECT and ABSTRACT conjoined noun phrases, is the main reason for why the results of this study do not conform with previous work on the subject. The Agreement Hierarchy is thus not predictive of how resolution will be distributed when agreement is elicited while controlling for several individuation levels.

Another issue is the lack of any Agreement Hierarchy effect on agreement choices with HUMAN and ANIMAL noun phrases in the data. This can be attributed to the fact that resolution is overwhelmingly preferred for both agreement targets in these categories. As we have seen, agreement with one conjunct for HUMAN conjoined noun phrases in Icelandic is ungrammatical (cf. section 2.5.1). A similar principle may be at work with ANIMAL nouns. Corbett (2006, p. 207) notes that the Agreement Hierarchy should work for “any controller that permits alternative agreements”. It therefore makes sense that no effects are found for these two individuation levels. Resolution appears to be the only agreement option for animate conjoined noun phrases in Icelandic.

The last issue to be addressed is methodological: the difference between the sentence position of the agreement controllers depending on agreement target in the survey. In predicate adjective elicitation, the conjoined noun phrases were presented in subject position, while they were in object position for the elicitation of personal pronouns (for motivations, cf. section 4.2.2 of the methodology chapter). Potentially, this may have affected the frequency of resolution between agreement targets. I cannot say for sure, of course, but I believe that any such effects will have been minimal. At least, this cannot explain the growing differences in resolution between agreement targets that are found as we move rightwards along the Individuation Hierarchy.

6.2 Gender of agreement forms

An important aspect of this research was to look at the gender choices that Icelandic speakers make when asked for agreement forms with conjoined noun phrases. In this section, I will review the results of the survey and propose that two gender defaults can be found in the data: one normal case default and one exceptional case default, in the sense of Corbett & Fraser (2000).

6.2.1 Resolution gender

One central research question was the following: Do Icelandic speakers adhere to the gender resolution rules that have been described for Icelandic? As we saw in the results, Icelandic speakers do adhere to the gender resolution rules for all gender incongruent conjoined noun phrases and congruent neuter conjoined noun phrases. Everywhere the expected resolution gender was neuter plural. The gender resolution rules were followed by speakers in the overwhelming majority of cases (98% of the resolution for combinations of different gender values was neuter plural, and 99,8% of resolved N+N conjuncts).

A surprising finding, however, is that the neuter plural was additionally found in agreement with masculine and feminine congruent conjoined noun phrases. In these cases, where we expected feminine plural or masculine plural, the neuter plural takes up a considerable portion of the agreement forms (23% for M+M, 42% for F+F).

The gender congruent masculine and feminine conjoined noun phrases show some variation in the use of neuter plural across individuation levels. Masculine noun phrases show a steady increase of the percentage of neuter plural as we move down the Individuation Hierarchy. In contrast, a peculiar pattern arises with the feminine: there is a pronounced increase of neuter plural resolution in the ANIMAL and ABSTRACT categories when compared with the M+M conjoined phrases. A suggestion for why the F+F ANIMAL category is so different from the M+M ANIMAL was provided in the results chapter (potential masculine connotations of *górillan* ‘the gorilla’, cf. 5.2.1), but the high percentage of neuter plural with F+F ABSTRACT conjoined noun phrases remains a mystery.

I hypothesized that Icelandic speakers would adhere to the gender resolution rules. This bears out in the overwhelming majority of the cases. However, the gender congruent masculine and feminine conjoined noun phrases provide evidence for a wider availability of the neuter plural than expected. The choice of neuter plural forms in these cases is not in line with the resolution rules that have been described for Icelandic. I will provide a suggestion for why this pattern arises in 6.2.3.

6.2.2 Non-resolution gender

Another aim of this study was to look at the extent to which agreement with the nearest conjunct is used. As is apparent from the results chapter, agreement with the nearest (second) conjunct is quite limited. What stands out, however, is the omnipresence of the neuter singular. As Table 17 highlights, it is the most used singular agreement form for all gender combinations, showing that the position of the conjuncts does not seem to have a very pronounced impact on the gender choice:

	% neuter singular
F+F	70.1%
F+M	89.1%
F+N	97%
M+F	87.1%
M+M	85.1%
M+N	99%
N+F	90%
N+M	80.3%
N+N	97.3%

Table 17. Percentage of neuter singular in non-resolution by gender combination.

It is important to realize that for any conjoined noun phrase that has a neuter conjunct it is impossible to see whether the high number of neuter singular agreement is an indication of agreement with one conjunct or not. However, it is obvious that there is a general tendency towards the neuter singular. The marked presence of the neuter with M+M, F+M, M+F and F+M conjoined noun phrases confirms this.

Lastly, as described in 5.3 above, all pronominal avoidance strategies that were employed by Icelandic speakers had one thing in common: neuter singular forms. It is therefore obvious that the neuter singular has a special role in agreement with conjoined noun phrases.

6.2.3 Default gender with conjoined noun phrases

As I have discussed, some interesting gender choices were found in the results for agreement with Icelandic conjoined noun phrases. One is that gender congruent masculine or feminine

conjoined noun phrases sometimes yield resolution forms that are neuter plural – i.e. in instances where masculine or feminine plural would have been expected. The other striking result is that neuter is the gender that is most often chosen for singular non-resolution agreement forms – i.e. where we would have expected agreement with one conjunct (especially with the second conjunct). This is also true for gender congruent conjoined noun phrases in the masculine or feminine or combinations of the two. Moreover, almost all pronominal avoidance forms were found in the neuter singular.

In many languages, an agreement target that can mark gender, must mark gender (Corbett, 1991, p. 203). This is true for the two agreement targets that we have been looking at in Icelandic: there is no way of avoiding gender agreement on personal pronouns or predicate adjectives. If, for whatever reason, there is a problem with the agreement controller – a neutral agreement form may be used (Corbett, 1991, p. 203; Corbett & Fraser, 2000, p. 74). In the present study, two factors can be considered to have an impact on the agreement controller. The first is that we are dealing with conjoined noun phrases, which are considered over-specified for gender (Corbett & Fraser, 2000, p. 85). The second factor is individuation: when the conjoined noun phrases belong to the lower end of the Individuation Hierarchy, a reference problem may be considered to arise. This suggestion is supported by the distribution of resolution. Participants seem to have increasing difficulties in referring to both conjuncts with one agreement form as the conjoined noun phrases approach the lower end of the Individuation Hierarchy.

Coming back to the results of the survey, the neuter keeps showing up in places where it was not expected. It thus seems that we are dealing with the use of a default gender, as discussed in Corbett & Fraser (2000). In their view – which is adopted here – two different types of defaults can be analysed. **Normal case defaults** are the forms that are retrieved when a more specific value cannot be found and the most typical value is thus chosen (Corbett & Fraser, 2000, p. 71). **Exceptional case defaults**, on the other hand, are used when the normal system ‘breaks down’. This happens when something about the agreement controller “blocks normal retrieval and causes a backstop value to be accessed instead” (Corbett & Fraser, 2000, p. 71). Or as Enger puts it: “we resort to exceptional case default when we have ‘too much’ information; i.e. information that is difficult to combine” (Enger, 2004, p. 9).

For the present analysis, I think that it is useful to make a distinction between the neuter plural and the neuter singular: I consider the neuter plural to be a normal case default in resolution with conjoined noun phrases, while the neuter singular is an exceptional case default in Icelandic in general – and can be used with conjoined noun phrases as well. I will motivate this analysis in the following paragraphs.

In resolution, the neuter plural dominates – as we have seen. It is thus reasonable to treat the neuter plural as a normal case default in the sense of Corbett and Fraser (2000). Consider the simple default inheritance chart in Figure 7:

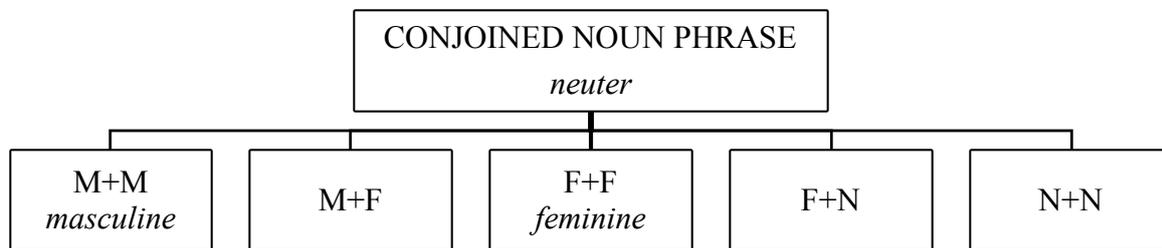


Figure 7. Default inheritance chart of resolution gender in Icelandic. Neuter plural as a normal case default in resolved agreement with conjoined noun phrases.

Figure 7 highlights that the neuter is the default gender in resolution in Icelandic.²⁶ In this view, the masculine/feminine agreement forms for the gender-congruent conjoined phrases (M+M and F+F) are considered exceptions to the normal case default gender. In this sense, the resolution rules might be restated as follows:

(48) Resolution rules in Icelandic

1. By default, N.PL. is used.
2. This is overridden if the conjuncts are gender-congruent in either masculine or feminine; in this case, that same gender is used.

If speakers fail to find this more specific value for the masculine/feminine gender-congruent noun phrases, e.g. when they lack knowledge about the gender of a certain conjunct or don't

²⁶ As resolution requires reference to at least two noun phrases, the agreement form is in the plural in accordance with the number resolution rules.

‘bother’ to compute a more specific value, they will fall back on the normal case default: neuter plural.

I now turn to singular agreement. The occurrence of singular agreement (and thus the neuter singular, given its ubiquity) increases in the data as we consider conjuncts from the lower end of the Individuation Hierarchy. I therefore propose that reference difficulties with less individuated conjuncts in combination with the general over-specification of gender in conjoined noun phrases means that there will be ‘too much’ information for regular retrieval. As Corbett & Fraser articulately put it (2000, p. 71): “something goes wrong”. Therefore, the neuter singular ‘backstop value’ – the exceptional case default – is used. This analysis is supported by the fact that the avoidance strategies in the data are mostly found in the neuter singular.

In fact, the neuter singular can be regarded as an exceptional case default gender that is found with ‘faulty’ controllers throughout the Icelandic language. The neuter singular is frequently used with controllers that are not specified for gender, e.g. when the agreement controller is an infinitive phrase (49a.), when the subject is in an oblique case (49b.) (cf. Rögnvaldsson, 1990, p. 53). The neuter singular also used when there is no overt subject (49c.), and the neuter singular pronoun is used as a ‘dummy’ subject (49d.):

- (49) a. *Að vera kona er frábær-t.*
to be woman is great-N.SG
‘Being a woman is great’
- b. *Mér er kalt.*
I.DAT is cold.N.SG
‘I am (feeling) cold.’
- c. *Er kalt úti?*
is cold.N.SG outside?
‘Is it cold outside?’

- d. Það rignir
 it.N.SG rains
 ‘It is raining.’

The frequent neuter singular agreement that is found in the data from the present survey is thus of the same nature as the neuter singular agreement forms in (49). The neuter singular is found as an agreement form with controllers that are in some way inadequate for normal agreement.

It is important to keep in mind that I am not proposing that the neuter gender is the one and only default gender in Icelandic. As Corbett & Fraser note, there can be different default genders on different levels in the same language (Corbett & Fraser, 2000, p. 69). However, it would be interesting to see whether the scope of the neuter plural as a normal case default extends beyond conjoined phrases. Possibly, it is the normal case default for plural reference in general.

6.2.4 The neuter singular: Pancake agreement?

In the Scandinavian languages, an agreement pattern exists that employs the neuter singular in a surprising way. This has been called ‘pancake agreement’ (Enger, 2004), and can be illustrated with the following examples from Norwegian:²⁷

(50) Examples adapted from Enger (2004, p. 6):

- a. *Pannekak-er* *er* *god-t*.
 pancakes-PL are good-N.SG
 ‘Pancakes are good.’

- b. *Vodka* *er* *sun-t*.
 vodka.M.SG is healthy-N.SG
 ‘Vodka is healthy.’

In both examples, the predicate adjective appears in the neuter singular, while the agreement controller is a plural noun in (50a.) and a singular masculine noun in (50b.). Pancake sentences

²⁷ Note that gender is not marked in the plural in Norwegian, explaining why gender is not glossed for (50a.).

appear to involve gender and number disagreement between the subject and predicate, while they are still considered grammatical.

This type of agreement is a well attested phenomenon in the Scandinavian languages (i.e. Norwegian, Danish and Swedish) and has long puzzled linguists (cf. Faarlund, 1977). Enger argues that this neuter singular agreement pattern should be seen as semantic agreement based on individuation (Enger, 2004). He observes that “[...] the less individuated the controller, or rather its referent, the more likely that we get a neuter adjective” (Enger, 2004, p. 25). He further shows that for Scandinavian, the distribution of neuter singular agreement adheres to the Agreement Hierarchy, giving additional weight to his semantic analysis (Enger, 2004, p. 21).

Going back to the results of the present study, Scandinavian pancake agreement is strikingly similar to the agreement pattern that has been observed. The neuter singular agreement pattern with Icelandic conjoined noun phrases adheres to the same restrictions with regards to individuation and employs the same gender value as is found with Scandinavian pancake sentences. The distribution of neuter singular agreement in the survey data even adheres to the Agreement Hierarchy: it is more common with personal pronouns than predicate adjectives. Does this mean that the neuter singular agreement pattern in the Icelandic data should be considered semantic agreement? I do not think so, as I think defaults are more fitting in this case.

Defaults have been suggested in the discussion on pancake sentences. Corbett & Fraser present Scandinavian pancake agreement as an example of default gender agreement (Corbett & Fraser, 2000, p. 79). Enger also states that within a default analysis of pancake agreement in Norwegian, the neuter could be considered an exceptional case default (Enger, 2004, p. 10). He even gives an example of a conjoined noun phrase that yields pancake agreement, to show why one might consider it a plausible analysis:

(51) Example adapted from Enger (2004, p. 10):

<i>Pølse-r</i>	<i>og</i>	<i>potetmos</i>	<i>er</i>	<i>god-t.</i>
sausage-PL	and	mashed.potatoes.M.SG	is	good-N.SG
'Sausages and mashed potatoes are good.'				

In Enger's view, the conflicting values of the subject in (51) are indicative of a controller that might – intuitively – yield exceptional case default agreement (2004, p. 10). However, he dismisses an exceptional case default analysis for pancake sentences in general. Pancake agreement frequently appears with controllers that do not contain 'too much' information or information that is hard to combine (cf. *pannekaker* 'pancakes' in (50)), and thus do not meet the criteria to invoke an exceptional case default (Enger, 2004, p. 10). As I have discussed, he considers the neuter singular to be semantic agreement.

For the present Icelandic data, however, I believe that a default analysis of the neuter singular agreement pattern is more fitting than a semantic analysis. I have no knowledge of a seemingly straight-forward controller yielding neuter singular agreement in Icelandic - except for neuter singular controllers, of course. As I have argued above, the low individuation conjoined noun phrases in this study can easily be regarded as 'problematic' in terms of agreement – and are therefore a good candidate for exceptional case default analysis.

Pancake agreement has, to my knowledge, not been researched in modern Icelandic. Enger notes that pancake sentences "appear to be categorically excluded in Old Norse" (Enger, 2013, p. 290). Pancake agreement has in fact been regarded as a relatively recent Scandinavian innovation (Enger, 2004, p. 28). It is therefore interesting to observe something so similar in Icelandic, and it deserves further research.

In sum, I regard the neuter singular agreement with conjoined noun phrases in Icelandic as evidence of an exceptional case default. It may very well be that the pattern found in the data represents some sort of pancake agreement, but a more thorough look at agreement patterns in Icelandic is needed to sustain such a claim. In the context of this study, I thus maintain that the neuter plural agreement forms represent a normal case default in Icelandic resolution, while the neuter singular forms are representative of an exceptional case default that is found with 'faulty' agreement controllers throughout the language. In the next section, I will summarize the agreement options that are available with conjoined noun phrases.

6.3 Summary

As I discussed in the introduction to this thesis, it is generally assumed that two agreement options are available for conjoined noun phrases: resolution (syntactic or semantic) or

agreement with one conjunct. As we have seen, the picture is not so straight-forward in Icelandic. In the rest of this section, I will summarize the options that speakers seem to have in agreement with conjoined noun phrases in Icelandic.

6.3.1 Resolution

Based on previous literature and the data from the survey, there are three types of resolution that can be distinguished: semantic resolution, syntactic resolution and normal case default resolution. Semantic resolution is found with human noun phrases, and it is plausible that it would arise with sex-differentiable animals. In semantic resolution, the ‘natural’ gender of the referents overrides grammatical gender (Wechsler, 2009):

(52) Semantic resolution (example repeated from x):

Ófrísk-a skáld-ið og Jóna eru góð-ar.
pregnant-N.SG poet-the.N.SG and Jóna.F.SG be.PL good-F.PL
‘The pregnant poet and Jóna (woman’s name) are good.’

As we see in (52), the agreement target is in the feminine plural – while syntactic resolution rules would have yielded a neuter plural agreement form. The neuter conjunct *skáld* ‘poet’ is treated like a feminine conjunct in resolution, because it obviously refers to a woman.

The second type of resolution in Icelandic, syntactic resolution, is found with HUMAN noun phrases when the ‘natural’ gender of the referents is not known, as well as with ANIMAL, OBJECT, and ABSTRACT conjoined noun phrases.²⁸ The agreement forms for this type of resolution are determined by reference to the resolution rules that have previously been described for Icelandic (cf. 2.3 above):

²⁸ In the survey, several participants expressed their discomfort when they had to find agreement forms for HUMAN conjoined phrases that included referents with an unknown ‘natural’ gender, e.g. the neuter noun *barn* ‘child’. This prompted participants to write short comments such as: *kyn barns?* ‘gender/sex of the child?’. I thus believe that overall, semantic resolution is preferred with human noun phrases. Only when semantic resolution is not available do speakers resort to syntactic resolution.

(53) Syntactic resolution (sentence [59] from the stimuli):

Diskur-inn og bolli-nn eru blá-ir.
plate-the.M and cup-the.M be.PL blue-M.PL
'The plate and the cup are blue.'

The last type of resolution that can be distinguished is normal case default resolution. As was explained in 6.2.2 above, this type of resolution is a fall back strategy to the most typical value when the exceptional gender value is not computed for some reason or other. It is mostly used with ANIMAL, OBJECT and ABSTRACT conjoined noun phrases.

(54) Normal case default resolution (sentence [59] from the stimuli):

Diskur-inn og bolli-nn eru blá-Ø.
plate-the.M and cup-the.M be.PL blue-N.PL
'The plate and the cup are blue.'

As I have discussed, the normal case default in resolution is neuter plural. The evidence that we have for the existence of a normal case default comes from the data for gender congruent conjoined noun phrases. Of course, the normal case default may be used for other gender combinations – but it cannot be separated from syntactic resolution in an analysis, as neuter plural is the resolution form for every gender combination other than F+F and M+M.

6.3.2 Singular agreement

Based on the data from this survey, two singular agreement options can be defined with conjoined noun phrases in Icelandic: agreement with the second conjunct and neuter singular exceptional case default agreement. Considering the data, the exceptional case default appears to be much more prominent – although it can be difficult to distinguish between the two. In (55) and (56), examples of these two strategies are given:

(55) Agreement with one conjunct (sentence [29] from the stimuli):

Forsetinn sýndi það í verki að
president.the showed it in work that
stuðningur og árangur er nátengd-ur.
support.M and success.M be.SG close.connected-M.SG

‘The president showed in practice that support and success is closely connected.’

(56) Exceptional case default agreement (sentence [29] from the stimuli)

Forsetinn sýndi það í verki að
president.the showed it in work that
stuðningur og árangur er náteng-t.
support.M and success.M be.SG close.connected-N.SG

‘The president showed in practice that support and success is closely connected.’

Both strategies are almost exclusively found for inanimate conjoined noun phrases: on the levels of OBJECT and ABSTRACT in the Individuation Hierarchy.

6.3.3 Agreement options: An overview

The agreement options that I have outlined above are not all equally available, but depend on the position of the conjoined noun phrase on the Individuation Hierarchy. In Table 18, the available agreement options with Icelandic conjoined noun phrases are illustrated across individuation levels. The most prominent agreement option for each individuation level is in boldface, while very rare options are presented in parentheses:

	Singular agreement	Resolution
HUMAN	-	semantic resolution syntactic resolution (normal case default)
ANIMAL	-	(semantic resolution) syntactic resolution normal case default
OBJECT	agreement with one conjunct exceptional case default	syntactic resolution normal case default
ABSTRACT	agreement with one conjunct exceptional case default	syntactic resolution normal case default

Table 18. Agreement options with Icelandic conjoined noun phrases by individuation level.

As can be seen from Table 18, syntactic resolution is available for all individuation levels, as well as normal case default resolution (although it is very rare in the HUMAN category). Semantic resolution is mostly restricted to HUMAN noun phrases, but is the most used option at that level. Syntactic resolution is only used for HUMAN noun phrases when information about the ‘natural’ gender of the referents is not available. It is, however, the most used option for both ANIMAL and OBJECT conjoined noun phrases. Singular agreement – i.e. agreement with one conjunct and exceptional case default agreement - is available for the inanimate levels only. The exceptional case default is the most prominent agreement option for ABSTRACT conjoined noun phrases.

Of course, this research - and thereby this table of agreement options - is restricted to conjoined noun phrases that have both conjuncts from the same level of the Individuation Hierarchy. It would be very interesting to see how the availability of agreement choices may be affected by combining the levels. This research provides a solid baseline for further work in that direction.

7. Conclusion

The overarching aim of this thesis was to provide a comprehensive description of agreement with conjoined noun phrases in Icelandic. A fill-in-the-blanks agreement form elicitation survey was created to shed light on the subject. The stimuli sentences included all possible gender combinations, two agreement target types (predicate adjective and personal pronoun), and four individuation levels: human, animal, countable object and abstract mass. The survey was completed online by 405 native speakers of Icelandic.

Based on the results and consequent data analysis, I have shown that the distribution of resolution in Icelandic is affected to a considerable extent by an Individuation Hierarchy. In contrast, the results do not conform to the predictions made by Corbett's Agreement Hierarchy (1979). I have suggested that this may be due to interaction effects with the Individuation Hierarchy, and the different nature of this approach.

The gender resolution rules that have been described for Icelandic are followed by speakers in most cases. However, there is evidence of a neuter normal case default in resolution. This, along with the detection of a neuter exceptional case default in singular agreement, contributes to the understanding of gender agreement with conjoined noun phrases in Icelandic. Strikingly, the expected agreement with the second conjunct is only found to a limited extent.

In addition to the agreement options that have usually been described for conjoined noun phrases cross-linguistically - resolution (semantic and syntactic) and agreement with one conjunct - two additional options have therefore been proposed: normal case default resolution, and a neuter exceptional case default. The availability of these agreement options depends on the individuation level of the conjuncts, and can be affected by the agreement target as well.

Several different factors must therefore be accounted for when agreement with conjoined noun phrases is considered. This study demonstrates that carefully controlling for the semantics of the agreement controller and the type of agreement target can provide new insights into the workings of agreement with conjoined noun phrases.

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Appendix

HUMAN conjoined noun phrases

Gender	#	Sentence
<hr/>		
M+M		
adj	37	Pabbinn og sonurinn ___ <vera> bara frekar ___ <samrýndur>. dad.the.M and son.the.M ___ <be> just rather ___ <close.M.SG>
pron	31	Stúlkan horfir á pabbann og soninn. ___ ___ <vera> augljóslega himinlifandi með lottóvinninginn. girl.the watches on dad.the and son.the. ___ ___ <be> obviously ecstatic with lottery-prize.the
F+F		
adj	62	Amman og frænkan ___ <vera> alltaf ___ <fullur>. grandmother.the.F and aunt.the.F ___ <be> always ___ <drunk.M.SG>
pron	22	Blaðamaðurinn tekur viðtal við ömmuna og frænkuna. ___ ___ <vera> alveg óstöðvandi í fjáröflunum. journalist.the takes interview with grandmother.the.F and aunt.the.F. ___ ___ <be> just unstoppable in fundraisers
N+N		
adj	50	Barnið og vitnið ___ <vera> ___ mjög ___ <trúverðugur>. child.the.N and witness.the.N ___ <be> ___ very ___ <believable.M.SG>
pron	4	Dómarinn kveður upp dóm sinn og virðir fyrir sér barnið og vitnið. ___ ___ <vera> gapandi yfir dómnum. judge.the says up verdict his and observes child.the.N and witness.the.N. ___ ___ <be> open-mouthed over verdict.the
M+F		
adj	14	Karlinn og konan ___ <vera> ___ <yndislegur>. man.the.M and woman.the.F ___ <be> ___ <lovely.M.SG>
pron	57	Það rignir á karlinn og konuna. ___ ___ <vera> sem betur fer í stígvélum. it rains on man.the.M and woman.the.F. ___ ___ <be> as better goes (=fortunately) in boots

F+M		
adj	65	Það er öllum ljóst að telpan og drengurinn ___ <vera> ___ <ástfanginn>. it is everyone clear that girl.the.F and boy.the.M ___ <be> ___ <in-love.M.SG>
pron	36	Ég elska telpuna og drenginn. ___ <vera> alltaf brosandi. I love girl.the.F and boy.the.M. ___ <be> always smiling.
M+N		
adj	24	Lögreglumaðurinn sér að faðirinn og ungabarnið ___ <vera> ___ <hólpinn>. policeman.the sees that father.the.M and baby.the.N ___ <be> ___ <safe.M.SG>.
pron	9	Sérðu ekki föðurinn og ungabarnið? ___ <vera> úti á veröndinni. see-you not father.the.M and baby.the.N? ___ <be> out on veranda.the
N+M		
adj	49	Ég sé að smábarnið og afinn ___ <vera> ___ <týndur> í verslunarmiðstöðinni. I see that small-child.the.N and grandfather.the.M ___ <be> ___ <lost.M.SG> in mall.the
pron	55	Kíktu nú á smábarnið og afann. ___ <vera> ábyggilega til í heimsókn. look-you now on small-child.the.N and grandfather.the.M. ___ <be> probably to in (=ready for) visit
F+N		
adj	45	Í fréttunum kemur fram að móðirin og barnið ___ <vera> ___ <öruggur>. in news.the comes forth that mother.the.M and child.the.N ___ <be> ___ <safe.M.SG>
pron	19	Sjáðu móðurina og barnið. ___ <vera> greinilega örmagna. see-you mother.the.F and child.the.N. ___ <be> obviously exhausted
N+M		<i>Should have been N+F</i>
adj	39	Öllum í dómssalnum er ljóst að vitnið og pilturinn ___ <vera> ___ <óáreiðanlegur>. everyone in court-room.the is clear that witness.the.N and youngman.the.M ___ <be> ___ <unreliable.M.SG>
pron	70	Talaðu við vitnið og piltinn. ___ <vera> með mikilvægar upplýsingar. talk-you to witness.the.N and young-man.the.M. ___ <be> with (=have) important information

ANIMAL conjoined noun phrases

Gender	#	Sentence
M+M		
adj	17	Það sést vel á myndinni að minkurinn og broddgölturinn ___ <vera> ___ <svipaður> á litinn. it sees well on picture.the that mink.the.M and porcupine.the.M ___ <be> ___ <similar.M.SG> on color.the
pron	60	Hann mun losa sig við minkinn og broddgöltinn. ___ ___ <vera> óþolandi illa lyktandi. he will rid himself of mink.the.M and porcupine.the.M. ___ ___ <be> annoyingly bad smelling.
F+F		
adj	21	Borgarstjórinn segir frá því að górilla og mauraetan ___ <vera> ___ <kominn>²⁹ í dýragarðinn. mayor.the tells from it that gorilla.the.F and anteater.the.F ___ <be> ___ <arrived.M.SG> in zoo.the
pron	61	Ég reyni að veiða górilla og mauraetuna. ___ ___ <vera> að hlaupa í burtu frá mér. I try to hunt gorilla.the.F and anteater.the.F. ___ ___ <be> to run in away (=running away) from me
N+N		
adj	42	Ég veit alveg að lamadýrið og hreindýrið ___ <vera> ekki ___ <hættulegur>. I know completely that llama.the.N and reindeer.the.N ___ <be> not ___ <dangerous.M.SG>
pron	16	Eltu lamadýrið og hreindýrið. ___ ___ <vera> á leiðinni upp fjallið. follow-you llama.the.N and reindeer.the.N. ___ ___ <be> on way up mountain.the
M+F		
adj	23	Sérðu ekki hvað íkorninn og rottan ___ <vera> ___ <snöggur> í hreyfingum? see-you not how squirrel.the.M and rat.the.F ___ <be> ___ <fast.M.SG> in movement?
pron	32	Settu búið utan um íkornann og rottuna. ___ ___ <vera> aldrei á sama stað. put-you cage.the round about (=around) squirrel.the.M and rat.the.F. ___ ___ <be> never on same place
F+M		
adj	33	Öndin og mávurinn ___ <vera> ___ <hraðfleygur>. duck.the.F and seagull.the.M ___ <be> ___ <fast-flying.M.SG>

²⁹ In fact, this is a participle that made its way into the stimuli. The past participle of the verb *að koma* ‘to come’ has the same form (and almost the same meaning) as the adjective *kominn* ‘arrived’ – but in this sentence *kominn* should be analysed as a participle. However, as the past participle in Icelandic inflects for both number and gender – and as it is in predicate position (which is the domain indicated in the Agreement Hierarchy), I decided to keep this sentence in the data analysis.

pron	46	Gættu þess að bakka ekki á öndina og mávinn. ____ <vera> á bílastæðinu. watch-you it to back not on duck.the.F and seagull.the.M. ____ <be> on parking-lot.the
M+N		
adj	20	Hlébarðinn og tígrisdýrið ____ <vera> ____ <grimmur>. leopard.the.M and tiger.the.N ____ <be> ____ <ferocious.M.SG>
pron	40	Mig langar að skjóta hlébarðann og tígrisdýrið. ____ <vera> hlaupandi þarna á sléttunni. I want to shoot leopard.the.M and tiger.the.N. ____ <be> running there on savanna.the
N+N		<i>Should have been N+M</i>
adj	6	Svínið og lamadýrið ____ <vera> ____ <viðkvæmur> fyrir hávaða. pig.the.N and llama.the.N ____ <be> ____ <sensitive.M.SG> for noise
pron	71	Ég sá svínið og lamadýrið í dýragarðinum í Lima. ____ <vera> oft að leika sér saman. I saw pig.the.N and llama.the.N in zoo.the in Lima. ____ <be> often to play themselves/itself together
F+N		
adj	35	Mörgæsin og hreindýrið ____ <vera> ____ <vanur> kulda. penguin.the.F and reindeer.the.N ____ <be> ____ <used to.M.SG> cold
pron	8	Margir elska mörgæsina og hreindýrið í dýragarðinum. ____ <vera> alltaf að borða. many love penguin.the.F and reindeer.the.N in zoo.the. ____ <be> always to eat (=eating)
N+F		
adj	66	Kameldýrið og antilópan ____ <vera> ____ <svipaður> á litinn. camel.the.N and antelope.the.F ____ <be> ____ <similar.M.SG> on color.the
pron	44	Ég gef kameldýrinu og antilópunni að borða. ____ <vera> greinilega til í mat. I give camel.the.N and antelope.the.F to eat. ____ <be> obviously to in (=ready for) food

OBJECT conjoined noun phrases

Gender	#	Sentence
M+M		
adj	59	Diskurinn og bollinn ___ <vera> ___ <blár>. plate.the.M and cup.the.M ___ <be> ___ <blue.M.SG>
pron	48	Þjónninn lagði diskinn og bollann á borðið á móti. ___ ___ <vera> ekki fyrir okkur. waiter.the put plate.the.M and cup.the.M on table.the on across (=across from us). ___ ___ <be> not for us
F+F		
adj	58	Ausan og skálin ___ <vera> ___ <tilbúinn> fyrir súpuna. ladle.the.F and bowl.the.F ___ <be> ___ <ready.M.SG> for soup.the
pron	25	Lilja tekur til ausuna og skálina. ___ ___ <vera> fyrir súpuna. Lilja takes to (=prepares) ladle.the.F and bowl.the.F. ___ ___ <be> for soup.the
N+N		
adj	26	Sigtið og skurðarbrettið ___ <vera> ___ <mikilvægur> í bakstrinum. strainer.the.N and cutting-board.the.N ___ <be> ___ <important.M.SG> in baking.the
pron	10	Bergur braut sigtið og skurðarbrettið. ___ ___ <vera> hvort sem er að eyðileggjast. Bergur broke strainer.the.N and cutting-board.the.N. ___ ___ <be> either that is (=anyway) to ruin (=about to be ruined)
M+F		
adj	56	Potturinn og pannan ___ <vera> ___ <skítugur>. pot.the.M and pan.the.F ___ <be> ___ <dirty.M.SG>
pron	5	Í dag nota ég pottinn og pönnuna. ___ ___ <vera> með teflonhúð. in day (=today) use I pot.the.M and pan.the.F. ___ ___ <be> with teflon-skin.
F+M		
adj	43	Ég get ekki annað sagt en að bæði svuntan og saltstaukurinn ___ <vera> ___ <ljótur>. I can not other say but that both apron.the.F and saltshaker.the.M ___ <be> ___ <ugly.M.SG>
pron	18	Ég nota svuntuna og saltstaukinn mikið. ___ ___ <vera> að skemmast af ofnotkun, held ég. I use apron.the.F and saltshaker.the.M much. ___ ___ <be> to ruin (=about to be ruined) of overuse, think I

M+N		
adj	68	Ingibjörg veit að hnífurinn og mortelið ___ <vera> ___ <bráðnauðsynlegur> í salatgerðina. Ingibjörg knows that knife.the.M and mortel.the.N ___ <be> ___ <extreme-necessary.M.SG> in salatmaking.the
pron	28	Það þarf að henda hnífnum og mortelinu. ___ ___ <vera> ekki í notkun lengur. it needs (=it is needed) to throw knife.the.M and mortel.the.N. ___ ___ <be> not in use anymore
N+M		
adj	54	Halldór sér að sigtið og gaffallinn ___ <vera> of ___ <gamall> til að nota í boðinu. Halldór sees that strainer.the.N and fork.the.M ___ <be> too ___ <old.M.SG> to to use in party.the
pron	63	Sýndu mömmu þinni sigtið og gaffalinn. ___ ___ <vera> alveg eins á litinn. show-you mother your strainer.the.N and fork.the.M. ___ ___ <be> completely same on colour.the
F+N		
adj	52	Hún tekur eftir því að kannan og glasið ___ <vera> ___ <brotinn>. she takes after (=notices) it that jug.the.F and glass.the.N ___ <be> ___ <broken.M.SG>
pron	2	Brjótum bara könnuna og glasið. ___ ___ <vera> ekki í stíl við restina af leirtauinu. break (=let us break) just jug.the.F and glass.the.N. ___ ___ <be> not in style with rest.the of crockery.the
N+F		
adj	38	Sigrún sér að mortelið og skálin ___ <vera> ___ <ónýtur>. Sigrún sees that mortel.the.N and bowl.the.F ___ <be> ___ <ruined.M.SG>
pron	15	Passaðu mortelið og skálina. ___ ___ <vera> alveg að fara að brotna. watch-you mortel.the.N and bowl.the.F. ___ ___ <be> just to go to break (=about to break)

ABSTRACT conjoined noun phrases

Gender	#	Sentence
M+M		
adj	29	Forsetinn sýndi það í verki að stuðningur og árangur ___ <vera> ___ <nátengdur>. president.the showed it in work (=in practice) that support.M and success.M ___ <be> ___ <close-connected.M.SG>
pron	27	Enginn vill vera án stuðnings og árangurs. ___ ___ <vera> drífandi í leik og starfi. nobody wants be without support.M and success.M. ___ ___ <be> driving in play and work
F+F		
adj	7	Það er alveg á tæru að tækni og þekking ___ <vera> ___ <mikilvægur>. It is completely on clear that technology.F and knowledge.F ___ <be> ___ <important.M.SG>
pron	47	Þessi háskóli byggir ekki á tækni og þekkingu. ___ ___ <vera> algjörlega fjarverandi í öllu starfi skólans. this university builds not on technology.F and knowledge.F. ___ ___ <be> completely absent in all work school's.the
N+N		
adj	51	Það er vitað mál að atvinnuleysi og hungur ___ <vera> ___ <skelfilegur> fyrir andann. it is known matter that unemployment.N and hunger.N ___ <be> ___ <horrific.M.SG> for spirit.the
pron	64	Við erum komin með nóg af atvinnuleysi.N og hungri.N. ___ ___ <vera> þreytandi. we are come with (=have had) enough of unemployment and hunger. ___ ___ <be> tiring.
M+F		
adj	69	Æsingur og reiði ___ <vera> ekki ___ <hættulegur> börnum. commotion.M and anger.F ___ <be> not ___ <dangerous.M.SG> children
pron	11	Hvað er eiginlega málið með æsing og reiði? ___ ___ <vera> óþarfi í þessum aðstæðum. what is really thing.the with commotion.M and anger.F? ___ ___ <be> unnecessary in this situation
F+M		
adj	41	Ánægja og árangur ___ <vera> ___ <mikilvægur> í lífinu. joy.F and success.M ___ <be> ___ <important.M.SG> in life.the
pron	3	Það er erfitt að mæla ánægju og árangur. ___ ___ <vera> bara til staðar eða ekki. it is hard to measure joy.F and success.M. ___ ___ <be> just to place (=in place) or not

M+N		
adj	13	Friður og frelsi ___ <vera> ___ <stórkostlegur>. peace.M and freedom.N ___ <be> ___ <magnificent.M.SG>
pron	1	Mér er sama um frið og frelsi. ___ ___ <vera> fyrir hugsjónafólk. me is indifferent about peace.M and freedom.N. ___ ___ <be> for idealists
N+F		<i>Should have been N+M</i>
adj	53	Fjör og gleði ___ <vera> ___ <eftirsóknarverður> á vinnustað. fun.N and joy.F ___ <be> ___ <sought-after.M.SG> on workplace
pron	12	Ég er komin yfir fjör og gleði. ___ ___ <vera> fyrir smábörn. I am come over (=don't care about anymore) fun.N and joy.F. ___ ___ <be> for small-children
F+N		
adj	67	Misskipting og atvinnuleysi ___ <vera> ___ <algengur> á krepputímum. disparity.F and unemployment.N ___ <be> ___ <common.M.SG> in crisis-times
pron	72	Ráðherrann talar sífellt um misskiptingu og atvinnuleysi. ___ ___ <vera> til vandræða í samfélaginu. minister.the talks constantly about disparity.F and unemployment.N. ___ ___ <be> to trouble (=causes trouble) in society.the
N+F		
adj	34	Samstarf og þjónusta ___ <vera> ___ <þýðingarmikill> í bransanum. cooperation.N and service.F ___ <be> ___ <significant.M.SG> in industry.the
pron	30	Fyrirtækin vilja samstarf og þjónustu. ___ ___ <vera> aðkallandi fyrir viðskiptavinina. companies.the want cooperation.N and service.F. ___ ___ <be> urgent for customers.the