Compositional Definiteness in American Heritage Norwegian

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Abstract

This thesis is concerned with compositional definiteness (CD), a special type of definiteness marking found in Norwegian modified definite phrases. In these phrases, definiteness is marked with both a prenominal determiner and a suffixed article (*den store bil-en* 'the large car'). CD is cross-linguistically rare, infrequent in corpora, and difficult in the acquisition of both first and second language.

I have studied CD in American Norwegian (AmNo), a heritage language spoken in the United States by descendants of Norwegian immigrants. They are all elderly, and the final generation of speakers.

I investigated CD through elicited production experiments and an acceptability judgment task, and also tested some of the speakers' proficiency. The thesis describes CD in AmNo, and how this differs from homeland Norwegian.

Three main patterns were observed. First, all speakers frequently omit the prenominal determiner, while the suffixed article is more stable. I suggest a syntactic analysis in which the spell-out of the determiner is optional, and argue that the language input for these speakers has not been sufficient to acquire the obligatory determiner.

Second, the suffix is retained in AmNo, but there is a subgroup of speakers who sometimes omit it. I suggest that this is the result of production difficulty caused by attrition, and show that the speakers who omit the suffix are less proficient than the others.

Finally, I observed that the definiteness distinction in the plural is disappearing in some speakers. I argue that this can be analyzed as morphological impoverishment and propose that it is related to simplification of the heritage language.

Summarizing, the main finding of this thesis is that the linguistic behavior of the AmNo speakers has different sources. With respect to CD, we see the distinct consequences of incomplete acquisition, attrition and simplification.

Sammendrag

Denne avhandlinga handler om dobbelt bestemthet (DB), en spesiell type bestemthetsmarkering som finnes i modifiserte, bestemte nominalfraser i norsk. I disse frasene er bestemthet markert ved både et foranstilt determinativ og et suffiks på substantivet (f.eks. *den store bil-en*). DB er typologisk uvanlig, ikke så lett å finne i korpusdata, og læres relativt sent i både første- og andrespråk.

Jeg har undersøkt DB i amerikanorsk (AmNo), et nedarvingsspråk som snakkes i USA av etterkommere av norske innvandrere. Alle er gamle, og tilhører siste generasjon av talere.

Jeg gransket DB ved hjelp av elisiteringstester og grammatikalitetsvurderinger, og målte dessuten noen av talernes norskferdigheter. Avhandlinga beskriver DB i AmNo, og hvordan den skiller seg fra hjemlandsnorsk.

I dataene observeres tre hovedfunn. For det første utelater alle talere ofte det foranstilte determinativet, mens suffikset blir beholdt. Jeg foreslår en syntaktisk analyse der bruken av determinativet er valgfri, og argumenterer for at disse talerne har vært for lite eksponert for norsk språk til å kunne tilegne seg det obligatoriske determinativet.

For det andre er suffikset beholdt i AmNo, men det fins en gruppe av talere som utelater det av og til. Jeg foreslår at dette er resultatet av produksjonsvanskeligheter forårsaket av forvitring, og viser at talere som ofte utelater suffikset, også ellers har dårligere norskferdigheter enn andre.

For det tredje observerte jeg at bestemthet i flertall forsvinner hos noen talere. Jeg analyserer dette som morfologisk utarming og foreslår at det er relatert til forenkling av nedarvingsspråket hos disse.

Det sentrale funnet i denne avhandlinga er således at forskjellene som er funnet mellom AmNo og hjemlandsnorsk har flere årsaker. Når det gjelder DB, ser vi at ufullstendig tilegnelse, språkforvitring og forenkling får ulike konsekvenser.

Acknowledgments

During the past three years, I have had the pleasure to work on this dissertation. The whole project has been quite a journey, not least because it literally involved moving abroad and travelling. I could not have made this journey all by myself, and I am grateful to many people who accompanied me along the way. Now that the dissertation is finished, I would like to thank them.

First of all, I want to thank my supervisors, Janne Bondi Johannessen and Ida Larsson. Their knowledge has been a great help and inspiration for me, and their constructive and detailed feedback has made this project evolve from an idea into a dissertation. I would like to express my deep gratitude for their help and advice, as well as for their encouragement and support. Janne, thank you for your faith in me, taking me on this American Norwegian adventure, and teaching me Norwegian along the way. Ida, thank you for stepping in at the right moment and helping me structure my thoughts and my work.

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Going on fieldwork trips to the United States for the data collection has been one of the most fun parts of this project. I have been lucky to go there twice. In 2016, the fieldwork team consisted of Janne Bondi Johannessen, Arnstein Hjelde, Kari Kinn, and Alexander Lykke. In 2018, David Natvig and Laura Moquin accompanied me during the start of my fieldwork, and I travelled together with Ingerid Jordal. I want to thank all of them for their help, and for the wonderful time we spent together.

The Text Laboratory at the University of Oslo helped me with the technical part of making recordings and storing them safely; for this, I want to thank Kristin Hagen and Live Håberg in particular. I also want to thank Eirik Tengesdal, who was a research assistant at the Text Lab at the time, for all his help and guidance in the process of data transcription. Without this, I would not have been able to conduct this research. During the statistical analysis of the data, I received help from Bård Uri Jensen and I would like to thank him for his advice.

Pritty Patel-Grosz currently is the PhD-coordinator at the Department of Linguistics and Scandinavian Studies and has always been very supportive. She

List of abbreviations

List of glosses

ACC	accusative
DAT	dative
DEF	definite
DEM	demonstrative
ENG	English functional morpheme
F	feminine
INDF	indefinite
M	masculine
N	neuter
NOM	nominative
PL	plural
REFL	reflexive
SG	singular

In portmanteau morphemes, the glosses for definiteness, gender and number are given in this order.

Other abbreviations

AJT	acceptability judgment task
AmNo	American Norwegian
CANS	Corpus of American Nordic Speech
CD	compositional definiteness
NDC	Nordic Dialect Corpus
PAET	picture-aided elicitation task
TT	translation task

Contents

Chapter 1

Introduction

1.1 Compositional definiteness in American Norwegian

This thesis is concerned with compositional definiteness in American Norwegian (AmNo), a heritage language spoken in North America by descendants of Norwegian immigrants. AmNo is spoken in the Midwestern states of the US and in Canada as the result of large-scale migration from Norway to the US in the period 1850-1930. Although it is almost a century ago that this migration came to an end, there are still Norwegian speakers in these areas. They are all bilinguals; they acquired Norwegian in a naturalistic setting when they were children, but later in life, they became dominant in English, the language of the national society.

Nominal phrases, and definiteness marking in particular, have received much attention in Scandinavian syntactic theory. The Scandinavian languages use a suffixed article to mark definiteness, illustrated for Norwegian in (1.1).[1] In definite phrases that are modified by an adjective or a numeral, definiteness is expressed with a prenominal determiner in addition to the suffixed article, as in (1.2a-b). This construction with two co-occurring definiteness markers is now known as compositional definiteness (CD), after traditionally being called 'double definiteness' (or *dobbelt bestemthet* in Norwegian). CD is found in Norwegian, Swedish and Faroese, but not in Icelandic and Danish. CD is obligatory and omission of the suffix or the determiner results in an ungrammatical sentence, see (1.2c-d).[2]

(1.1)   a.   *bil-en*
               car-DEF.M.SG
               'the car'

         b.   *hus-et*
               house-DEF.N.SG
               'the house'

(1.2)   a.   *den   rød-e   bil-en*
               DEF.SG red-DEF car-DEF.M.SG
               'the red car'

         b.   *de   tre   bil-ene*
               DEF.PL three car-DEF.PL
               'the three cars'

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[1]Throughout the thesis, all Norwegian examples are provided in Bokmål Norwegian orthography (one of the two official written standards of Norwegian). This is also the case for the American Norwegian examples.

[2]As we will see in Chapter 3, there are some exceptions, especially with respect to the obligatoriness of the prenominal determiner.

c. *__ *rød-e bil-en*
d. **den rød-e bil__*

In the following, I adopt the syntactic analysis by Julien (2002, 2005) that assumes that the Scandinavian nominal phrase contains two determiner-like projections, one for the prenominal determiner and one for the suffixed article. These projections are assumed to have different semantic interpretations (Julien, 2002, 2005; Anderssen, 2006, 2012).

While constructions with more than one (in)definite article are found in several languages, the phenomenon of CD with two determiner positions that have interpretational effects seems to be quite rare cross-linguistically (Alexiadou, 2014). CD is furthermore a complex structure, with two determiner-like elements that only co-occur in modified definite phrases, and phrases with CD are infrequent in spontaneous language (Dahl, 2015:121). Finally, CD poses difficulties in both first- and second-language acquisition.

In this thesis, I investigate the use of compositional definiteness by American Norwegian heritage speakers and examine whether AmNo is different from the Norwegian spoken in Norway by monolingual speakers. I observe patterns in AmNo definiteness marking that distinguish it from homeland Norwegian: the heritage speakers produce modified definite phrases without CD that would be ungrammatical in homeland Norwegian. I suggest a syntactic analysis of the nominal phrase in AmNo that captures the observed patterns. Finally, I propose explanations for these patterns in terms of the context of acquisition and language usage throughout the lifespan.

That AmNo differs from the Norwegian of monolingual speakers is not surprising, as AmNo is a heritage language. Heritage languages have often been found to differ from the homeland variety of the language. As an illustration of the concept *heritage language*, consider the following study by Håkansson (1995). Håkansson investigated the language of five individuals who grew up with Swedish in their respective childhood homes, while they were living abroad. When these bilinguals moved to Sweden to start at a Swedish university, they failed the language test that students who have not taken Swedish at a Swedish high school have to pass before their admission to university. In other words, although they had grown up speaking Swedish and viewed Swedish as their mother tongue, their level of Swedish was not considered high enough to study at university. Interestingly, these five speakers passed the oral part of the language test, but failed on the written part, where both their lexicon and their grammar were judged too poor to pass. In the course for Swedish as a second language that they took at the time of Håkansson's data collection, the teachers had noticed the "strange proficiency profiles" of these speakers (Håkansson, 1995:158). Håkansson refers to the subjects in her study as 'expatriate Swedes', and today we would consider them heritage speakers of Swedish. Following the definition by Rothman (2009) that is widely used in the field, heritage speakers are individuals who acquired a language naturalistically in their early childhood, while this was not the majority language of the society they lived in.

In Chapter 2, I come back to this definition and discuss the concept of

heritage languages and their speakers in more detail. The example of the Swedish heritage speakers in Håkansson (1995) already points out that the study of heritage speakers raises questions about what it means to speak a language, and what it means to be a native speaker. What makes someone a fully competent speaker of a language? The Swedish example illustrates that not everyone who acquires a language in early childhood is necessarily fully proficient in that language later in life, and this is typical for heritage speakers. The study of heritage languages therefore draws our attention to the question of how much input and what kind of input is needed to acquire a language to a native-like level. In this thesis, I engage with these general linguistic questions by studying the use of a specific linguistic construction (i.e., compositional definiteness) in one heritage language, American heritage Norwegian.

In addition to the more general (universal) principles that underlie all human language, the language of a heritage speaker is shaped by different factors, such as the limited amount of input during acquisition, linguistic change in the input, and lack of use. It is, however, not necessarily the case that these factors influence all linguistic domains in the same way. Rather, the question is which parts of language are susceptible to variation and change in a heritage language context, and which parts of language are not. The study of the differences, and the similarities, between heritage speakers and monolingual speakers can in this way provide insights into more general questions of language variation and change, and more generally about how different factors can influence the individual's linguistic competence.

American Norwegian, like many other Germanic heritage languages in the US, can be classified as moribund: it is only spoken by elderly speakers, who are the final generation to speak the language (see also Putnam, Kupisch, and Pacual y Cabo, 2018). The current AmNo speakers are all elderly, generally over seventy years old, and third- to fifth-generation immigrants; this means that their grandparents or as far back as their great-great-grandparents migrated to the US. The present-day American Norwegian speakers are also the final generation of speakers, as they did not pass on Norwegian to their children. An investigation of the language of these elderly heritage speakers allows us to observe which linguistic phenomena are maintained in a bilingual speaker, and what is necessary to maintain them over the lifespan. As we will see in this study, the factors of language acquisition and bilingualism throughout the lifespan have both shaped the use of compositional definiteness in American Norwegian.

AmNo has received much attention from linguists over a long period of time, from the beginning of the nineteenth century until the most recent research project which started in 2010. This project is led by Janne Bondi Johannessen (University of Oslo), and I have carried out the data collection for the present study in relation to it.

1.2 The aims of the thesis

The first aim of this thesis is to contribute to a more detailed description of American Norwegian. Since the current speakers are all elderly and the final generation of speakers, the description of AmNo is urgent. Data collection has to be carried out before the language variety disappears.

More specifically, the thesis aims to describe the use of compositional definiteness by the American Norwegian speakers, with respect to both general patterns and variation within and between speakers. I investigate whether AmNo has compositional definiteness in modified definite phrases. In other words, the question is to what extent definiteness marking is maintained in AmNo, and how the prenominal determiner and the suffixed article are used in comparison with homeland Norwegian.

The second goal is to provide a syntactic account of AmNo nominal phrases, that captures the observed differences and similarities between AmNo and homeland Norwegian.

The third goal is to explain the patterns observed in AmNo and to investigate how factors like acquisitional context and input, language use over the lifespan, restructuring caused by processing constraints, and economy principles play a role in shaping the linguistic competence of the heritage speakers.

1.3 Outline

The thesis consists of eight chapters in total. In Chapter 2, I introduce the concept of heritage language and provide a brief overview of the field of heritage linguistics. This chapter also gives more background on American Norwegian and its current speakers, who are investigated in this thesis. Chapter 3 discusses compositional definiteness (CD) in more detail. In the first part of Chapter 3, I establish a baseline that serves as the point of comparison for the AmNo speakers. This baseline is based on my study of Norwegian corpus data and the available data of previous generations of AmNo speakers. In the second part of Chapter 3, the syntactic analysis of the Norwegian nominal phrase, and CD in particular, is discussed. Here, I adopt the generative analysis of the nominal phrase proposed by Julien (2002, 2005) and also implement some insights from the analysis of Anderssen (2006, 2012). In the end of Chapter 3, I discuss previous research on CD in monolingual and bilingual children, L2 learners, and heritage speakers.

Chapter 4 is devoted to methodology. I first discuss the prerequisites of research on this population of speakers and describe the fieldwork trips in which data have been collected. Next, I describe the experimental methods I used to collect the different types of data that form the bases for the present study. In order to meet the aims outlined above, I have employed different types of data: two elicited production tasks, an acceptability judgment task, and data of the general proficiency of the speakers. For the proficiency data, I have used both speech rate and a vocabulary task. To the best of my knowledge, this combination of different types of data is unique in research on American

Norwegian to date. Until now, most research has been based on corpus data. As we will see, the different types of data complement each other. Taken together, they provide a more elaborate view of the speakers' use of CD and their grammatical competence.

Chapters 5 to 7 are the chapters where I present the results and propose my analyses. As we will see in Chapter 5, three main patterns can be observed in the data. I have summarized these below:

I. The typical American Norwegian modified definite phrase lacks the prenominal determiner, while the suffix is typically present in these phrases. This can be observed across the different experimental tasks (i.e., types of data) and across speakers.

II. The suffixed article is generally retained in AmNo, but there is a subgroup of speakers who omit it. There is individual variation as to how frequently the suffixed article is omitted.

III. In a subgroup of AmNo speakers, the definiteness distinction in the plural is disappearing. As a result, these speakers employ the same plural suffix in both indefinite and definite contexts.

Chapter 6 is dedicated to the first finding, namely that the prenominal determiner is much more vulnerable for omission than the suffixed article. I conclude that the typical AmNo modified definite phrase lacks the prenominal determiner, while it contains the suffixed article. Moreover, I suggest a syntactic analysis in which AmNo has innovated a grammar where the definite determiner is not spelled out. In addition, I propose an explanation in terms of incomplete acquisition and argue that the Norwegian input of the heritage speakers has not been sufficient to acquire the obligatory use of the prenominal determiner.

Findings II and III both concern the suffixed article, and they are both found in only a subgroup of the speakers. Both are discussed in Chapter 7. The first part of the chapter considers finding II, and I suggest that the use of modified definite noun phrases without the suffixed article is the result of attrition. We will see that speakers who frequently omit the suffix are less proficient speakers of Norwegian, who speak slower and have less vocabulary knowledge, than speakers who never or rarely omit the suffix. The second part of the chapter is concerned with finding III. I suggest that the loss of the definiteness distinction in the plural can be analyzed as an impoverishment rule in the presence of the cross-linguistically marked plural feature. I propose that this can be explained in terms of representational economy, i.e., the pressure for a simplified syntactic structure. As we will see, this has led to a change that follows well-established lines of linguistic variation and change. Chapter 8 concludes the thesis.

Chapter 2

American Norwegian as a heritage language

Heritage linguistics is a relatively new field of research. For a long time, the field of theoretical linguistics has been interested in describing the language of those people who know their language perfectly, the "ideal speaker-listener" (Chomsky, 1965:3): a literate, educated native speaker who is not affected by factors such as memory limitations and distractions. This ideal speaker is also monolingual, and much formal linguistic description has based itself on what Polinsky (2018:28) refers to as "MYALs": monolingual, young, available and literate speakers. This approach has led to a massive amount of knowledge on many different languages and linguistic phenomena.

More recently, however, it has become clear that MYALs are a minority, and not the only group of native speakers that can provide insights into linguistic theory (Benmamoun, Montrul, and Polinsky, 2013; Polinsky, 2018; Scontras, Fuchs, and Polinsky, 2015). Bilingual speakers can be considered as a subtype of native speakers. The fact that bilingualism is probably more common than monolingualism (Grosjean, 2010) makes it even more relevant to include bilingual speakers such as heritage speakers in linguistic studies. It is clearly vital for our general understanding of human language that different groups of speakers are included in our research. This dissertation focuses on the bilingual speakers of a heritage language.

In this chapter, I introduce the concept of heritage languages and heritage speakers, looking at American heritage Norwegian in particular. As we will see, the speakers of American Norwegian are the opposite of MYALs; they are bilingual, elderly speakers who are illiterate in Norwegian. In other words, they are yet another type of native speakers than the young and literate heritage speakers that are often studied in heritage linguistics.

The structure of this chapter is as follows. First, I define the notion *heritage language* and discuss the common characteristics of heritage speakers in Section 2.1. Research has shown that heritage languages often differ more or less systematically from the homeland variety of the language. In Section 2.2, I discuss some of these differences and the factors that shape the language of heritage speakers. This serves as a background for the introduction of American heritage Norwegian in Section 2.3.

2.1   Definitions and characteristics

Throughout the past two decades, the field of heritage linguistics has grown. The concept of heritage language has been defined differently by various scholars. Many follow the definition given by Valdés (2000), which is Anglocentric, as it

defines heritage speakers as "individuals raised in homes where a language other than English is spoken and who are to some degree bilingual in English and the heritage language". However, since heritage languages are found across the world and not only in English-speaking countries, a language-neutral definition is more appropriate. I therefore adopt the definition formulated by Rothman (2009), given in (2.1) below, which is a reformulation of Valdés's definition.

(2.1)   "A language qualifies as a *heritage language* if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not a dominant language of the larger (national) society."
(Rothman, 2009:156, italics from the original)

In other words, heritage languages are by definition minority languages, and heritage speakers are by definition bilinguals. Heritage languages are often immigrant languages, such as Spanish in the United States or Turkish in the Netherlands. However, the definition in (2.1) applies to minority languages in general, and these need not be related to migration (Montrul, 2016:15; Polinsky, 2018:14-16). For example, in Central and South America, many individuals grow up speaking both an indigenous Mesoamerican language, such as Mayan, and Spanish, which is the dominant language in the society. Similarly, someone in Northern Norway may grow up with Sami at home and Norwegian as the societal language. Applying the definition in (2.1), these individuals can be classified as heritage speakers of Mayan and Sami, respectively.

Rothman's definition in (2.1) is a so-called 'narrow' definition (cf. Polinsky and Kagan, 2007), meaning that it focuses on the actual acquisition of the heritage language by the individual and not just on the social or cultural connection to the language. This point is made explicit in the definition of a heritage speaker by Rothman (2009), provided in (2.2).

(2.2)   "...an individual qualifies as a heritage speaker if and only if he or she has some command of the heritage language naturalistically. (...) when we use the term 'heritage speaker' we are thus referring to people who have some level of competence in the heritage language and not a mere cultural connection to it."
(Rothman, 2009:156)

It is important to keep in mind that the heritage language is acquired naturalistically in the home environment, just as in monolingual acquisition contexts (Polinsky, 2016). However, heritage speakers are also quite a diverse group (Montrul, 2012, 2016; Polinsky, 2016, 2018). They can be simultaneous bilinguals who acquire both the heritage language and the dominant language from birth, or sequential bilinguals who start as monolinguals in the heritage language and acquire the dominant language in early childhood (typically age 3-4). They can even be early L2 speakers, who acquire the dominant language in later childhood (typically age 9-12).[3] What these groups have in common

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[3]See Montrul (2016:94, figure 4.2) for an overview of these different profiles of heritage

is that they have all acquired the heritage language from birth, while the age of acquisition of the dominant, societal language can vary. The process of naturalistic acquisition of the heritage language during childhood is a defining characteristic of heritage speakers.

There is another important element in the definition of heritage speakers, in the phrasing "some level of competence" in (2.2) (see also Valdés, 2000, cited at the start of this section). Heritage speakers display different levels of competence and fluency in the heritage language. Research has found a "continuum of proficiency" and a "tremendous amount of variation in heritage language ability" (Benmamoun et al., 2013:133). In studies of heritage speakers, variation is expected both within and between speakers.

The variation is related to a process of language shift: the heritage language is the first language in terms of order of acquisition, but it (typically) is not the dominant language later in life.[4] The dominant language is the language in which the speaker is the most proficient, uses most frequently in their daily life, and is most comfortable with. Typically around school age, the dominance shifts from the heritage language to the societal language, which then becomes the dominant language, sometimes called the primary language in heritage linguistics (see Montrul, 2016:92). This language shift is a typical characteristic of heritage speakers: "what heritage speakers have in common is that by the time they reach adulthood the heritage language is their weaker language" (Montrul, 2012:3). Therefore, heritage speakers are often classified as unbalanced bilinguals (Orfitelli and Polinsky, 2017; Polinsky, 2018), though this is not always the case.

These factors, bilingualism and a shift in language dominance, lead to another characteristic of heritage speakers often observed in the literature: the linguistic behavior of heritage speakers often differs from those who speak the language as their only (dominant) language. Many studies discuss the difference between heritage speakers and native speakers of a language (I come back to these in Section 2.2). However, as was pointed out in Chapter 1, the study of heritage speakers problematizes the notion of 'native speaker'. What is it that makes someone a native speaker of the language? Is it the process of naturalistic acquisition, or the outcome as a fully proficient speaker? Although these two elements (typically) go hand in hand in monolingual native speakers, they do not in heritage speakers. In Chapter 1, we saw that the young adults in Håkansson's (1995) study grew up speaking Swedish, but their Swedish proficiency was considered too low to study at a Swedish university. Rothman and Treffers-Daller (2014) argue that it is the process of acquisition that defines someone as a native speaker, and not the outcome of this process. Therefore, they consider heritage speakers as a subgroup of native speakers, since they acquire the language in a naturalistic setting. Here, I adopt this view and I regard heritage speakers as native speakers of their heritage language. However, their language can, and often does, differ from that of monolingual speakers. In

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speakers.

[4]As mentioned above, the heritage language can be acquired simultaneously with the dominant language. When this is the case, the heritage language is one of the two first languages.

this respect, the study of heritage speakers contributes to our understanding of different types of speakers, and to the factors that are necessary to become a fully proficient native speaker.

The observation of differences between the heritage language and the homeland variety implies a comparison. The point of comparison is typically referred to as the *baseline*. In many studies, the homeland variety of the language serves as the baseline. However, it has been argued that the baseline should be the language that was the input to the heritage speakers (Benmamoun et al., 2013:134; Pascual y Cabo and Rothman, 2012; Polinsky, 2018:11-16; Polinsky and Kagan, 2007:8). In most cases, the exact input of individual speakers is not known. Therefore, the aforementioned authors argue that the baseline should consist of immigrant speakers: the generation of speakers who migrated from the homeland as adults.[5] This view of the baseline is difficult to apply to populations of adult or elderly heritage speakers, as is the case with American Norwegian. I come back to the specific challenges of establishing a baseline for American heritage Norwegian in Section 2.3. The baseline is described in Section 3.1.

So far, I have pointed out that heritage speakers of a certain language are different from both monolingual native speakers and immigrant speakers of that language. In addition, heritage speakers can be contrasted with L2 learners, who learn their second language later in life and often in a classroom situation rather than through naturalistic acquisition. These differences mean that L2 learners typically are not an appropriate baseline for the investigation of heritage language speakers.[6] At the same time, it has been revealing to compare heritage language speakers to L2 learners (see e.g., Montrul, 2010, 2012; Montrul and Ionin, 2012). In these comparisons, it has been observed that heritage speakers, although different from the baseline (or the homeland language), are also different from L2 learners. Typically, heritage speakers are found to perform better than L2 learners on the linguistic phenomenon that is studied (Polinsky, 2018:60). In other words, the early and naturalistic acquisition of a heritage speaker seems to be beneficial when compared to L2 acquisition. In this thesis, however, I mainly focus on the comparison between the heritage language (American Norwegian) and the baseline, which is specified in Section 3.1.

2.2   The linguistic behavior of heritage speakers

As mentioned in the previous section, heritage speakers are quite a diverse group; there is much inter-speaker variation in proficiency level (Montrul, 2016; Polinsky, 2018) and in linguistic behavior. Despite this variation, studies have found

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[5]Note that since these immigrant speakers migrated as adults (or after puberty), they are not heritage speakers in Rothman's definition (see (2.1) above). They acquired the relevant language in a context where it was the dominant language, and did not become bilingual early in life.

[6]The most appropriate point of comparison depends of course on the goals and research questions one has. Research on the education of heritage speakers in their heritage languages ('heritage language in the classroom', see e.g., Polinsky and Kagan, 2007; Montrul, 2016: chapter 8) might be particularly interested in the comparison with L2 learners.

systematic differences between heritage speakers and monolingual homeland speakers, and such differences are found in several linguistic domains. Extensive overviews of the field can be found in Montrul (2016) and Polinsky (2018).[7] It is impossible to discuss all the work done in heritage linguistics here, so in this section I point out some of the main observations with the aim of providing a general overview of the language of heritage speakers.

Differences between heritage speakers and homeland speakers have been attested in all linguistic domains. However, the phonology of heritage speakers, even of low-proficient ones, is often baseline-like. When it is not, it still seems the best preserved domain (Benmamoun et al., 2013:136; Montrul, 2016:85). Compared to L2-learners, heritage speakers have a phonological advantage. At the same time, heritage speakers are often recognized as different from monolingual speakers because of a "heritage accent" (Polinsky, 2018:chapter 4). It has been suggested that tone, prosody and intonation can distinguish heritage speakers from monolingual speakers, but phonology is still an under-researched area within heritage linguistics.

When it comes to the lexicon, heritage speakers typically have a smaller vocabulary than homeland speakers or first-generation immigrants. Since vocabulary acquisition is context specific, heritage speakers' vocabulary is often limited to specific semantic domains, such as childhood vocabulary, words related to the home, and body parts (Montrul, 2016:48). In many studies, lexical knowledge is used as a proficiency measurement, and lexical proficiency turns out to correlate positively with morphosyntactic proficiency (Montrul, 2016:53, see also Section 4.4.2). In a study on heritage Russian, for example, Polinsky (1997) finds a correlation between lexical gaps in a vocabulary task and grammatical deficits such as non-baseline-like agreement and non-baseline-like case in prepositional phrases (ibid:393-396). Similarly, the lexical proficiency of heritage Arabic speakers is found to correlate with their accuracy in the formation of plural nouns (Benmamoun, Albirini, Montrul, and Saadah, 2014:106).

The difficulty of heritage speakers with morphology is well-documented. Inflectional morphology in particular has been found to be affected in heritage speakers (Montrul, 2016; Scontras et al., 2015). Typically, heritage speakers simplify the inflectional system of the language by omission of obligatory inflection and regularization of forms. Within the nominal domain, heritage speakers have been found to differ from the baseline on inflection for gender, number, and case in different languages (see Montrul, 2016:55-61, and references therein). Especially gender agreement turns out to be difficult for heritage speakers, both for heritage speakers whose dominant language is gender-less and for those whose dominant language has gender (Polinsky, 2018:206).

There are fewer studies on definiteness inflection. In the study on five young heritage speakers of Swedish who moved to Sweden to start at university, Håkansson (1995) observes that these speakers have difficulty with definiteness agreement as well as gender and number agreement. In the example in (2.3a), the

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[7]See also the overview papers by Benmamoun et al. (2013), Johannessen (2018), Polinsky and Kagan (2007), and Scontras et al. (2015).

neuter inflection on the adjective is omitted and in (2.3b) the definite inflection on the adjective is missing. In addition, Håkansson (1995) finds phrases where the definite suffix is missing, as in (2.3c).[8]

(2.3) a. *ett   rik   land*
INDF.N.SG rich country
'a rich country' (baseline: *ett rik-t land*)

b. *det   annat   språk-et*
DEF.N.SG other.N language-DEF.N.SG
'the other language' (baseline: *det andra språket*)

c. *den   svensk-a   huvudstad*
DEF.SG swedish-DEF capital
'the Swedish capital' (baseline: *den svenska huvudstad-en*)
(heritage Swedish, Håkansson, 1995:169-170)

Another language with definiteness inflection is Hungarian, where the verb agrees with the object on the definiteness feature. Both child and adult heritage speakers of Hungarian use non-baseline-like inflection (Bolonyai, 2007; Fenyvesi, 1995).

In contrast to these difficulties with nominal inflection, Polinsky (2018) argues that determiners in the noun phrase are typically retained in heritage languages (ibid:63,175). She suggests that this is caused by the fact that determiners occupy a high position in nominal syntax and therefore are structurally salient. We will see in Chapters 5 and 6 that the current study provides an example of the opposite: in American Norwegian, the definite prenominal determiner turns out to be vulnerable to omission despite its syntactically high position.

Since my focus is on definiteness marking in the nominal phrase, I will not go into the details of verbal morphology. It is clear, though, that difficulties with inflectional morphology are also found in the verbal domain. At the same time, verbal morphology seems to be retained more than nominal morphology (Benmamoun et al., 2013:142; Montrul, 2016:61). Within the verbal domain, aspect and mood morphology have been shown to be more affected in heritage speakers than tense or agreement morphology, although the latter are not completely unaffected either (see e.g., Lykke (in progress) on tense morphology in American Norwegian).

In syntax, heritage speakers tend to retain the basic structural principles of the language (Benmamoun et al., 2013:148). However, a rigid word order is typically preferred over a variable word order (Montrul, 2016:82). Complex syntactic dependencies, such as relative clauses, passives, and null-subjects tend to cause difficulties. Heritage speakers of pro-drop languages, i.e., languages where both overt and null pronouns are used, tend to overuse overt pronouns. This has been found in heritage Russian (Polinsky, 1997) and heritage Spanish (Montrul, 2004), for example. The use of null or overt pronouns is not only

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[8]In Chapter 3, I discuss the syntax of Norwegian nominal phrases. As will become clear there, the definite suffix is not taken to be a case of agreement. However, the example in (2.3c) shows omission of a morpheme that is inflected for definiteness, which is why I included it here.

governed by syntax, but also by semantic and/or pragmatic principles. In general, such phenomena at the interface of syntax and semantics or syntax and pragmatics have been shown to be vulnerable in heritage languages (see Montrul, 2016:71-82 for a discussion and examples). Just as in morphology, tendencies towards simplification, reduction and reanalysis have been found.

Although there are differences between heritage languages and the baseline, it is important to point out that there are also linguistic domains or phenomena on which heritage speakers perform on a par with monolingual speakers. For example, heritage speakers of English produce determiners in a stable way, even when they have different systems of determiners in their dominant language (Polinsky, 2018:62-63). Furthermore, it it is important to keep in mind that there are different sources of the variation between heritage and homeland speakers. First, there is variation that can be assumed to be underlying, i.e., the result of a difference in the grammars of the speakers. In studies of heritage production and comprehension, it has been shown that heritage speakers "build their grammars following universal principles of language design" (Polinsky, 2018:289). The variation is thus not unconstrained, but the grammar of heritage speakers is consistent, and as Polinsky stresses, "heritage languages are languages, and heritage speakers have a full fledged grammar" (ibid:350). The second type of variation between homeland and heritage speakers is arguably more superficial; it can be seen as the result of production and processing difficulty in the non-dominant language. Some phenomena in the language of heritage speakers are processing related, and it has been found that constructions that require substantial processing, such as long-distance dependencies, often lead to non-baseline-like behavior in heritage speakers (Polinsky, 2018:35-36). Behavior on these processing-related phenomena might improve over time —for example, during the course of an interview or elicitation task with a heritage speaker. This superficial variation is typically less systematic than variation which is caused by a different grammar.

A major question in heritage linguistics is what the differences between heritage speakers and monolingual native speakers are caused by. Which factors shape the heritage language so that it differs from the baseline? Within the field, four major factors have been recognized: incomplete acquisition (sometimes called divergent attainment), attrition, transfer, and changes in the input. These factors are not mutually exclusive, but can all contribute to the linguistic profile of the heritage language speakers. In addition, as pointed out by Polinsky (2018:18), these factors should be considered for individual language phenomena rather than for a heritage language as a whole. In the following paragraphs, I will look in turn at these four major factors.

Let us consider incomplete acquisition first. Heritage speakers are bilingual either from birth or from early childhood. This means that they receive quantitatively less input than monolingual homeland children. Especially once they reach school-age, input from the heritage language decreases. As a result of this, the heritage speaker might not completely acquire all the grammatical phenomena or features that homeland speakers acquire. Originally, this was known as *incomplete acquisition* (e.g., Montrul, 2008), but more recently, the

term has become controversial. Scholars argued that the term should not be used, because the word 'incomplete' has unwanted negative connotations. Furthermore, they claim that the comparison made with monolingual acquisition is not fair because of the many differences between these acquisitional contexts (Pascual y Cabo and Rothman, 2012; Putnam and Sánchez, 2013; Kupisch and Rothman, 2016).

It is clear that heritage language acquisition is in many respects different from monolingual acquisition: the heritage speaker receives less input and typically has no formal education in the heritage language. Consequently, there are fewer opportunities and domains in which they can use the heritage language, and these generally become fewer during the lifespan. As a result, linguistic phenomena with a longer acquisition period and phenomena related to writing or formal speech might not be acquired or mastered by heritage speakers by the time they are adults. Because of these different acquisitional contexts, it is not surprising at all that heritage speakers differ from monolingual speakers, and we might even expect such differences. In fact, Pascual y Cabo and Rothman (2012) state that: "the default expectation should be that HSs [heritage speakers] would demonstrate discrete paths and ultimate attainments" (ibid:454). In other words, they argue that it is to be expected that the acquisitional development and its outcome are different in heritage speakers compared to monolingual speakers.

I agree with the claim that differences between heritage speakers and homeland speakers are to be expected. However, that does not alter the relevance of research studying exactly which linguistic phenomena are not (completely) acquired as the result of the different acquisitional situations. Many phenomena of the language *are* acquired by heritage speakers despite the different contexts of acquisition, and when differences with the baseline do occur, the patterns are often "strikingly similar to the developmental errors attested in monolingual acquisition by young children" (Montrul, 2016:87). This observation makes it even more relevant to compare monolingual acquisition with heritage language acquisition, in order to study which factors in the different contexts of acquisition contribute to the (expected) different outcomes. As pointed out by Polinsky (2018): "knowing the characteristics of monolingual acquisition is crucial" (ibid:12), since knowledge of which structures or phenomena are acquired late or with difficulty will lead to specific hypotheses for heritage language acquisition.

One of the things that I believe contributes to the controversy of incomplete acquisition is the lack of agreement on the definition of full acquisition and what it encompasses. The term 'incomplete' might have negative and unwanted connotations as long as it is not clear how we define complete acquisition. I will not here give a full discussion of language acquisition, but simply point out that one way acquisition has been modelled is by Yang (1999, 2002, 2004). In this model, acquisition is a competitive process between two or more grammars. These grammars are a set of rules restricted by Universal Grammar. Yang proposes that during acquisition, the child compares the input with these grammars. The more compatible a given grammar is with the input, the more it is favored, while the grammars that are less compatible with the input are disfavored more and more, until they are eventually abandoned. In this variational model of

competing grammars, acquisition is considered complete when one grammar is selected and competing grammars are abandoned. Incomplete acquisition, on the other hand, would be the maintenance of two (or more) competing grammars, so that the variation found in the acquisitional stages is retained in adulthood. It should be noted that this does not necessarily entail that the speaker continues to match the input with these grammars. In the view of incomplete acquisition that I adhere to in this thesis, the acquisition is incomplete in the sense that the speaker does not select one grammar. Acquisition is *not* incomplete in the sense that it is still ongoing at an adult age in the same way as in childhood, and, importantly, it does *not* entail that the grammars of heritage speakers are in any sense incomplete.

We will see in Chapter 6 that Yang's model of acquisition allows us to capture one of the observed patterns in American Norwegian. I argue there that the different context of acquisition leads to both less input and different input for the heritage speakers, and that this in turn leads to incomplete acquisition of compositional definiteness in American Norwegian. As we will see, the end-state grammar(s) of the heritage speakers contains variability which resembles a stage from the monolingual acquisitional process. I suggest that this maintained variability is the result of two competing grammars, in other words, of incomplete acquisition.

Above, I pointed out that I distinguish two types of variation between monolingual homeland speakers and heritage speakers. On the one hand, there is variation that is the result of different underlying grammars. With my assumptions about incomplete acquisition, this difference in underlying grammars is the result of incomplete acquisition. On the other hand, there is variation that I assume to be related to production or processing difficulty in the heritage language. This type of variation is presumably more superficial, as it does not result from a difference in the grammar of the speakers. As we will see, one cause of variation of this type is attrition, the second major factor that can contribute to the language of heritage speakers that is often discussed in the literature.

Attrition has been defined as "the gradual loss of a language by an individual" (Schmid, 2002:24).[9] Attrition is caused by a lack of use of the language later in life. Attrition is subject to much individual variation because there are large differences between speakers as to how much they speak their heritage language when they are adults. People who become bilingual as adults (i.e., immigrant speakers) can undergo attrition, although many of those speakers retain a high proficiency in their first language. More severe attrition is found in bilingual children or adults who became bilingual early in childhood, suggesting that the age of onset of bilingualism is related to the extent of attrition (Montrul, 2016:113; Polinsky, 2018:23, and references in both).

In most definitions of attrition, it is assumed that the linguistic feature that is lost has been completely acquired before the speaker became attrited (e.g.,

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[9]Another definition is "the (total or partial) forgetting of a language by a healthy speaker" (Schmid, 2011:3), pointing to the fact that attrition is not caused by neurological damage or illness.

Benmamoun et al., 2013:167; Scontras et al., 2015:4). This means that attrition is separated from incomplete acquisition in principle. In practice, however, it is often difficult to distinguish incomplete acquisition from attrition, since the researcher typically does not have any language data from earlier in the speaker's life, especially in the case of elderly speakers.[10] When a speaker differs from the baseline, it is therefore hard to establish which factor has caused this. Two methodologies have been used to remedy this difficulty: comparison with child bilinguals (e.g., Polinsky, 2011) and comparison with immigrant speakers (e.g., Johannessen and Larsson, 2015). These methods have been useful in distinguishing attrition and incomplete acquisition, although it can be difficult to find the right groups of comparison.

As pointed out above, I argue that incomplete acquisition and attrition are two fundamentally different processes. Importantly, I assume that new grammatical features —not present in any of the languages —can arise in the acquisitional process, but not through attrition. Attrition might affect the distribution of features already present in one of the languages. At the same time, I would like to argue that these factors might be interconnected, and that a linguistic feature need not be acquired completely for attrition to influence it. Rather, a feature that has not been acquired completely during childhood might become (even) weaker under the influence of attrition. In other words, reduced input during the acquisition of the heritage language and lack of use later in life can both contribute to the linguistic behavior of a heritage speaker (see Putnam and Sánchez (2013) for a partly similar claim). Especially for a group of elderly speakers, as is the case for current American Norwegian, both factors have potentially shaped the heritage language. I come back to this in my analysis in Chapters 6 and 7.

A third factor that causes the differences between heritage speakers and homeland speakers, is linguistic transfer from the dominant language. Riksem (2018), for example, finds clear lexical influence from English on American Norwegian, and also some structural influence. Currently, many researched heritage languages are in contact with (American) English, a language with rather little morphological inflection. It remains to be understood whether morphological simplification in these cases is caused by transfer from English or rather by a general tendency towards simplification in heritage languages regardless of the dominant language (Scontras et al., 2015:3). For instance, case inflections are often omitted by heritage speakers, also by those whose dominant language also exhibits case, such as German or Finnish (Polinsky, 2018:197-200). It is thus clear that difficulty with inflection cannot always be explained by transfer.

Furthermore, influence from the dominant language does not always cause the heritage language to become more similar to the dominant language. The opposite, where the heritage language becomes less similar to the dominant

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[10]Some case studies with longitudinal data exist, for example the recent work by Arnstein Hjelde on American Norwegian (Hjelde, 2018). Unfortunately, larger studies with longitudinal data are rare.

language, has also been documented. This is called 'cross-linguistic overcorrection' by Kupisch (2014). In a study on the Italian of Italian-German bilinguals, Kupisch investigated word order in the nominal phrase. In Italian, adjectives can occur both prenominally and post-nominally, while German only has prenominal adjectives. Kupisch found an overuse of post-nominal adjectives in the Italian of the bilingual speakers. In other words, these speakers seem to stress the difference between their two languages, rather than the similarities. It should be noted that, in this case, the speakers were all relatively young adults and quite fluent in both languages. In remains an open question in which situations cross-linguistic overcorrection occurs and in which situations we find transfer.

The fourth and final major factor that can cause heritage languages to differ from the homeland variety is a changed input. As mentioned above, heritage speakers receive a quantitatively different input than monolingual children. This input can also be qualitatively different, for example when not all registers are used in the input, or when features typical for formal (written) language are lacking. An example of this is the inflected infinitive in Brazilian Portuguese, which is only learned by higher educated homeland speakers and consequently not by heritage speakers (Pires and Rothman, 2009). The Russian genitive of negation is another example of a phenomenon that is more frequent in written than in oral language and, as such, is very infrequent in the language of heritage speakers (Polinsky, 2018:34-35). As a result of this different input, heritage speakers might incompletely acquire the language.

In addition, the input from heritage speakers often comes from immigrant speakers or other heritage speakers. The input of the former can therefore be shaped by attrition or incomplete acquisition of the latter. In other words, the heritage language might already have changed in the heritage context. This is referred to as 'cross-generational attrition' by Pascual y Cabo and Rothman (2012). An example of this is the use of differential object marking (DOM) in heritage Spanish. In Spanish, animate and specific direct objects are obligatorily marked with *a*. In the variety of Spanish spoken in the US, however, frequent omission of DOM was found in both the heritage speakers (children and young adults) and in the immigrant speakers (Montrul and Sánchez-Walker, 2013). This is an example of changes in the input that shape the heritage language. Cross-generational attrition is especially relevant for research on third- or fourth-generation immigrants, as is the case for American heritage Norwegian. In order to separate changes in the input from incomplete acquisition and attrition, information about the language of previous generations is crucial. In the case of American Norwegian, we are lucky to have some of this data available, as we will see in more detail in the next section.

2.3 American heritage Norwegian

The two previous sections have introduced the field of heritage linguistics. For a better understanding of the phenomenon heritage language, the way heritage languages differ from the homeland language, and the factors that influence it,

it is important to study different heritage languages in contact with different dominant languages (Benmamoun et al., 2013:170). This thesis studies heritage Norwegian spoken in the US. Although there is much research on heritage languages in the US, studies often discuss young, second-generation immigrants, who may even be literate in their heritage languages (see Polinsky, 2018: 329-333). As we will see in this section, American heritage Norwegian is different in this respect. Therefore, the study of these heritage speakers can add to our general understanding of heritage languages and the roles that age, literacy, and a long migration history play in shaping these heritage languages.

In what follows, I discuss the history of American Norwegian (Section 2.3.1) and its research tradition (Section 2.3.2). This is followed by a description of the current speakers and their linguistic profile (Section 2.3.3).

2.3.1 General background

The history of American Norwegian started in 1825, when the first Norwegian immigrants arrived in New York. They were a small group of religious dissenters (Quakers), some of whom eventually settled in Illinois. In the century that followed, many more were to follow their path. A large wave of immigration took place between 1850 and the 1920s. By 1930, about 810,000 Norwegians had settled in the United States and another 40,000 in Canada. At that time, Norway had the second largest emigration rate (after Ireland) from Europe to the US, and the amount of Norwegian emigrants equaled the total population of Norway in 1800 (Haugen, 1953:29).

Although the first migrants were religious dissenters, this was not the main reason for the high migration rate. Haugen (1953:18-22) points out that the Norwegians did not migrate because they were oppressed or persecuted, but rather had "the hope of social betterment". Especially after the Homestead Act in 1862, which gave settlers the possibility to own farmland for free, many Norwegians moved to the US, and to the Midwest (Illinois, Iowa, Wisconsin, Minnesota, and the Dakotas) in particular. Stricter immigration laws in the 1920s lowered the numbers of new immigrants drastically, and almost a century after the first emigrants, the mass migration form Norway to the US came to an end.

Most Norwegians settled in the Midwest. The life of the first immigrants was hard according to Haugen, who mentions that they built their homes and farms "with little more than their bare hands" (Haugen, 1953:30). In this hard new life, far away from their home, the Norwegians chose to settle together, and many Norwegian settlements arose in this area during these times. In these settlements, Norwegians spoke Norwegian with each other and built their own institutions. These were key to the preservation of the Norwegian language.

The Norwegian Lutheran Church was the first and most important institution. Church services were held in Norwegian, and the church played an important role in maintaining literacy in Norwegian. Furthermore, the establishment of Norwegian churches lead to a need for training Norwegian-speaking Lutheran pastors. Related to this need, two important institutions were founded: Luther

College (Decorah, Iowa) in 1861 and St. Olaf College (Northfield, Minnesota) in 1875 (Haugen, 1953:34; Lovoll, 1999:164-165). Both colleges still exist today, although they are no longer devoted to the training of pastors.

Newspapers and so-called *bygdelags* were two other important institutions for the American Norwegian communities. The first American Norwegian newspaper was established in 1847 and several hundred more followed. They did not all exist at the same time, and in fact, many did not survive long. In the Midwest, three large newspapers were published over a long period: *Skandinaven* (published 1866-1941), *Decorah Posten* (1874-1972) and *Minneapolis Tidende* (1887-1935) (Lovoll, 1999:181). These newspapers did not only serve to bring news, but also advertised many social and cultural events and meetings. An important social group was the *bygdelag*, which can be defined as "a society of immigrant families from a specific Norwegian *bygd* (rural community), valley, district, or fjord area" (Lovoll, 1999:282). In these bydgelags, American Norwegians came together and preserved both their Norwegian culture and their language. Not until the 1950s did the bydgelags gradually shift to using English (ibid:329).

The first Norwegian immigrants had to learn English in order to start their new lives in the US. However, as the Norwegian settlements were formed, they became places where Norwegian was the main language and English was only used for contact with the outside world. Some people in these areas could spend their lives as monolingual Norwegians, although they were probably never a majority (Haugen, 1953:45). The fact that schooling was in English made the exposure to and use of English inevitable (see also Lovoll, 1999:98), and made the younger generation bilingual. Haugen describes the period before World War I as the "true bilingual period" (1953:52), where English and Norwegian existed next to each other but in different domains.

After World War I, however, the communities shifted towards English. Within institutions such as the church, there was much debate about the 'language question': should Norwegian be used as the only language in order to maintain a connection with their Norwegian ancestry, or should the institution become bilingual or even English-dominant to be more attractive to the younger generation? Eventually, institutions were gradually shifting towards being bilingual and later monolingual English. Parents who had experienced difficulty entering school with little knowledge of English decided not to pass on Norwegian to their children. Although the process of communal language shift had different paces in different communities, the direction and outcome were the same for all of them.

When stricter immigration laws in 1925 ended large scale migration, and hardly any new immigrants came into the communities, it marked a point of no return for the language shift. Haugen (1953:260) notes that the American Norwegians at the time recognized this, and realized how Norwegian would "soon be a language of the past". After this moment, the language shift in churches and other institutions went very rapidly. However, the language has not yet disappeared completely; in the generation born between the 1920s and 1940s, we can find persons who acquired Norwegian in their childhood and still speak

it today. With only elderly speakers left, the language is now moribund.[11] These current speakers of American Norwegian are the object of study in this dissertation and are discussed in more detail in Section 2.3.3.

2.3.2 American Norwegian research

The long migration history of AmNo described above is mirrored in a long research tradition. Already in the beginning of the 20th century, researchers became interested in this variety of Norwegian, and this resulted in some small publications by the linguists Nils Flaten and George Flom (Flaten, 1900; Flom, 1900, 1903, 1926).[12] These publications are comprised of brief notes describing the language, with a focus on the use of English words and expressions in AmNo.

In 1931, the linguists Didrik A. Seip and Ernst W. Selmer started the first large-scale data collection which also included audio recordings. They studied the Norwegian spoken in the Midwest and had two research goals: to study whether any traditional dialect features that were lost in Norway could be found in American Norwegian, and to study whether a 'new' Norwegian language had been created under the influence of several dialects. However, they found a language that was influenced by English, and (probably) as a result of interviewing many educated literate speakers, most of their informants spoke a mixture of dialect and 'book language'. Disappointed by this result, they did not pursue their work further (Haugen, 1992:335).[13]

Although Seip and Selmer gave up their work on documenting American Norwegian, they intended for their recordings to be preserved at the University of Oslo. Unfortunately, this did not happen, and after World War II, most of the recordings were found lost or severely damaged (Haugen, 1992). The remaining recordings were rerecorded on tape, but their quality is rather poor.[14] Therefore, it is difficult (if not impossible) to use them in research.

After this first attempt, recordings of AmNo have been made during three periods. The recordings from these projects have been preserved and can still be used in research today.[15] During the 1930s and 40s, the American scholar Einar Haugen collected many hours of recordings of AmNo. This resulted in the seminal work *The Norwegian Language in America* (1953), which gives a

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[11] In this thesis, I focus on speakers who are descendants of immigrants during the large migration wave. In this community, the transmission of Norwegian has stopped, which is why I classify it as 'moribund'. However, there are still new Norwegian immigrants settling in the United States, which means that it will remain possible to find Norwegian (heritage) speakers.

[12] Already in this early research, American Norwegian was considered a dying language that would not survive long (Haugen, 1992:330). In retrospect, these claims turn out to be too pessimistic, as the language is still spoken today.

[13] As pointed out by Haugen (1992:331), Seip and Selmer "did not appreciate the possibilities of studying linguistic acculturation and bilingual influence, fields that gradually opened up in later years".

[14] Currently, they can be found at the Text Laboratory of the University of Oslo (http://tekstlab.uio.no/norskiamerika/opptak/seip-selmer.html).

[15] Large parts of the material are not transcribed or searchable, which makes the study of it rather time consuming. See also Section 3.1.3 on the study of CD in previous generations of American Norwegian speakers.

thorough overview of both the AmNo communities and the language. The book is based on extensive fieldwork in the period 1936-1948, during which Haugen interviewed 260 speakers of AmNo. Most speakers are first- or second-generation immigrants, i.e., they either migrated themselves or are children of the migrants. The questionnaire used during the interviews was long: it required between 8 and 12 hours to complete. In this questionnaire, Haugen collected full inflectional paradigms of words, and discussed topics such as family life and language use. In addition to the interviews, he recorded longer stories told by the informants.

Haugen was specifically interested in the use of traditional dialects, and the influence of English on the American Norwegian language. In his book, he discusses the sociolinguistic contexts of AmNo from the first immigrants until 1953, the bilingual situation and the language shift towards English. Furthermore, the book contains detailed discussions and descriptions of the grammar of AmNo, including the inflectional paradigms and use of English words and expressions.

Following Haugen, Arnstein Hjelde conducted fieldwork including audio recordings in the 1980s. Hjelde originally studied the phonological and morphological properties of the Norwegian *trøndersk* dialects (Hjelde, 1992), but he has also documented and studied AmNo speakers from other dialectal backgrounds (Hjelde, 1996, 2015).

The most recent collection of AmNo started in 2010 with the 'Norwegian in America' (NorAmDiaSyn) project, lead by Janne Bondi Johannessen.[16] Since 2010, several fieldwork trips have been made to the Midwest to collect speech from current AmNo speakers. Both audio and video recordings have been made. This data collection is still ongoing (see Section 4.1 for the two fieldwork trips I have been part of). Many of the recordings from 2010-2012 have been transcribed and made available online at the *Corpus of American Nordic Speech* (CANS, Johannessen, 2015a).[17]

In 2018, CANS contained speech from 50 speakers of AmNo from 22 different locations in the Midwest of the US and Canada. The recordings consist of interviews during which the AmNo speaker is interviewed by a researcher, and conversations between two speakers from the same location. The recordings are transcribed and linguistically tagged, and are therefore searchable. Although the group of speakers is quite diverse, they are all relatively fluent speakers of Norwegian (Johannessen and Salmons, 2012:140).

The establishment of CANS has led to a large amount of studies of the current American Norwegian speakers. In 2012, a special issue of *Norsk Lingvistisk Tidsskrift* was devoted to American Norwegian (editors Janne Bondi Johannessen and Joseph Salmons) and papers on AmNo can be found in the books *Germanic Heritage Languages in North America* (2015, editors Michael Putnam and Janne

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[16]Information about the project, recordings, and fieldwork can be found at http://tekstlab.uio.no/norskiamerika/index.html (Norwegian only).

[17]The corpus can be found at https://tekstlab.uio.no/glossa2/cans. Originally, the corpus was named *Corpus of American Norwegian Speech*, but in October 2017, recordings from American Swedish heritage speakers were added to the corpus. Following this development, the name was changed from 'Norwegian' to 'Nordic'. In the future, recordings from more speakers will be added.

Bondi Johannessen) and *Moribund Germanic Heritage Languages in North America* (2015, editors Richard Page and Michael Putnam). At the annual *Workshop on Immigrant Languages in the Americas* (WILA), presentations on AmNo have made up a large proportion of the program.[18] In the next section, I discuss the current generation of AmNo speakers and their language.

2.3.3 The current speakers of American Norwegian

The definition of heritage language and heritage speaker given in Section 2.1 applies to a broad variety of bilingual speakers. Putnam et al. (2018) distinguish three different groups that are all heritage speakers: children, (young) adults, and elderly speakers of moribund varieties. The latter group consists of "individuals who are considered to be the likely final generation of speakers of a given HL [heritage language] with both production and comprehension skills" (Putnam et al., 2018:253). In the context of the US, many Germanic heritage languages, including AmNo, have speakers who belong to this group.

The current speakers of AmNo are descendants of Norwegians who migrated to the US in the large migration wave before 1920 (see above). They grew up speaking Norwegian at home, and started learning English when they started school. Most speakers describe themselves as being monolingual Norwegian up until they entered school, although some had already acquired some English at home. It is not impossible that most of them had heard some English before they started school and had to learn it (especially when they had older siblings, Larsson and Johannessen, 2015:158). Currently, all speakers are dominant in English, and how often they speak Norwegian nowadays differs from individual to individual. They are all elderly (the speakers in CANS are born between 1918-1962), and are third- to fifth-generation immigrants. This is typical for moribund heritage languages (Putnam et al., 2018:265).

During the interviews, most speakers recall how they had to learn English at school, and mention that they were not allowed to speak Norwegian there. They did not receive schooling in Norwegian, and as a result, most are illiterate in it. When these speakers grew up, most of the local churches were in transitioning from using Norwegian to using English. Most of the current AmNo speakers therefore did their Lutheran confirmation-ceremony in English. This fact also contributes to the illiteracy in Norwegian.[19]

Related to this illiteracy, and the fact that they received input from a limited amount of people, the current speakers typically only understand the dialects they have been exposed to. Homeland Norwegian speakers, on the other hand, have been exposed to much more dialectal variation, since there is no official spoken standard and people use their own dialect in daily conversation and in

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[18]The workshop series was initiated by Janne Bondi Johannessen and Joseph Salmons in 2010. More information can be found at http://www.workshoponimmigrantlanguages.org/.

[19]In preparation for their confirmation, the children (age 15) receive some schooling at the church. If this had been in Norwegian, the speakers would probably have had some literacy in this language. Already for earlier generations, "the Church provided most of the instruction furnished in the reading and writing of N[orwegian]." (Haugen, 1953:238).

the media. They therefore understand a variety of Norwegian dialects. The current AmNo speakers lack this ability; they understand their own dialect, but not other dialects such as the Oslo variety (spoken in the Norwegian capital), which is quite close to the Bokmål written standard (Johannessen and Salmons, 2012:142; Johannessen and Laake, 2015:320). This means that researchers have to adapt to the dialects of the heritage speakers (mainly Eastern Norwegian dialects, see Section 3.1) in order to communicate with them.

As noted, AmNo is a moribund heritage language, and it is important to collect data and describe the language before it has disappeared completely. As mentioned in the previous section, a considerable amount of speech has been collected, transcribed, and made available in CANS since 2010. This data has formed the basis of many publications. Below, I discuss some studies of the formal linguistic characteristics of AmNo. These studies often find differences between AmNo and homeland Norwegian (as expected for a heritage language, see Section 2.2 above). It is, however, important to point out that despite these differences, AmNo is a full-fledged language and unmistakably Norwegian.[20]

Within the nominal domain, studies on possessives have shown that contrary to monolingual and bilingual children, most AmNo speakers have a preference for post-nominal rather than prenominal possessives (Westergaard and Anderssen, 2015; Anderssen, Lundquist, and Westergaard, 2018). Anderssen et al. (2018) found a correlation between possessives and the use of compositional definiteness, which is discussed more in Section 3.3.2. The frequently used post-nominal possessive is illustrated in (2.4a), and the prenominal possessive in (2.4b).

(2.4)   a.   *kjerring-a   mi*
                wife-DEF.F.SG my.F
                'my wife'
      b.   *min   bestemor*
                my.M grandmother
                'my grandmother'
                (Westergaard and Anderssen, 2015:35-36)

Two studies on the use of grammatical gender in AmNo reach contradictory conclusions: whereas Johannessen and Larsson (2015) argue that gender is stable, Lohndal and Westergaard (2016) argue that gender is vulnerable. This surprising difference is mainly related to their different definition of gender: Johannessen and Larsson (2015) analyze the definite suffix as a gender marker, but Lohndal and Westergaard (2016) claim that the suffix is a declension marker instead. In both studies, it is observed that the gender inflection on the definite suffix is preserved more than on other gender marking elements, such as indefinite determiners. Both also find an overgeneralization of the masculine gender, and Johannessen and Larsson (2015) furthermore notice that the complexity of the phrase has an influence on gender agreement within that phrase. In phrases modified by an adjective, more deviations are found than in unmodified phrases.

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[20]See also Polinsky (2018:350): "heritage language are languages, and heritage speakers have a full-fledged grammar".

The studies of possessives and gender marking show that AmNo has become different from homeland Norwegian. However, in neither case has the language become similar to English: post-nominal possessives remain very frequent, and gender has not completely disappeared from the language. In the present study on compositional definiteness, I observe a similar tendency: AmNo differs from homeland Norwegian in this respect, but has not adopted the English grammatical structure either (see Chapters 5 and 6).

On the lexical level, influence from English is noticeable. Already the work by Flaten and Flom (see Section 2.3.2) discussed the incorporation of English words and idioms into Norwegian. In a recent study on language mixing, Riksem (2018) shows that the use of Norwegian and English elements within one phrase is a systematic process. Mixed phrases typically consist of an English lexical item combined with Norwegian functional material such as articles, see (2.5) for an example. A comparison between language mixing in previous and current generations shows that in addition to the typical pattern, some mixed phrases without articles or with the English determiner can be found in the speech of current speakers (Riksem, 2017).

(2.5)   *car-en   i garage-n*
        car-DEF.M.SG in garage-DEF.M.SG
        'the car in the garage'
        (westby_WI_06gm; Riksem, 2018:86)

In addition to the studies of the formal properties of the nominal phrase discussed above, several other domains of the AmNo grammar have been investigated. Among others, these include word order in subordinate clauses (Larsson and Johannessen, 2015), the use of verb-second in main clauses (Eide and Hjelde, 2015; Lykke, 2018; Westergaard and Lohndal, 2019), subject and object shift (Anderssen and Westergaard, forthcoming), and dialect leveling (Hjelde, 2015; Johannessen and Laake, 2017).

The research discussed so far all study the (semi-)spontaneous speech available in CANS. In addition to this, some experimental work has been conducted aimed at eliciting specific structures. As noted by Putnam et al. (2018), elicitation experiments with elderly speakers of moribund heritage languages are often challenging, which results in smaller scale studies compared to studies on bilingual children or young adults (ibid:265). Also in the case of AmNo, elicitation experiments can be difficult to conduct, and collected data are not always easy to interpret (Johannessen, Larsson, and Hjelde, 2016).

An interesting and successful example of elicitation experiments in AmNo is Rødvand (2017), who investigates gender in AmNo. This work is not only promising in showing the possibility of experiments with this group of speakers, but it also engages in the discussion between the two other studies on gender (see above). A benefit of elicited production is that a relatively large number of phrases can be elicited from each speaker, which makes it possible to study and compare individual systems of gender marking. Rødvand shows that the masculine gender is overgeneralized in most speakers, but also that all individual

speakers have retained traces of the original three-gender system, and that no speaker shows a complete breakdown of the gender system. This study shows how experimental data can be helpful in theoretical discussions, and are a real supplement to spontaneous speech data. This is even more so in the case of infrequent phenomena, such as compositional definiteness. In this thesis, I add to the recent development of using elicited production experiments in research on AmNo.

2.4 Summary

In this chapter, I introduced the concepts of heritage languages and heritage linguistics. Heritage speakers are bilinguals who have naturalistically acquired a language which is not the dominant societal language, and who have undergone a shift in language dominance later in life (Section 2.1). Heritage languages often differ from the homeland variety, and incomplete acquisition, attrition, transfer, and input changes can all contribute to the differences (Section 2.2). These factors are often linked in intricate ways in different speakers and populations.

American heritage Norwegian (AmNo) is a heritage language with a long migration history (Section 2.3.1) and a long research tradition (Section 2.3.2). In Section 2.3.3, I discussed that AmNo currently is a moribund heritage language, with elderly speakers who are third- to fifth-generation immigrants, relatively fluent in Norwegian but unable to read and write it. These speakers are the population studied in the present work on compositional definiteness (CD). In the next chapter, the linguistic phenomenon CD is introduced.

Chapter 3

Compositional definiteness: baseline and syntactic structure

In this chapter, I discuss the linguistic phenomenon compositional definiteness (CD), which is the focus of this study. The goal of the chapter is threefold. First, the marking of definiteness in Norwegian, with a particular focus on CD, is described in Section 3.1. We will see that CD is obligatory in the baseline, except with a restricted set of adjectives. Furthermore, I discuss the dialectal variation in the forms of the exponents of definiteness marking. This description serves as the baseline that the speakers of American heritage Norwegian are compared to. In Section 3.2, I discuss the syntactic structure of Norwegian nominal phrases, as proposed by Julien (2002, 2005). The syntactic analysis has an expanded DP structure with separate positions for the suffixed article and the prenominal determiner. This theoretical analysis is the starting point for my analysis of AmNo nominal syntax, which is discussed in Chapters 6 and 7. In Section 3.3, previous research on compositional definiteness is discussed and we will see that CD poses difficulties in both first and second language acquisition. This leads to some expectations for the current study, which are presented at the end of the chapter.

3.1 The baseline: Norwegian nominal phrases

In this section, I establish the baseline that the heritage speakers are compared with. As was discussed in Section 2.1, it has been argued that the baseline should not be the language spoken in the homeland, but rather the language that was the input to the heritage speakers (e.g., Polinsky, 2018:11-16). In the case of American Norwegian, it is hard to establish the input that the current speakers received, due to the age of the speakers and the long history of the heritage language. The ideal baseline is therefore not accessible and the establishment of a point of comparison is more complicated.

Here, I establish the baseline in three steps. First, in Section 3.1.1, I discuss the written standard Norwegian with respect to its marking of definiteness, number, and gender. This description is then expanded by including facts from the dialects of the ancestors of the current speakers (Section 3.1.2). In other words, I establish the baseline in such a way that when differences are observed, we can be certain that they are not related to dialectal variation (see e.g., Johannessen and Larsson (2015) for a similar approach to the baseline). Finally, to complete the baseline, the available data from previous generations of American Norwegian speakers is discussed. In Section 3.1.3, we will see that CD was systematically used by the previous generations. Together, these facts build up the point of comparison for the analysis of the current speakers' language.

3.1.1 Clear facts: the written standard

To establish the baseline, I use the written standard as a starting point. In Norway, there are two written standard languages, *Bokmål* and *Nynorsk*, both with an official status. The description that follows is mainly based on Faarlund, Lie, and Vannebo (1997), the Norwegian reference grammar that describes both. The focus in my study is on morphosyntax. However, before we look into how the concepts 'indefinite' and 'definite' are expressed in the Norwegian nominal phrase, it is necessary to define these semantic concepts.

However, this is not an easy task, and Lyons (1999) argues that "the attempt to find a fully unified characterization of definiteness in semantic or pragmatic terms is misguided" (ibid:253). For my purposes, a simplified definition of definiteness will suffice. Two concepts that are associated with the use of definite phrases are familiarity (or identifiability) and uniqueness. The use of a definite phrase is legitimate when the referent of this phrase is familiar or identifiable for the listener. This can happen through context, when the referent is physically present in the situation (3.1a), or through the discourse, when the referent of the definite phrase has been mentioned in the conversation before (3.1b). In addition, the referent of the definite phrase has to be unique in the context, in the sense that there can only be one possible referent.[21] When there is no unique reference, as in (3.1c), the use of a definite phrase is inappropriate.

(3.1)   a.   Could you pass me **the** salt, please?
        b.   I saw a man and three woman running from the crime scene.
             The man was wearing a blue bandana.
        c.   I saw a man and three women running from the crime scene.
             ***The** woman was wearing a blue bandana.
             (examples based on Anderssen, 2006:77-78)

Definiteness is also related to specificity, which signifies that the referent of a phrase is familiar for the speaker. Since the referent of a definite phrase is familiar to the speaker and the listener, definiteness typically includes specificity.[22] I follow Vangsnes (1999) and Anderssen (2006) in the assumption that definite noun phrases are familiar to both the speaker and the listener. Indefinite noun phrases, on the other hand, can either be specific (familiar to the speaker, but not to the listener) or non-specific (familiar to neither the speaker nor the listener). Precisely how the notions uniqueness and specificity should be understood is not the topic of this dissertation. Rather, I focus on the morphosyntactic marking of definiteness.

Norwegian expresses the definiteness distinction with the use of articles and determiners. Let us first look at nominal phrases without modification. In indefinite contexts, singular nouns are accompanied by an indefinite determiner, and plural nouns are accompanied by an indefinite plural suffix. In definite

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[21]As pointed out by Lyons (1999), 'inclusiveness' might be a better label than uniqueness, since it applies to plural nouns and mass nouns as well as singular count nouns.

[22]In Section 3.2 below, it will become clear that there are contexts in which phrases with some definiteness morphology are non-specific.

contexts, the singular and plural nouns are accompanied by different suffixed articles. This is illustrated in (3.2) below, where examples are given of indefinite singular, definite singular, indefinite plural, and definite plural nominal phrases of different genders.[23] As can be seen in the examples in (3.2), definiteness is expressed in portmanteau morphemes that also inflect for gender and number.

(3.2) a. *en*   *bil* - *bil-en*   - *bil-er*   - *bil-ene*
           INDF.M.SG car - car-DEF.M.SG - car-INDF.PL - car-DEF.PL
           'a car - the car - cars - the cars'
       b. *ei*   *dør* - *dør-a*   - *dør-er*   - *dør-ene*
           INDF.F.SG door - door-DEF.F.SG - door-INDF.PL - door-DEF.PL
           'a door - the door - doors - the doors'
       c. *et*   *hus*   - *hus-et*   - *hus*   - *hus-a*
           INDF.N.SG house - house-DEF.N.SG - house - house-DEF.PL
           'a house - the house - houses - the houses'

As illustrated in (3.2), Norwegian nouns fall into three gender categories: masculine (3.2a), feminine (3.2b), and neuter (3.2c). Table 3.1 below shows the forms of the determiners and suffixes. The abbreviations BM and NN indicate the forms in Bokmål and Nynorsk respectively. When no abbreviation is given, the form is the same across the two standards.

	Masculine	**Feminine**	**Neuter**
INDF SG	BM: *en*, NN: *ein*	*ei*	BM: *et*, NN: *eit*
DEF SG	*-en*	*-a*	*-et*
INDF PL	BM: *-er*, NN *-ar*	*-er*	zero* or *-er*
DEF PL	BM: *-ene*, NN: *-ane*	*-ene*	*-a** or *-ene*

Table 3.1: Definiteness marking in Norwegian (Faarlund, Lie, and Vannebo, 1997:150, 160). Forms for indefinite (INDF) and definite (DEF) singular and plural nouns are given for both Bokmål (BM) and Nynorsk (NN). For neuter definite plural nouns, only the forms marked by an asterisk are used in NN, while BM allows all given forms.

In Bokmål, the use of the feminine gender is optional, and feminine nouns can be inflected according to the masculine paradigm. In dialects where the feminine agreement is lost (and the indefinite determiner *ei* is no longer used), the feminine inflection on the noun (*-a*) is often still used (see e.g., Lødrup, 2011). However, most dialects have preserved the three-gender system (Faarlund et al., 1997:152). Since the input of the heritage Norwegian speakers is only dialectal, spoken language rather than the standard written language, they probably have had input of a three-gender system. In a recent study of grammatical gender in American Norwegian speakers, it was found that all speakers who participated

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[23]In portmanteau morphemes, the features definiteness, gender and number are given in this order.

in the experiment had at least traces of a three-gender system in their language (Rødvand, 2017:83, see also Section 2.3.3). Therefore, it is reasonable to assume that some feminine forms are used by the speakers in my study. In this thesis, I use the feminine rather than the masculine inflection in the examples.

Let us now look at modified noun phrases, in particular noun phrases modified by an adjective. Norwegian has two types of adjective inflection, traditionally called "strong" and "weak". Strong adjective inflection is used in the indefinite context, where adjectives are inflected for gender and number. The form of this inflection is zero for adjectives combined with singular masculine and feminine nouns, *-t* for adjectives combined with singular neuter nouns, and *-e* for adjectives combined with plural nouns of any gender. The weak adjective inflection is used in the definite context, and has the same form as the strong plural inflection, i.e., *-e* (Faarlund et al., 1997:366). The adjective *liten* 'little' is one of only a handful of adjectives that has a distinct form for the feminine.[24]

However, the inflection of the adjective is not the only difference between definite and indefinite modified NPs. In the definite context, the adjective and noun must be combined with the prenominal (and pre-adjectival) determiner that co-occurs with the definite suffixed article (Faarlund et al., 1997:210). This definite prenominal determiner has the form *den* for masculine and feminine nouns, *det* for neuter nouns, and *de* in the plural. Examples of indefinite and definite modified NPs are given in (3.3) for singular nouns and in (3.4) for plural nouns. Note that in modified definite phrases, definiteness is marked on the noun, adjective, and by the prenominal determiner.

(3.3) a. *en   fin bil - den   fin-e   bil-en*
           INDF.M.SG nice car - DEF.SG nice-DEF car-DEF.M.SG
           'a nice car - the nice car'
       b. *ei   fin dør - den   fin-e   dør-a*
           INDF.F.SG nice door - DEF.SG nice-DEF door-DEF.F.SG
           'a nice door - the nice door'
       c. *et   fin-t hus - det   fin-e   hus-et*
           INDF.N.SG nice-N house - DEF.N.SG nice-DEF house-DEF.N.SG
           'a nice house - the nice house'

(3.4) a. *fin-e bil-er   - de   fin-e   bil-ene*
           nice-PL car-INDF.PL - DEF.PL nice-DEF car-DEF.PL
           'nice cars - the nice cars'
       b. *fin-e dør-er   - de   fin-e   dør-ene*
           nice-PL door-INDF.PL - DEF.PL nice-DEF door-DEF.PL
           'nice doors - the nice doors'
       c. *fin-e hus   - de   fin-e   hus-a*
           nice-PL house - DEF.PL nice-DEF house-DEF.PL
           'nice houses - the nice houses'

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[24]The forms are *liten* (M), *lita* (F) and *lite* (N) (Faarlund et al., 1997:371). This adjective also happens to have a suppletive plural form: *små*.

As was mentioned in Chapter 1, the phenomenon that definiteness is expressed both on the determiner and on the suffixed article in modified definite phrases is called 'double definiteness' or 'compositional definiteness'. I follow Anderssen (2012) and use the term compositional definiteness, shortened as CD. CD is obligatory in Norwegian modified definite phrases, and neither the prenominal determiner nor the suffixed article can be omitted, as shown in (3.5).[25] Exceptions are discussed in the next section.

(3.5)   a.   *fin-e   bil-en
             nice-DEF car-DEF.M.SG
             'the nice car'
        b.   *den   fin-e   bil
             DEF.SG nice-DEF car
             'the nice car'

Compositional definiteness is not only obligatory when the noun is modified by an adjective, but also when it is modified by a numeral. An example is given in (3.6).

(3.6)   de   fem student-ene
        DEF.PL five student-DEF.PL
        'the five students'

In addition to being mandatory in modified noun phrases, CD is restricted to these phrases, and ungrammatical in non-modified phrases. The prenominal determiner cannot be used in an unmodified NP. It should be noted that the (distal) demonstrative has a morphologically identical form, but is a different lexeme (cf. Anderssen, 2006:118). In spoken language, the two can be distinguished based on prosody: the demonstrative can carry stress whereas the prenominal determiner cannot (Faarlund et al., 1997:327). This explains the difference in grammaticality between (3.7a) and (3.7b). The stress in the latter is indicated by capital letters.

(3.7)   a.   *den   bil-en
             DEF.SG car-DEF.SG.M
             'the car'
        b.   DEN   bil-en
             DEM.SG car-DEF.SG.M
             'that car'

The phenomenon CD is typically considered to consist of two components: the prenominal determiner and the suffixed article. In these constructions, the form of the adjective is also relevant; only weak adjectives can be used in the definite

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[25]Swedish and Faroese are similar to Norwegian in this respect: both languages have obligatory CD. In Icelandic, CD is not obligatory and modified definite phrases typically only contain the suffixed article. In Danish, the two elements are in complementary distribution: the suffix is used in unmodified phrases and the determiner is used in modified phrases. See Julien (2002, 2005) for an overview.

context. In most cases, the weak form of the adjective is the same as the plural inflection of the strong form (schwa, see above). Only the adjective *liten* 'little' has a specific definite form: *lille* or *vesle* (Faarlund et al., 1997:385), while the plural form is *små* (see footnote 24). In this thesis, I focus on the two morphemes that express definiteness —i.e., the determiner and the suffixed article —rather than on the use of adjectival inflection.

In this section, I have described the phenomenon compositional definiteness in standard Norwegian as a first step towards establishing the baseline. However, standard written Norwegian has not been the input to the current heritage speakers, and American Norwegian is in many respects closer to the dialects of the immigrants than to standard Bokmål Norwegian (Johannessen and Laake, 2015). The spoken dialectal varieties that more closely resemble the input of the heritage speakers are discussed in the next section.

3.1.2   Extending the baseline: the spoken varieties

There are three aspects of the spoken varieties that make the picture more complex than it seems from the written standard discussed above: the large variation in morphological forms among the different dialects, the exceptions to obligatoriness of CD, and the phenomenon of adjective incorporation. I discuss these three points below, and extend the baseline in order to incorporate these elements as well.

3.1.2.1   Morphological variation between the dialects

Many different dialects are spoken in Norway, and the two standards described in the previous section are standards only for the written language. The spoken language is not standardized, and the dialects are widely used. When it comes to definiteness marking, there is dialectal variation in the morphological forms of the markers of definiteness, as well as in the absence or presence of these markers. Here, I am mainly concerned with the former, as the latter is less relevant with respect to compositional definiteness.[26] The definition of 'baseline' that I adhere to incorporates dialectal forms as part of the baseline; it is therefore crucial to identify the possible realizations of the definite and indefinite morphemes. In this section, I do not aim to describe all dialectal variation found in Norway, but rather focus on the dialects that are relevant for the speakers of American heritage Norwegian. In addition, I establish a baseline for the group of speakers rather than for individual speakers.

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[26]As an alternative to CD, there is adjective incorporation in some Norwegian and Swedish dialects. Adjective incorporation is discussed later in this section. In addition, there are modified definite phrases in homeland Norwegian that lack the suffixed article (and resemble Danish). Many of these are name-like or fixed expressions, such as *Det hvite hus* 'the White House'. Finally, there are some dialects with doubling of indefinite determiners, e.g., *en fin en bil* 'a nice car', but this is not found in the dialects of the immigrants to the US. See Vangsnes (1999) and Delsing (1993, 2003) for more on dialectal variation in Scandinavian nominal phrases.

The work by Rødvand (2017) is extremely useful in this respect. She has established a baseline consisting of all forms (not just the standard language forms) of the indefinite determiner and definite suffixed article that could have been part of the input of the heritage speakers. This baseline is based on several sources: older descriptions of American Norwegian (Haugen, 1953; Hjelde, 1992), relevant dialect descriptions, and the *Nordic Dialect Corpus* (NDC) (Johannessen, Priestley, Hagen, Åfarli, and Vangsnes, 2009). 'Relevant dialects' in this case means the dialects of the regions where the speakers of American Norwegian are known to have ancestors from. These are mainly the regions Oppland and Buskerud in Eastern Norway (see Rødvand, 2017:61 for details, see also Section 4.5). Finally, Rødvand (2017) also used those of her participants who were found to have a complete three-gender system to establish the baseline.[27] In Table 3.2, the baseline-like realizations of the indefinite determiner and the definite singular suffixed article are given.

	Masculine	Feminine	Neuter
Indefinite determiner	ein	ei	ei, i
	in	e	e, eit
	en	i	ett, it
	n		
Definite suffix	-en	-a, -e	-et
	-in	-i, -u	-a
	-an	-o, -æ	-o
	-n	-å	

Table 3.2: Baseline forms for indefinite determiner and definite suffix, including dialect baseline. Based on Rødvand (2017:64, 76)

We see in Table 3.2 that the baseline consists of various exponents of the indefinite determiner and definite suffix, and that there are cases of syncretism. It is important to note that no dialect lacks the indefinite determiner or definite suffix, i.e., there are no zeroes in the table. This baseline is rather broad, and one might wonder whether a baseline should be more restrictive. However, it should be kept in mind that this is a baseline for the group of speakers. The table by no means expresses all forms that a single speaker of AmNo uses. In fact, Rødvand (2017:76) finds a maximum of three different forms per gender within one speaker.

It is important to notice that there is some syncretism, especially between the feminine and neuter determiners. This has not always been taken into account in previous studies on gender marking in AmNo. Although Johannessen and Larsson (2015) point out that the forms *ei, e* can also be used as neuter indefinite determiners in (many) Norwegian dialects, they do count two instances of this determiner with a neuter noun as 'non-target' (ibid:9, fn. 19). Lohndal and

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[27]Note that this methodology leads to a certain circularity, as Rødvand also admits (2017:57).

Westergaard (2016) use what they call the "non-heritage variety" (ibid:4) as the baseline, but without including the variation found in the dialects. As a result of this, they report that 10.4% of the neuter nouns appear with a feminine indefinite determiner (ibid:8). This is, as they admit, a "rather surprising" finding, because one would not expect the feminine gender to be overused. However, now that a more accurate baseline has been established by Rødvand (2017), it can be concluded that the use of *ei*, *i* or *e* with a neuter noun is actually baseline-like, since it is part of (spoken, dialectal) homeland Norwegian. Moreover, it is part of precisely those dialects that the ancestors of the heritage speakers spoke, i.e., included in the input.

Rødvand (2017) studies gender marking on singular nouns only. The baseline she established including the dialectal variation therefore only contains singular forms. For the current study, the baseline exponents of indefinite and definite plural suffixes still had to be established. I used a method comparable to Rødvand (2017) for this, and I investigated the dialects spoken in the areas Oppland and Buskerud in the NDC, and Haugen's (1953) description. The searches in NDC for indefinite and definite plural nouns resulted in many different forms, some of which were more frequent than others. In Table 3.3, the observed realizations of the indefinite plural suffixes and definite plural suffixes are shown, separated into high-frequent and low-frequent forms. A few highly infrequent suffixes are not given in the table. It is important to note that some forms are used on nouns of all genders, whereas others are mainly used on nouns of a specific gender (the zero indefinite plural, for example, is mainly used on neuter nouns). These details are left out from the table. There is a fair amount of overlap between the suffixes found in the NDC and those mentioned by Haugen (1953) as part of the AmNo language, but there are some more forms found in the NDC.

	High-frequent realizations	**Other realizations**
Indefinite plural	-er	-u*, -o
	zero	-ær*, -i*
	-a	-ar, -å
	-e	-ur
Definite plural	-an	-n, -ene, -om*
	-a	-ne, -ane, -e
		-adn*, -udn*, -en*
		-o, -æn*, -åm*
		-i, -udn*, -in*

Table 3.3: Baseline forms for indefinite and definite plural suffixes, including dialect baseline. Based on my search in the NDC, areas Oppland and Buskerud. Forms marked with an asterisk are not mentioned by Haugen (1953) as part of AmNo (p.449 for indefinite forms, p.452 for definite forms).

As was the case for the singular forms, the variation found in the plural suffixes is very large. But again, it has to be kept in mind that these are forms

that *can* be used by the speakers, and it is not expected that one speaker uses many different forms. There is some syncretism between and within the tables: some suffixes can be found as baseline forms that express more than one function. The suffix -*a*, for example, is found both as a feminine definite article, as an indefinite plural suffix (mainly on masculine nouns), and as a definite plural article (typically on masculine or neuter nouns). However, in the analysis of speakers' definiteness marking, I did not simply categorize an utterance as (non-)baseline-like based on the forms themselves, but I also took into account the particular system of the speaker. This means that it is expected that speakers distinguish between singular and plural nouns, and between indefinite plurals and definite plurals.

Since Rødvand (2017) studies gender marking, and not definiteness marking, CD is not part of her discussion. As a result, she did not establish a baseline for the definite prenominal determiners. I have established this baseline, with a methodology similar to the one described above for the plural forms: by studying the NDC in the areas Oppland and Buskerud. The number of occurrences is relatively low since prenominal determiners are not used frequently (Dahl, 2015:121), a fact that we will come back to several times, especially in Chapter 6. The baseline forms of the prenominal determiner as well as those of the (proximal) demonstrative are given in Table 3.4.

	Common (M,F)	Neuter	Plural
Determiner	den	det	de, di
	denn	dæ	dei
	dæin	re	dæi
	dænn		rei
	n		ri
	renn		ræi
Demonstrative	denne	dette	disse, desse
	denna	detta	dessa
	dænna		dæssa
	ænna		(es)sa

Table 3.4: Baseline forms for prenominal determiners and demonstratives, including dialect baseline. Based on the NDC, areas Oppland and Buskerud.

In this subsection, I have described the dialectal variation found in the different definiteness markers. The forms given in Tables 3.2, 3.3, and 3.4 show that the variation in morphological form of the definiteness exponents is quite large. I will not discuss the morphological variation further in this thesis. However, it was used in the analysis (see Section 4.2.3), where these forms were considered as part of the baseline, since they are part of the Norwegian dialects spoken by the immigrants to the US, and could be considered the input to the current speakers. In the next subsection, the baseline becomes more detailed by including those contexts in which CD is optional.

3.1.2.2 Exceptions to the rule

The second fact that makes the baseline more complex than described in Section 3.1.1 is the existence of a few systematic exceptions to the rule of CD. There are several adjectives that do not require CD; when a definite noun is modified by one of these adjectives, the prenominal determiner is optional. Anderssen et al. (2018) mention the adjectives *andre* 'other, second' and *første* 'first', and further note that the adjective *hele* 'whole' is never combined with the prenominal determiner. In addition, Julien (2005) notes that superlatives are exceptions (ibid:37) and do not require a prenominal determiner. For Swedish, a language that is very similar to Norwegian, Dahl (2015) discusses several groups of exceptions, which are listed in (3.8).

(3.8)   Adjectives with which the prenominal determiner is optional in Swedish
   a.   ordinal numerals
   b.   superlatives
   c.   the "ordinative pronouns" *första* 'first', *sista* 'last', *nästa* 'next', and *förra* 'previous'
   d.   "perspectival pronouns" such as *högra* 'right (hand)', *vänstra* 'left (hand)', *övre* 'upper', etc.
   e.   wind directions
        (Dahl, 2015:124-125)

Using the NDC, I investigated whether the exceptions in Swedish as listed by Dahl (2015) are also exceptions in Norwegian. In the Norwegian part of the corpus, I searched for the combination of these adjectives and a definite noun.[28] I deleted irrelevant hits caused by tagging errors, and all cases where the noun was a proper name or place name. In addition, all cases where the element right before the adjective was transcribed as 'uninterpretable' were deleted, since we cannot know whether there is a determiner present or not in these cases. Table 3.5 shows the results of these searches, ranking the adjectives with the highest percentage of combinations with the determiner (i.e., with CD) from top to bottom. Wind directions (listed in (3.8e)) are excluded, since the corpus contained too few examples for any conclusions.

The numbers in Table 3.5 show that CD is optional with these groups of adjectives. This corroborates the statements from Anderssen et al. (2018) and Julien (2005), and shows that the exceptions listed by Dahl (2015) for Swedish also hold for Norwegian.

However, differences can be found between the individual adjectives. Although the use of the determiner is optional with all of the investigated adjectives (except perhaps *hele* 'whole'), it seems to be preferred with superlatives (used in 71.52%) and to be slightly preferred with *siste* 'last' (used in 54.47%). For the other adjectives, the determiner seems to be dispreferred as it is used in

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[28]Besides the adjectives suggested by Dahl, 2015, I also searched for the adjective *nedre* 'lower', since this is the opposite of *øvre* 'upper'. Furthermore, since the word *eneste* 'only' is not tagged as a superlative in the corpus but does have a similar morphological form, I added this adjective to the search as well.

	Total number	Determiner	No determiner
Superlatives	460	71.52% (329)	28.48% (131)
siste	358	54.47% (195)	45.53% (163)
eneste	70	42.86% (30)	57.14% (40)
andre	478	41% (196)	59% (282)
første	541	38.63% (209)	61.37% (332)
øvre, nedre	9	33.33% (3)	66.67% (6)
neste, forrige	53	26.42% (14)	73.58% (39)
Ordinals 3-10	81	19.75% (16)	80.25% (65)
høyre, venstre	23	13.04% (3)	86.96% (20)
hele	791	0% (0)	100% (791)

Table 3.5: Results of my investigation of exceptions to the use of CD in Norwegian dialects. The adjectives listed in the table were suggested in the literature as exceptions, and therefore investigated in the Norwegian part of the Nordic Dialect Corpus.

less than half of the occurrences. In the case of ordinal numbers and the words *høyre, venstre* 'right, left', the determiner seems to be strongly dispreferred: the determiner is absent in more than 80% of the definite phrases with these adjectives. The combination of *hele* 'whole' and a prenominal determiner might even be ungrammatical, with zero cases found in a total of 791.[29] We might even discuss whether *hele* 'whole' should be classified as an adjective, or rather as a determiner-like element. For the purposes of this section, which is to establish a baseline, it suffices to state that the determiner is not used together with this item.

To illustrate the exceptions, examples are given below in (3.9-3.18). For each adjective in Table 3.5, one example from the corpus where the adjective is used without the prenominal determiner is given. The relevant noun phrase is bold-faced.

(3.9)   *det   er kanskje* **best-e**   **plass-en**   *av alt*
        that is probably best-DEF place-DEF.M.SG of all.N
        'that is probably the best place of all'
        (NDC, volda_01um)

(3.10) *men det var* **sist-e** **gang-en**   *jeg så   den   gamle*
        but that was last-DEF time-DEF.M.SG I   saw DEF.SG old.DEF

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[29]In fact, once instance that is tagged as a determiner (in the corpus) was found: *for det hele laget blir vekk for det de fleste skal....* However, this is probably a tagging error, as *det* can be analyzed as part of *for det*, which is a construction similar to *fordi* 'because'. Under this analysis, *det* is not the prenominal determiner, and there are no instances of definite phrases modified by *hele* that contain a prenominal determiner. The native speakers that I consulted consider this is a highly plausible analysis, because the phrase *det hele laget* (with CD) is ungrammatical to them.

Tromsø
Tromsø
'but that was the last time I saw the old Tromsø'
(NDC, andoeya_ma_05)

(3.11) *men det er **eneste histori-a**   jeg har*
but that is only   story-DEF.F.SG I   have
'but that is the only story I have'
(NDC, bardu_ma_03)

(3.12) *som ligger på **andre   sid-a**   av hus-et   her*
which lies   on other.DEF side-DEF.F.SG of house-DEF.N.SG here
'which lies on the other side of the house'
(NDC, karmoey_03gm)

(3.13) *og det er **først-e gang-en**   jeg har sett han*
and that is first-DEF time-DEF.M.SG I   have seen him
'and that is the first time I have seen him'
(NDC, bardu_ma_03)

(3.14) *gikk på **nedre sid-a***
went to lower side-DEF.F.SG
'(we) went to the lower side'
(NDC, sunndal_ma_01)

(3.15) *hva er **forrige   film-en**   du så på kino?*
what is previous.DEF movie-DEF.M.SG you saw at cinema
'what is the previous film you saw at the cinema?'
(NDC, kvaefjord_02uk)

(3.16) *når jeg begynte i **tredje klass-en***
when I   started in third   class-DEF.M.SG
'when I started in the third class'
(NDC, gauldal_04gk)

(3.17) *på **venstre sid-a**   av vei-en*
on left   side-DEF.F.SG of road-DEF.M.SG
'on the left side of the road'
(NDC, lakselv_03gm)

(3.18) *sol og tretti grad-er   **hele uk-a***
sun and thirty degree-INDF.PL whole week-DEF.F.SG
'sun and thirty degrees the whole week'
(NDC, kirkeness_01um)

As the speaker codes of the individual examples indicate, the exceptions are
found in different locations in Norway. Phrases with an exceptional adjective
without a prenominal determiner are furthermore used by older speakers (with
'g' in the speaker code) and younger speakers (with 'u'), as well as in the older
dialect recordings (with 'ma'). However, I have not studied whether there are
differences between dialects or generations in terms of preferences with respect

to the use of the determiner. Anecdotal evidence suggests that such differences might exist.

Given the results from Table 3.5, there appear to be quite a few exceptions to the rule of CD. Knowing about these is highly important for two reasons. In order to investigate possible change in AmNo, we need a clear baseline to compare with. The results presented in this section clarify in which cases a modified definite noun phrase without a prenominal determiner is baseline-like. Second, the fact that there are quite a few exceptions, some of which are quite frequent, could be an explanation (at least partially) to possible difficulties that heritage speakers might have with this phenomenon. I come back to the role of frequency and the exceptions in the acquisition of CD in Section 6.3.2. At the same time, it has to be kept in mind that, apart from the discussed exceptions, compositional definiteness is generally obligatory in all Norwegian dialects. I come back to this below.

3.1.2.3 Adjective incorporation

A third factor that makes it important to expand the baseline is that in some varieties of Norwegian, the adjective can be incorporated into the definite noun. In these constructions, there is no prenominal determiner and the adjective does not carry weak inflection. Since adjective incorporation is not part of the written standard, Faarlund et al. (1997) do not describe it. They only mention that it is common in the *trøndersk* dialects, which are spoken in the Norwegian region Trøndelag. Examples are given in (3.19-3.20) as an illustration.

(3.19)   *ny-prest-en*
          new-priest-DEF.M.SG
          'the new priest'
          (Faarlund et al., 1997:75)

(3.20)   *ny-bil-n*
          new-car-DEF.M.SG
          'the new car'
          Swedish (Sandström and Holmberg, 1994:81)

For the Northern Swedish varieties, the phenomenon of adjective incorporation is described more than for the Norwegian dialects (hence the Swedish example in (3.20)). Both Sandström and Holmberg (1994) and Dahl (2015) use the term adjective incorporation and claim that this is something different from the cross-linguistically very common process of adjective-noun compounding. Sandström and Holmberg (1994:83-84) distinguish adjective incorporation on the basis of two criteria: adjective incorporation only appears with definite nouns (whereas compounding applies to indefinite nouns as well), and adjective incorporation constructions can contain more than one adjective (while compounds cannot). Dahl (2015) argues that these criteria cannot be used as straightforwardly as described by Sandström and Holmberg (1994). He rather considers the two phenomena as points on a continuum.

As described by these authors, adjective incorporation is a strong competitor for CD-constructions in many Northern Swedish dialects and possibly some Norwegian dialects. In fact, some dialects seem to prefer incorporated structures that lack both the prenominal determiner and the weak adjectival inflection. Due to the difficulties of separating adjective incorporation from compounding, it is however difficult to describe the exact distribution of incorporation (Dahl, 2015). Here, I assume that the current speakers of heritage Norwegian might have had adjective incorporation in their input, since there were people from Trøndelag among those who moved to the US (see e.g., Hjelde, 1992). Instances of adjective incorporation in AmNo therefore have to be analyzed as baseline-like.

There are, however, some complicating factors. Some Northern Swedish dialects display a more "obscure" alternative to CD and adjective incorporation: there are phrases with adjectives that are not incorporated, but that nevertheless lack the prenominal determiner (Dahl, 2015:134-136). In these dialects, phrases such as those in (3.9-3.18) can be found, but they are not restricted to the adjectives listed in Table 3.5. In some of these dialects, the adjective has undergone apocope, and as a result, the weak adjective inflection has disappeared. The tonal pattern or intonation can separate these cases from adjective incorporation (Dahl, 2015:135). This raises the question whether these "obscure patterns", as Dahl calls them, can be found in Norwegian and should be considered part of the baseline. If so, they might show up in AmNo as well.

Unfortunately, very little is known about the distribution of these more obscure patterns in Norwegian. Julien (2005) observes that modified definite phrases without the determiner might be accepted in some Norwegian dialects, especially when the referent of the nominal phrase is mentioned or physically present in the speech context (ibid:33). An example is given in (3.21) below, which only seems to be acceptable when the referent of the nominal phrase is "strongly familiar" (ibid). Julien furthermore points out that these constructions are used more frequently in Swedish, and that not all speakers of Norwegian accept them. There seems to be geographical variation with respect to the acceptability of phrases such as (3.21), but their exact geographical distribution has, to the best of my knowledge, not been studied.

(3.21)   *Du kan ta   ny-e   bil-en*
          you can take new-DEF car-DEF.M.SG
          'You can take the new car'
          (Julien, 2005:32)

For the purposes of the present study, I conducted a search in the NDC for the areas Oppland and Buskerud to investigate whether modified definite phrases without the determiner (i.e., phrases like (3.21)) are used in this region. After exclusion of all tagging errors and adjectives that were already established as exceptions (see Table 3.5 above), 123 phrases were found.[30] Of these, 94

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[30]In addition, 388 phrases with an exceptional adjective were found. This indicates that these adjectives are more frequent than regular adjectives, which is also observed by Anderssen et al. (2018). I come back to this in Section 6.3.

contained the prenominal determiner (76.42%) and 29 did not (23.58%). Some of the phrases without a determiner occurred in a negative context and might be considered negative polarity items, as in (3.22a). Such phrases are known to always lack the determiner in Norwegian (Julien, 2011), see (3.22b), and they are typically interpreted as indefinite (as in the English translations).

(3.22)　a.　*det var bare vi tre　da　så var ikke så **stor-e***
　　　　　　it　was only we three then so was not　so big-DEF
　　　　　　klass-a
　　　　　　class-DEF.F.SG
　　　　　　'It was only us three then, so it wasn't a big class.'
　　　　　　(NDC, vang_01um)
　　　　b.　*Vi gikk　ikke **lang-e　tur-en**.*
　　　　　　we walked not　long-DEF trip-DEF.M.SG
　　　　　　'We didn't walk a long distance.'
　　　　　　(Julien, 2011:1)

Taken together, this suggests that the constructions found in some Northern Swedish dialects are not found in the relevant Norwegian dialects, that is, in the areas where the ancestors of the AmNo speakers typically came from. It therefore seems unlikely that the AmNo speakers have had such constructions in their input and I do not consider them part of the baseline.

So far, we have seen the current situation in standard written Norwegian (Section 3.1.1) and in the Norwegian dialects with respect to modified definite nominal phrases. It was pointed out in Section 2.1 and at the beginning of Section 3.1 that the baseline ideally includes the language of the first generation of immigrants. I discuss this in the next section, as a third step in establishing the baseline.

3.1.3　The language of the previous generations

For a fair analysis of the language of the current speakers of heritage Norwegian, it is necessary to know what their linguistic input was. This means that ideally we would like to know how the earlier generations of heritage Norwegian speakers and the original immigrants spoke. As noted in Section 2.3.2, we are in the lucky situation that AmNo has a long research tradition, and that recordings have been made of the earlier generations of speakers.

The currently most useful work for establishing how the previous generations of American Norwegians spoke is Haugen (1953). Older recordings (from Seip and Selmer, see Section 2.3.2) have not been preserved well enough. Many of the recordings made by Haugen are stored at the Text Laboratory at the University of Oslo. Most of these are not transcribed, and if they are, the transcriptions are not annotated and not searchable. This is also true for later recordings of AmNo, made by Arnstein Hjelde in the eighties and nineties, and it would be rather time consuming to study them. The discussion in this section is therefore

based on Haugen (1953), even though the language recorded by Hjelde might be a closer representation of the input of the current speakers.

In his two-volume book, Haugen describes both the sociolinguistic context of AmNo and the language of the speakers. The book is based on his fieldwork in the period 1936-1948, during which he recorded mainly first- and second-generation immigrants, plus a few third-generation immigrants. First-generation immigrants are not considered heritage speakers under the definition adopted in Section 2.1. However, some of them migrated as children and in that case, they can be considered heritage speakers. Haugen's data and descriptions give an overview of how the immigrant speakers and first-generation American-born Norwegians spoke.

The linguistic description in Haugen (1953) focuses on two aspects: the preservation of the Norwegian dialects, and the use of English or loanwords and their integration into American Norwegian. He does not describe CD and how this was used in AmNo. It might be tempting to conclude from this that CD in AmNo was at that time not different from the homeland, since Haugen does not mention observed changes. However, this would be too simplistic. Haugen focuses very little on grammatical structure in general, which is a more probable explanation for the lack of discussion of CD.

It is therefore necessary to analyze his data in order to study CD in this generation of speakers. Haugen mainly gives examples of individual words, but the book also contains a chapter with transcriptions of stories told by the American Norwegians (Haugen, 1953:479-555). The collection consists of stories told by 32 of his informants, which are presented in Norwegian and translated into English. No glosses are provided. In selecting stories from his recordings, Haugen intended that the selection in his book should be "authentic, representative, and culturally significant" (Haugen, 1953:479). He only selected stories from speakers who (under his impression) spoke in the same way during the story recording as during informal conversation (ibid), but admits that he also chose to include "those passages which were most interesting" (ibid:481). Although one might wonder how representative these stories are, they provide a valuable source of data, and I used them to investigate whether CD was used by the older generations of AmNo speakers.

In the stories, 33 modified definite phrases were found. This shows how relatively infrequent this type of phrase is, a fact which has been pointed out before (Dahl, 2015:121, see also Section 6.3.2 below). Of these modified definite phrases, 12 (36.36%) contain compositional definiteness, as in (3.23a-b),[31] and 7 (21.21%) are exceptions, in that they lack the determiner and contain one of the exceptional adjectives described in Section 3.1.2.2. An example of the latter is given in (3.23c). Ten of the phrases are cases of ellipsis, where the noun is absent. In all these, the prenominal determiner is present, as in (3.24). One of the modified definite phrases is an instance of adjective incorporation, uttered by a speaker who is described as speaking the Trønder dialect (Haugen, 1953:542),

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[31]I chose to present the examples in Bokmål standard Norwegian, rather than the partially phonetic transcription used by Haugen.

a dialect in which adjective incorporation is commonly used (see Section 3.1.2.3 above). Finally, there are three phrases (9.09%) that contain a prenominal determiner but no suffix, as in the example in (3.25).

(3.23) a. *det   gamle   hus-et*
            DEF.N.SG old.DEF house-DEF.N.SG
            'the old house'
            (Haugen, 1953:531, speaker 14D4, 2nd-generation)
        b. *den   stor-e   båt-en*
            DEF.SG big-DEF boat-DEF.M.SG
            'the big boat'
            (Haugen, 1953:537, speaker 15P1, 1st-generation)
        c. *i første   hus-et   dem hadde*
            in first.DEF house-DEF.N.SG they had
            'in the first house they had'
            (Haugen, 1953:510, speaker 11B1, 2nd-generation)

(3.24) *og jeg var den   yngst-e*
        and I   was DEF.SG youngest-DEF
        'and I was the youngest one'
        (Haugen, 1953:498, speaker 8M2, 2nd-generation)

(3.25) *de   norsk-e   folk*
        DEF.PL Norwegian-DEF folk.N.PL
        'the Norwegian people'
        (Haugen, 1953:485, speaker 4Q2, 1st-generation)

Besides these 33 modified definite phrases, the stories contain 7 instances of a phrase containing the adjective *hele* 'whole'. As expected, none of these contain the prenominal determiner (see Section 3.1.2.2). Furthermore, I found 26 demonstrative phrases of which 20 (77%) contain both the demonstrative and the definite suffix. The remaining six demonstratives contain only the demonstrative, not the suffix. Finally, four instances of a demonstrative modified phrase can be found, and all of them contain both the demonstrative and the suffix. Examples of the different types of demonstratives are given below.

(3.26) a. *denne   hest-en*
            DEM.SG horse-DEF.M.SG
            'this horse'
            (Haugen, 1953:549, speaker 20Q1, 3rd-generation)
        b. *den   tid*
            DEM.SG time
            'that time'
            (Haugen, 1953:506, speaker 10N1, 1st-generation)
        c. *dette   her god-e   norsk-e   språk-et*
            DEM.N.SG here good-DEF Norwegian-DEF language-DEF.N.SG
            mi-tt
            my-N.SG

'this good Norwegian language of mine'
(Haugen, 1953:496, speaker 6P3, 2nd-generation)

Although the available material is limited, analysis of the stories collected and transcribed by Haugen (1953) indicates several things. First, modified definite phrases are not very common, but compositional definiteness is used in these phrases in the same way as in homeland Norwegian. There are phrases without the prenominal determiner, but these are of the same kind as in homeland Norwegian, i.e., they contain one of the exceptional adjectives described in Section 3.1.2.2. In the speech of the previous generations of American Norwegians, the prenominal determiner is never left out in a way that would be ungrammatical in homeland Norwegian. From this, it can be concluded that AmNo of the older generations is similar to the homeland variety. It is interesting to note that the amount of phrases without a determiner are almost as frequent as instances of compositional definiteness.

Second, there are some utterances where the suffixed article is not present, although they are not very frequent. There are several factors that could explain these phrases. The structure with only a determiner and no suffix resembles English, so these speakers might be influenced by English. However, most of the first- and second-generation immigrants were dominant in Norwegian or very balanced bilinguals (Haugen, 1953), which makes it less expected that they would be influenced by transfer from English. The structure of these phrases is not only like English, but also like Danish. Norway was part of the Danish kingdom until 1814, and the Norwegian language has been influenced by Danish. This is especially true for the Bokmål written language. It might be the case that those immigrants who were literate in Norwegian were actually literate in Danish. Also, in the formal or high register, some fixed expressions can be found in which the Danish structure is used (see also footnote 26 above). The examples in (3.25) and (3.26b) are such fixed expressions, and these idioms were judged acceptable even by a current native speaker of Norwegian.[32] Finally, it is interesting to note that some of the phrases without the suffixed article contain an English loanword, which might have caused a more English-like structure.

In this subsection, I have discussed the language spoken by the previous generations of American Norwegians. Although the available data is limited, I showed that compositional definiteness is used by these speakers. Some of the exceptions described earlier were also found in the first generations of AmNo speakers. In addition, some structures with the determiner but without the suffixed article were found. No structures without the prenominal determiner were found except where they are grammatical in homeland Norwegian (i.e., with an exceptional adjective). Although this is not conclusive evidence, the data presented here suggest that the language of the older generations does not differ much from homeland Norwegian with respect to CD. If transcriptions of Haugen's and Hjelde's recordings become available in the future, it would be possible to conduct a more extensive analysis of the language of the previous

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[32]Janne B. Johannessen, p.c.

generations AmNo speakers, and to study language change in the heritage variety. At this moment, however, it can be assumed that there are no large differences between homeland Norwegian and the Norwegian of first-generation immigrants in the US.

3.1.4   Summary: the baseline

In this section, I have established the Norwegian baseline in three steps. First, the written standard was described in Section 3.1.1. Second, it was shown in Section 3.1.2 that this baseline has to be extended for the spoken varieties of Norwegian by including three aspects: the morphological variation in the dialects, the exceptions where the prenominal determiner is optional in modified definite phrases, and constructions with adjective incorporation. The latter can be seen as an alternative construction to CD. Finally, the language of the first generations of Norwegian immigrants to the US was analyzed (Section 3.1.3), for as far as data are available.

Together, these facts constitute a baseline with which the speech of the current speakers of American Norwegian can be compared. By including data from the previous generations of speakers, this point of comparison includes the input that the current generations received. As a result, the established baseline that I use in this thesis is as close as possible to the ideal baseline for heritage language studies (see Chapter 2).

Summarizing the baseline: compositional definiteness is obligatory, except with a restricted set of adjectives with which the prenominal determiner is optional. The suffix is obligatory, but a few instances of modified definite and demonstrative phrases without the suffix were found in the language of the previous generations of AmNo speakers. It could be possible that this is amplified in the current speakers' language, but we will see in Chapter 5 that this is not the case. As we will see there, the suffixed article is used in a stable manner in American Norwegian.

3.2   The syntactic structure of compositional definiteness

The discussion of compositional definiteness in the previous section was purely descriptive. In this section, I discuss the syntactic analysis of the Norwegian noun phrase that accounts for the baseline facts. Both the occurrence of compositional definiteness (traditionally referred to as 'double definiteness'), and the differences between the Scandinavian languages with respect to CD have received quite some attention in the field of Scandinavian syntax (Taraldsen, 1990; Delsing, 1993; Santelmann, 1993; Kester, 1993, 1996; Vangsnes, 1999; Julien, 2002, 2005; Anderssen, 2006, 2012). While Norwegian, Swedish and Faroese show CD, Icelandic and Danish do not. In this section, I mainly discuss the analyses by Marit Julien and Merete Anderssen, with a focus on Norwegian.

The fact that the prenominal determiner and the suffixed article are not in complementary distribution but rather co-occur (in those varieties that have CD),

and the fact that they occur on different sides of the adjectives, led Taraldsen (1990) to postulate two projections above the NP. In this proposal, one projection is associated with the suffixed article, located in the D-head. The other projection is associated with the prenominal determiner, located in what Taraldsen refers to as the X-head. The XP occurs above the level where adjectives are placed (Taraldsen, 1990:428), but it is unclear what the exact nature of this projection is.

Since Taraldsen (1990), it is a common assumption in Scandinavian syntax that there are two determiner-like projections: a 'low' projection below the adjective and a 'high' projection above the adjective. The low position is associated with the suffixed article, and the high position with the prenominal determiner.[33] While some of the older studies assume that the determiner is an expletive element (e.g., Delsing, 1993; Kester, 1993), it has later been argued that both elements contribute to the definite semantics of the phrase (Julien, 2002, 2005; Anderssen, 2006, 2012). In this thesis, I follow the latter analysis, and this is why I prefer the term compositional definiteness, rather than double definiteness. In Section 3.2.1, I discuss the analysis of Julien (2002, 2005), which combines syntactic and semantic arguments for the structure of Scandinavian nominal phrase she proposes. In Section 3.2.2, I discuss the analysis of Anderssen (2012), which builds on Julien's analysis, but has a different theoretical view with respect to the role of movement and spell-out.

3.2.1   The analysis of Julien (2002, 2005)

In her analysis of Scandinavian DPs, Julien (2002, 2005)[34] starts from the following assumption: when the nominal phrase is referential and the noun is not inherently referential (as with proper names), the referentiality of the phrase depends on the D-projection, and this projection must be made visible. This means that there must be phonological material in either the D-head or in Spec-DP: "the definiteness of D must have an overt manifestation" (Julien, 2002:270, 2005:14-18).[35] Julien then shows how the different Scandinavian languages use different strategies to fulfill this requirement. Here, I focus only on the analysis of Norwegian, but we will come back to her analysis of Icelandic in Section 6.1.1. In (3.27), the structure of the Scandinavian DP in Julien's analysis is given.

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[33]Most of the current theories about Scandinavian nominal syntax share this assumption, but not all. See Börjars, Harries, and Vincent (2016) for an alternative analysis within the framework of Lexical Functional Grammar.

[34]The analysis in the two studies is virtually the same, except that the book (2005) is more elaborate. I therefore often refer to them together.

[35]A similar idea is proposed by Delsing (1993).

(3.27)   The structure of Scandinavian DPs (Julien, 2005:11)[36]

```
                DP
               /  \
                   DP
                  /  \
                 D    CardP
                     /    \
                   WQP     CardP
                          /    \
                        Card    αP
                               /  \
                             AP    αP
                                  /  \
                                 α    ArtP
                                     /   \
                                   Art    NumP
                                         /   \
                                       Num    NP
                                             /\
                                              NP
                                             /\
                                              N
```
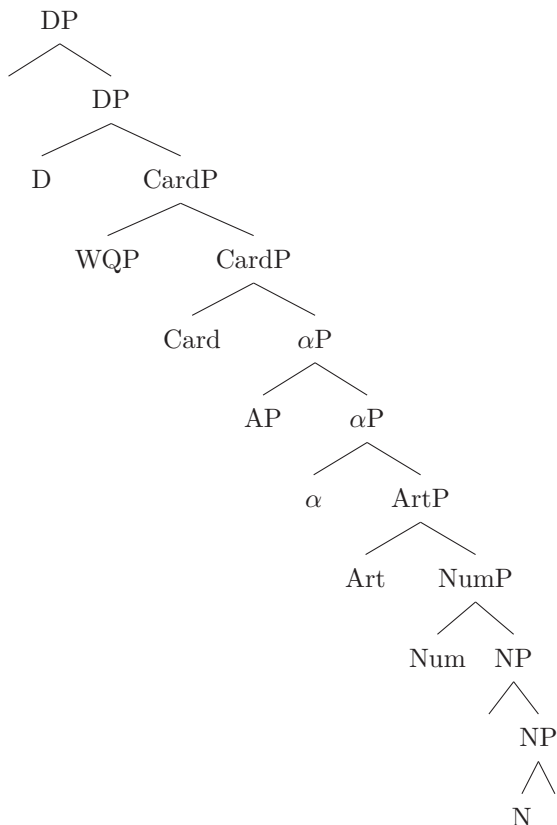
In this syntactic structure, we find the functional projection NumP on top of the NP. The head of NumP is the place where the number feature (i.e., singular or plural) is assumed to be generated and where number marking is inserted. Above NumP, we find the functional projection ArtP. The head of ArtP is the place where the suffixed definite article is generated.[37] In other words, Julien (2002, 2005) follows Taraldsen (1990) in the assumption that there must be a location for the noun to move to above the NP but below the adjective; this is ArtP. In Section 7.2, we will see that there are reasons to believe that in AmNo, there is one functional projection where the features number and definiteness are combined. For homeland Norwegian, however, I follow Julien and assume

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[36]Julien assumes two positions on top of the DP: DemP (where demonstratives are located) and QP (quantifier phrase, where strong quantifiers are located). These projections are not discussed further in this thesis.

[37]The ArtP is called nP in Julien (2005), but this is only a difference in terminology; the projection has the same function as in Julien (2002). However, the little *n* is typically used within DM for the categorizer that creates a noun from a root. To avoid confusion, I adopt the term ArtP for the projection where the suffixed article is assumed to be located, as in Julien (2002). Santelmann (1993) also uses the label ArtP for the projection between NP and DP.

NumP and ArtP to be separate projections, and they will be presented as such in this section.

Above ArtP, there are two projections that, according to Julien, are only generated when they contain lexical material. The first one is αP, the projection with adjectives in its specifier (see Julien (2002:267-268) for argumentation that adjectives are not heads). The second projection is CardP, the projection with cardinal numbers and other weak quantifiers in its specifier ('WQP', weak quantifier phrase, in Julien's terms). Since cardinals occur before adjectives in Scandinavian, CardP is located on top of αP. On top of CardP (or ArtP in unmodified phrases), the DP layer is generated. The DP is assumed to always be present, and as pointed out above, Julien assumes that the DP is crucial for a referential interpretation of the phrase.

In Taraldsen (1990), the suffixed article is taken to be in the D-head, while the prenominal determiner is assumed to be even higher (in 'X', see the start of this section). In Julien's analysis it is the prenominal determiner that is inserted in D, while the suffixed article is inserted in Art. This is, however, largely a case of terminology: in most analyses since Taraldsen (1990), there is a difference between the high and the low projection, where the low projection is the place of the suffix and the high projection of the determiner.

Julien (2002:271, 2005:12) assumes that the D-head is generated with unvalued features for number, gender, and definiteness (and case in the relevant varieties).[38] These features have to be valued by agreement with an element that has valued features. Number features are taken to be generated in Num, definiteness features in Art, and gender features are taken to be supplied by the noun (Julien, 2002:271). As a result of this requirement, N moves to Num to form a complex N+Num-head and this complex head moves to Art to form a complex Art-head. After movement, all valued features (gender, number, and definiteness) are in the complex Art-head. Now, D can agree with Art and have its unvalued features checked (Julien, 2002:272). The complex Art-head is shown in (3.28) below.

When the DP does not contain prenominal modifiers —i.e., when CardP and αP do not contain lexical material and are not generated (Julien, 2005:12) —an unmodified phrase is created. In this case, the D-head is identified by moving the whole ArtP to Spec-DP. By this movement, two requirements are fulfilled: the unvalued features of D are checked through agreement with Art, and the DP is identified by means of the overt material in Spec-DP (Julien, 2002:277, Julien, 2005:28). The result of this derivation is the phrase shown in (3.29), with the corresponding underlying structure shown in (3.30).

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[38]Like all mainland Scandinavian languages, Norwegian only uses case marking on pronouns and not on nouns. Some Norwegian dialects have preserved the dative case (see Eyþórsson, Johannessen, Laake, and Åfarli (2012) for details). However, American Norwegian has lost the dative case that is used in some of the ancestral dialects (Johannessen and Laake, 2015:302-304). I therefore do not discuss the case feature in the Norwegian nominal phrase here.

(3.28) The complex Art-head (Julien, 2002:272, 2005:5)

```
                    ArtP
                   /    \
                 Art     NumP
                /  \      /  \
             Num   Art  Num   NP
             /  \         \   / \
            N   Num        NP
                           |
                           N̶
```
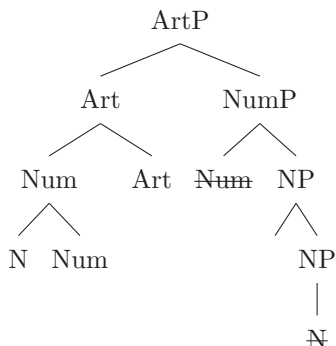
(3.29)   *hest-en*
         horse-DEF.M.SG
         'the horse'

(3.30)   Syntactic structure of (3.29)

```
                        DP
                     /      \
                  ArtP       DP
                 /    \      / \
               Art    NumP  D  ArtP̶
              /  \    /   \
           Num   Art Num   NP
           / \    |         / \
          N  Num -en       NP
          |   |            |
        hest -Ø-           N̶
```
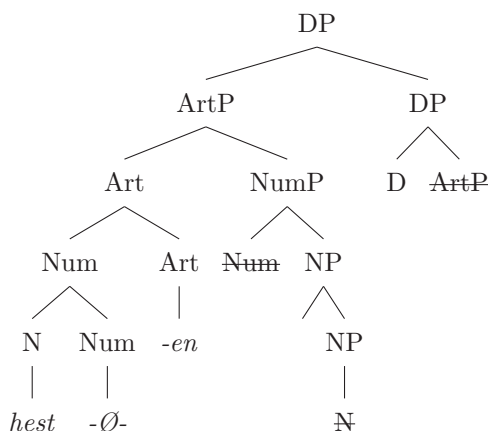
In the case of a modified phrase, there is a prenominal modifier present —i.e., either CardP or αP is generated (or both, if the phrase contains both an adjective and a numeral). Julien (2002:277, 2005:28-29) argues that when CardP or αP is present, movement of ArtP to Spec-DP is blocked by "phrasal movement blocking". Since the Card-head and the α-head agree with Art, they are the closest goal for the D-head that needs its features valued. Remember from the beginning of this section that the function of D is not only to spell out definiteness and phi-features (and case in those languages that express case), but also to enable the whole phrase to be referential (Julien, 2002:278, 2005:29-30, and see further below). But, and this is crucial for the analysis, moving the adjective or the numeral to Spec-DP does not serve to identify D and enable referentiality. The only solution is to spell out D itself as a prenominal determiner, which results in a construction with compositional definiteness (Julien, 2002:281, 2005:34). The result of this derivation is the phrase shown in (3.31), with the

corresponding underlying structure shown in (3.32).[39]

(3.31) *den   hvit-e   hest-en*
        DEF.SG white-DEF horse-DEF.M.SG
        'the white horse'

(3.32) Syntactic structure of (3.31)
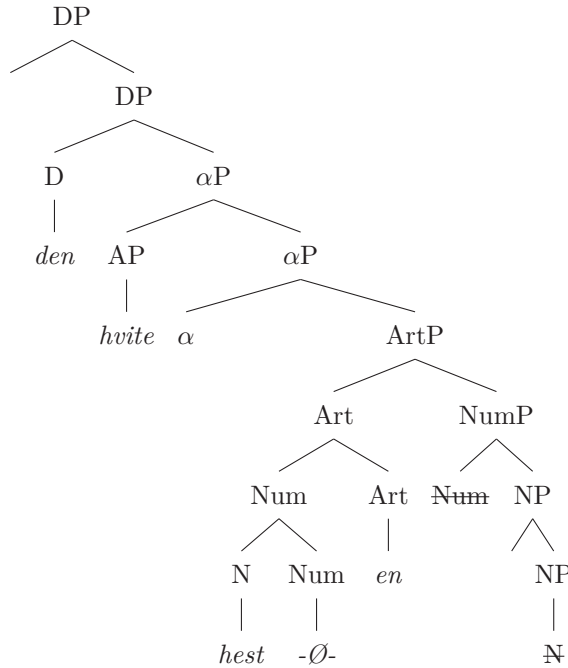
There are two arguments for the claim that D enables the phrase in (3.31) to be referential. First, there are some restricted cases in which D is left empty and there is no prenominal determiner. These are phrases that are not referential, such as vocatives (example (3.33)), and phrases that are referential by themselves because they contain (or are) a proper name (example (3.34)).[40]

(3.33) *Vet   du   ikke det, (*den) stor-e   jent-a!*
        know you not that, DEF.SG big-DEF girl-DEF.F.SG
        'Don't you know that, you big girl!'
        (Julien, 2005:32)

---

[39]There is some disagreement about where the definite adjectival inflection is located. Julien (2005:47-54) argues that the inflection is "the realisation of an element inside the adjectival projection" (ibid:49) and assumes that there is an AP-internal agreement-phrase. Anderssen (2012), on the other hand, argues that the inflection is located in the α-head. I follow Julien (2005) here, but for the sake of simplicity and ease of exposition, I do not show the complexity of AP. I therefore place the whole inflected adjective in AP.

[40]Note that in many Norwegian dialects, proper nouns are combined with a so-called proprial article, for example *han David*, literally 'he David'. I will not go into the details of this, but see e.g., Johannessen and Garbacz (2014).

(3.34) *Vesle   Anna fikk ei   dokke.*
        little.DEF.SG Anna got INDF.F.SG doll
        'Little Anna got a doll'
        (Julien, 2005:32)

Phrases without a proper name can also be referential by themselves (see Julien, 2005:32-34). As was mentioned in Section 3.1.2.3, phrases that refer to an entity that is highly familiar or present in the discourse may be used without the prenominal determiner in Swedish and possibly some dialects of Norwegian (but not those dialects relevant for this study on AmNo). In this respect, it is interesting to note that for the exceptions to CD mentioned by Dahl (2015) (see Section 3.1.2), he argues that these adjectives do not need a prenominal determiner since they are "inherently definite" (Dahl, 2015:125). Julien (2005) makes a similar observation, for *venstre* 'left' and superlatives (ibid:33,37).

The second reason to assume that the referentiality of the phrase depends on D is shown by the contrast between the two sentences in (3.35) below.[41] The sentence where both coordinated noun phrases have a phonologically overt D (example (3.35a)) refers to two different people: one professor and one father. However, the sentence where only the first NP of the coordination has an overt D (example (3.35b)) refers to one person: someone who is both a professor and a father. The same is true for the English translations.

(3.35) a. *den   ung-e   professor-en   og den   omsorgfull-e*
           DEF.SG young-DEF professor-DEF.SG and DEF.SG caring-DEF
           far-en
           father-DEF.M.SG
           'the young professor and the caring father'
        b. *den   ung-e   professor-en   og omsorgfull-e*
           DEF.SG young-DEF professor-DEF.M.SG and caring-DEF
           far-en
           father-DEF.M.SG
           'the young professor and caring father'
           (Anderssen, 2012:7, see also Julien, 2005:35)

The discussion above makes clear that the D-projection has a function beyond its agreement with Art. Central to Julien's (2002, 2005) analysis is the idea that the two functional projections, D and Art, both contribute to the definite meaning of the phrase. In other words, Julien employs both structural and semantic arguments to assume two determiner-like projections. In this respect, her analysis is fundamentally different from previous ones, where the determiner has often been seen as an expletive element that is only present for purely syntactic reasons (e.g., Delsing, 1993; Kester, 1996).

Julien (2002, 2005) argues that the suffixed article (i.e., the Art-head) contributes the semantic concept of specificity to the interpretation of the

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[41] Julien (2005) uses a Swedish example. In Anderssen (2012) a very similar example is provided in Norwegian, which is the example given here in (3.35).

phrase.[42] This analysis is based on definite modified NPs where the suffix is lacking without the phrase being ungrammatical. This is the case when a non-specific reading is expressed, or when the noun phrase has an abstract rather than a concrete meaning (Julien, 2005:35-39, 2002:282-283). The examples below illustrate this. In (3.36a) and (3.36b), the nominal phrases do not refer to a certain (specific) group of brutes or white men, but instead to the non-specific concepts of brutes and white men, respectively. In (3.36c), the nominal phrase does not refer to a specific and concrete school, but rather to an abstract school of thought. In all these cases, the phrase is non-specific and the definite suffix is either absent or optional.

(3.36)　a.　*de　oppfører seg　som de　verst-e　bøll-er*
　　　　　　they behave　3REFL as　DEF.PL worst-DEF brute-INDF.PL
　　　　　　'They behave like the worst brutes'
　　　　　　(Julien, 2005:36)

　　　　b.　*den　hvit-e　mann(-en)　har alltid　undertrykt*
　　　　　　DEF.SG white-DEF man-(DEF.M.SG)　has always oppressed
　　　　　　andre　kultur-er
　　　　　　other.PL culture-INDF.PL
　　　　　　'The white man has always oppressed other cultures'
　　　　　　(Julien, 2005:37)

　　　　c.　*han er en　lærer　av den　gaml-e skole(-n)*
　　　　　　he　is　INDF.M.SG teacher of　DEF.SG old-DEF school-(DEF.M.SG)
　　　　　　'He is a teacher of the old school'
　　　　　　(Julien, 2005:37)

The facts above lead Julien (2002, 2005) to conclude that both the D-projection and the Art-projection make their own semantic contribution to the definiteness of the DP. She follows (among others) Lyons (1999) in the idea that definiteness is composed of specificity and uniqueness (or inclusiveness). When I defined the concepts definite and indefinite in Section 3.1.1 above, I also pointed out that definite phrases are (often) specific and that their referent must be identifiable and unique in the context. As we have just seen, Julien argues that the Art-head attributes the feature specificity to the NP, and the D-head attributes uniqueness (Julien, 2005:38-39). I adopt this analysis here.

In this analysis, unmodified and modified phrases both express definiteness, but in different ways. In an unmodified nominal phrase like the one in (3.37a), the Art-head is spelled out as the suffixed article, which adds the feature specificity. Uniqueness is added by movement of the ArtP to Spec-DP (see the structure in (3.30) above). In a modified nominal phrase like the one in (3.37b), the Art-head and the D-head are spelled out as the suffixed article and the prenominal determiner, respectively. Both specificity and uniqueness are expressed overtly in these structures.

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[42]A similar idea is proposed by Kester (1996). It is important to keep in mind, though, that indefinite phrases can also be specific. They never contain the suffixed article, which means that we have to assume that the suffixed article expresses specificity in definite phrases.

(3.37) a. *bil-en*
            car-DEF.M.SG
            'the car'
        b. *den   fin-e   bil-en*
            DEF.SG nice-DEF car-DEF.M.SG
            'the nice car'

Julien (2005) points out that the commonly used term 'double definiteness' is unfortunate, because it suggests that "there is a certain redundancy in the construction" (ibid:35); she argues instead that each element contributes to the definite interpretation and that there is no redundancy. For this reason, Anderssen (2006, 2012) argues that compositional definiteness is a more appropriate term, and, as noted, this is the term I adopt. The next section discusses Anderssen's analysis.

3.2.2   The analysis of Anderssen (2006, 2012)

Anderssen (2006, 2012) builds on the analysis of Julien (2002, 2005) and follows Taraldsen (1990) in assuming that the Scandinavian NP contains two determiner projections. She also argues that the high projection (D) serves to express uniqueness and that the low projection (Art) expresses specificity.

There are some differences between Anderssens's analysis and that of Julien. One such difference lies in the analysis of adjectival inflection. Julien (2005) argues that the process of adjectival inflection is internal to the adjectival projection and does not take place within the αP. Anderssen (2012), on the other hand, argues that the weak, definite adjectival inflection (the *-e*, see Section 3.1.1 above) is the spell-out of the α-head. In this thesis, I follow Julien in this respect, and take adjectival inflection to be AP-internal (cf. footnote 39). However, nothing in my analysis hinges on this assumption, as my study on American Norwegian focuses on the use of the suffixed article and prenominal determiner rather than on adjectival inflection (see Section 3.1).

A second, and for my purposes more important, difference between the two analyses is found in the way they explain the difference between unmodified and modified NPs. As described in the previous section, Julien (2002, 2005) uses a movement account to explain this difference: in unmodified phrases, ArtP can move to Spec-DP, whereas in modified phrases it cannot. Anderssen (2012), however, uses a lexical insertion account within the spanning approach as an explanation.[43]

Spanning, introduced by Starke (2009) and Svenonius (2012), allows one lexical item to spell out more than one terminal node; that is, a word or morpheme can 'span' either one or several terminal nodes, which consist of semantic features (Anderssen, 2012:4-5). In other words, one lexical item can simultaneously spell out several semantic features, which do not have to be bundled by movement first.

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[43]The analysis in Anderssen (2006) is very similar to the one in Anderssen (2012), and here I mainly discuss the later work. In earlier work, Anderssen refers to spanning as "feature straddling".

In this respect, the spanning approach is different from, for example, assumptions in Distributed Morphology. Crucially, a lexical item can only span terminal nodes (features) that are adjacent to each other in the syntactic structure.

Anderssen (2012) assumes the structure of Norwegian DPs given in (3.38). It contains the same elements that we have seen in Julien's syntactic structure: two determiner-like projections with their respective associated semantic features, the noun phrase and the position for adjectives (and apparently, numerals). Just like Julien, Anderssen (2006) assumes a NumP (where grammatical number is expressed) between the NP and the projection with the specificity feature. This projection is left out in Anderssen (2012) for the sake of simplicity.

(3.38)   Representation of Norwegian DP (Anderssen, 2012:11)
          [Uniqueness] >Adjectival Projection >[Specificity] >Noun Phrase

In unmodified noun phrases, there is no adjectival projection, and the two terminal nodes Uniqueness and Specificity are adjacent. As a result, they can be spelled out by one morpheme: the suffixed article. The noun is then moved left of this morpheme, so that it is actually suffixed to the noun. The resulting structure is shown in (3.39a-b), and the spell out rule for the suffixed article is given in (3.40).

(3.39)   a.   *hest-en*
                horse-DEF.M.SG
                'the horse'
          b.   *hest-en*   ~~*hest*~~
                Noun-[Uniqueness...Specificity] ~~noun~~

(3.40)   Spell out rule for the suffixed article
          [(Uniqueness)...Specificity] ⇔ *-en, -a, -et*
          (Anderssen, 2012:13)

The rule in (3.40) could be phrased as follows: The span of the terminal nodes Uniqueness and Specificity is spelled out (i.e., phonologically realized) as the forms *-en*, *-a*, or *-et*.[44] The dots between Uniqueness and Specificity indicate that, in fact, this is not one terminal node but a span of several terminal nodes that are spelled out simultaneously. The brackets around Uniqueness indicate that this rule applies both to the spanned item of the two terminal nodes and to the singular terminal node Specificity.

In modified noun phrases, there is an AP present. The terminal nodes Uniqueness and Specificity are no longer adjacent, and as a result, they cannot be spelled out by a single morpheme (Anderssen, 2012:12). Instead, they are spelled out separately. The suffixed article still spells out the terminal node Specificity, and the noun moves to the left of it. The terminal node Uniqueness, on the other hand, is spelled out by the prenominal determiner. The resulting

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[44]This rule is of course a simplification. More specialized rules including gender and number features have to be assumed to express that, for example, *-en* expresses specificity on masculine singular nouns. For the purposes of the current study, the simplified rules in (3.40) and (3.42) suffice.

structure is shown in (3.41a-b) and the relevant spell out rules are given in (3.42) (note that (3.42a) is identical to (3.40)).

(3.41) a. *den   hvit-e   hest-en*
            DEF.SG white-W horse-DEF.M.SG
            'the white horse'
        b. *den   hvit-e hest-en   ~~hest~~*
            [Uniqueness] Adj-α noun-[Specificity] ~~noun~~

(3.42) a. Spell out rule for the suffixed article
            [(Uniqueness)...Specificity] $\Leftrightarrow$ *-en, -a, -et*
        b. Spell out rule for the determiner
            [Uniqueness] $\Leftrightarrow$ *den, det, de*
        c. Spell out rule for the weak adjectival inflection
            [α] $\Leftrightarrow$ *-e*
            (Anderssen, 2012:13)

The three spell out rules in (3.42) correspond to the elements of the phenomenon CD that were described in Section 3.1: the prenominal determiner (3.42b), the weak inflection on the adjective (3.42c), and the suffixed article (3.42a). The analysis of Anderssen (2006, 2012) accounts for the presence of all three elements in modified NPs, and at the same time, accounts for the presence of only one of them (the suffixed article) in unmodified NPs. Anderssen (2006) refers to CD as an "adjacency problem", because the phenomenon is found when the two determiners that carry uniqueness and specificity features are not adjacent, but separated by the adjectival phrase (ibid:136).

3.2.3   Summary: theoretical accounts

In Sections 3.2.1 and 3.2.2, I described two very similar syntactic analyses of compositional definiteness. These approaches argue for a similar structure of the nominal phrase: one which accounts for the difference between unmodified and modified definite phrases (i.e., why we find CD only in modified phrases). Following Taraldsen (1990), this structure contains two determiner-like projections: one below the adjectival phrase and one above the adjectival phrase.

The two accounts discussed above differ in how the difference between unmodified and modified phrases is explained. Julien's (2002, 2005) analysis involves movement, while Anderssen (2006, 2012) adopts a lexical insertion account in terms of spanning. In both analyses, the fact that AP (which is in the specifier of αP) is only present in modified phrases is crucial. In Julien's movement account, the presence of αP blocks movement of ArtP to Spec-DP. Since it is assumed that the DP layer must contain overt material, D is spelled out instead; the result is a phrase with both the prenominal determiner (in D) and the suffixed article (in Art). Alternatively, in Anderssen's account, the presence of αP interrupts the adjacency of the two features associated with the two projections (Uniqueness and Specificity). As a result, the two features

cannot be spelled out simultaneously by one lexical item, but have to be spelled out separately by the suffix and the prenominal determiner.

Accordingly, the two analyses discussed here explain differences between languages or language varieties in different ways. For Julien, the differences between the Scandinavian languages are the result of their syntactic structures; the languages fulfill the requirement of an overt DP in referential phrases in distinct ways (Julien, 2005:18). In the approach of Anderssen, variation within Scandinavian is the consequence of different lexical insertion rules.

If American Norwegian is found to differ from homeland Norwegian with respect to CD, there would thus be two ways of explaining this: as a different syntactic structure (following Julien), or as different rules of lexical insertion (following Anderssen). I present my analysis of the nominal syntax of American Norwegian in Chapter 6, where I argue that the spell-out of the definite prenominal determiner (i.e., of D) is optional in AmNo. This could be analyzed as a change in the syntactic structure —such that the requirement that D must be filled is disappeared —or as a lexical insertion rule with zero spell-out of the high projection. In other words, my analysis is in principle compatible with both the framework by Julien and that by Anderssen. In either case, the zero spell-out should not be taken to mean that the AmNo modified definite phrases have a different semantics, or are less definite, unique, or referential than their homeland Norwegian counterparts.

Importantly, Julien (2002, 2005) and Anderssen (2006, 2012) argue that the determiner and the suffixed article both carry part of the definite meaning of a definite phrase. They argue that the low definite projection expresses the feature specificity, whereas the high definite projection expresses the feature uniqueness. I adopt this analysis and assume that both elements carry some semantic meaning rather than that one is expletive.[45] We will see later in this thesis that AmNo modified definite phrases have a different form than in homeland Norwegian, but there are no indications that they have a different meaning. I will therefore assume that the semantic analysis by Julien and Anderssen can also be adopted for AmNo.

3.3   Previous research on compositional definiteness

The phenomenon of compositional definiteness has received a fair amount of attention in the field of Scandinavian nominal syntax. In the previous section, I discussed the theoretical analysis of CD that I adopt in this thesis. This section is concerned with previous research on the use of CD by different groups of speakers. In Section 3.3.1, I briefly discuss the acquisition of CD by monolingual children, bilingual children, and L2 learners. Previous work on CD in AmNo is then discussed in Section 3.3.2.

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[45]The latter position, that both the determiner and the suffixed article carry a definiteness feature, is argued for by Coppock and Engdahl (2016).

3.3.1 The acquisition of compositional definiteness

It has been pointed out by Montrul (2016) and Polinsky (2018) that it is important to know about the acquisitional process of a linguistic phenomenon when this phenomenon is studied in a heritage speaker population. It also turns out that we often find "striking similarities" between developmental patterns in children and heritage speakers (Montrul, 2016:87). Comparing children's acquisition with that of heritage speakers can shed light on the role of the factors incomplete acquisition and attrition (see Section 2.2). This is especially important for constructions that are syntactically complex and relatively infrequent in spontaneous speech, such as CD, as it may lead to additional insights about the influence of these factors in both monolingual and heritage language acquisition.

The acquisition of CD in Norwegian has been studied by Merete Anderssen (2006, 2007, 2010, 2012), who conducted a longitudinal study of three children in the Norwegian city Tromsø. In this study, Anderssen found that children acquired the definite suffix very early: it was already in place (that is, used in obligatory contexts in more than 90%) at age 2;3 (i.e., 2 years, 3 months) (Anderssen, 2007:263; 2010). The acquisition of compositional definiteness, on the other hand, takes much more time. Anderssen's data collection stopped when the children were at age 3;3, and at this time they had not yet acquired CD completely (Anderssen, 2007:264). This means that there is a gap of at least a year between the acquisition of the definite suffix and the acquisition of CD. Also in Swedish, a related language with a similar system of definiteness marking, the suffixed article is acquired (much) earlier than the determiner (Plunkett and Strömqvist, 1990; Bohnacker, 2003). I do not know of any studies on the exact age at which CD is completely acquired by monolingual children. Unfortunately, we therefore do not yet know how long after the age of 3;3 CD is in place. In Section 6.3.1, I present new data based on investigations of gender by Busterud, Lohndal, Rodina, and Westergaard (2019). We will see there that there are indications that the acquisition of CD takes several years after the age of 3;3.

There are four options for the production of a modified definite phrase: CD can be used; the prenominal determiner can be missing but the suffix present; the suffixed article can be missing but the determiner present; or both could be absent (which results in a bare phrase). All four options were attested in Anderssen's study, although with quite different frequencies. Table 3.6 shows the types of modified definite phrases used by the monolingual children in Anderssen (2012). As can be seen in the table, only 36% of the modified definite phrases contain CD. Phrases without the determiner are the most frequent type, and almost half of the modified definite phrases have this structure (49%).

Although the numbers are relatively low, some trends in the development of the children can be observed if the data are divided into two developmental periods (1;9-2;6 and 2;7-3;3). Bare phrases, with neither the suffix nor the determiner, are mainly found in the early period, whereas the majority of the structures with a determiner (phrases with CD or with only the determiner) are found in the later period. The percentage of phrases without the determiner is similar in both periods (Anderssen, 2012:22). In other words, these phrases

	Number	Percentage
Compositional definiteness	50	36%
Without the determiner	69	49%
Without the suffix	7	5%
Bare phrase	14	10%
Total	140	100%

Table 3.6: Distribution of different types of modified definite phrases in monolingual children's acquisition, age 1;9-3;3 (Anderssen 2012:22).

are not only frequent but also persistent during monolingual acquisition. Some examples of modified definite phrases without the determiner produced by monolingual children are given in (3.43).

(3.43)   a.   *Der   er lille   barn-et*
              there is little.DEF child-DEF.N.SG
              'There is the little child.'
              (Norwegian child, age 1;10) (Anderssen, 2012:24)
         b.   *Hun har gul-e   jakke-n   på*
              she   has yellow-DEF coat-DEF.M.SG on
              'She is wearing the yellow jacket.'
              (Norwegian child, age 2;7) (Anderssen, 2012:16)

Given these acquisitional data, it can be concluded that even for monolingual children, CD is rather difficult to acquire, which results in a long acquisitional process. As was pointed out in the previous chapter (Section 2.2), children receive less, and potentially different, input in a heritage language acquisition context than in a monolingual acquisition context. This means that we might expect the acquisition of CD to take even more time for heritage speakers of Norwegian —if it is acquired at all. If the heritage speakers behave like monolingual children, we might expect that they have more difficulty with the use of the prenominal determiner than with the suffix. If this is the case, it would suggest that incomplete acquisition plays a role in the use of CD by heritage speakers.

Most of the AmNo speakers were monolingual Norwegian during the first years of their lives until they started at school. However, some of them were bilingual English-Norwegian from a younger age, and many must have had some input from English early in their acquisition (see Section 2.3.3). Therefore, it is in theory possible that the AmNo speakers behave like bilingual children. Unfortunately, the available data on bilingual acquisition of CD is sparse. Anderssen and Bentzen (2013) provide a case study of one English-Norwegian bilingual child, Emma, who was recorded at age 2;7-2;10 and whose development is compared to monolingual Norwegian acquisition. Some interesting differences are found. In unmodified phrases, Emma is quite target-like, just like her monolingual peers. However, she also produces some phrases with a definite determiner instead of a

suffix, as in (3.44a), a pattern which is never attested in monolingual acquisition (Anderssen and Bentzen, 2013:88-89).

Modified definite phrases are infrequent in Emma's speech: only 18 phrases were attested. Only three of these contain CD, and they are all from the last recordings (age 2;9-2;10). Her error pattern is interesting; in most of the phrases without CD, Emma leaves out the suffixed article (10 out of 15 phrases). An example is given in (3.44b). So, just like monolingual children, Emma has difficulty acquiring CD; but unlike monolingual children, she more often leaves out the suffix than the determiner. Anderssen and Bentzen (2013) conclude that the development of Emma is not only slower than that of her monolingual peers, but also exhibits different patterns. They argue that her acquisition of Norwegian is influenced by her English, and that transfer explains the different error patterns.

(3.44)   a.   *den   musikk var ferdig*
               DEF.SG music   was done
               'The music was over'
               (bilingual child, age 2;8, target: *musikk-en*)
          b.   *den   stor ball var fort*
               DEF.SG big   ball was fast
               'The big ball was fast'
               (bilingual child, age 2;8, target *den store ball-en*)
               (Anderssen and Bentzen, 2013:89)

If AmNo heritage speakers follow the same patterns as bilingual children, we should expect to find many modified definite phrases without the suffixed article but with the determiner. That might in turn suggest that the heritage speakers are influenced by transfer from English.

There is other evidence for transfer in L2 acquisition. There is a large amount of research on the acquisition of determiners by L2 learners of English, especially by learners whose L1 does not use determiners to express definiteness. The amount of research on the acquisition of definiteness marking by L2 learners of Norwegian or Swedish (which has a similar system) is, however, rather limited. Nordanger (2017) studies the use of definiteness marking in written texts of L2 learners of Norwegian, whose L1 is either Russian or English. Since she does not elicit modified definite phrases specifically and these phrases are infrequent in spontaneous language, only a small number were produced (36 for the Russian speakers and 28 for the English speakers). In both groups, there is quite a large percentage of inaccurate modified definite phrases, where CD is not present. The English learners of Norwegian mainly used phrases with the prenominal determiner, but without the suffix, as in (3.45).[46] This phrase is similar to those found in the bilingual child, Emma (cf. (3.44b) above). The Russian learners of Norwegian, however, never used modified definite phrases that contained only the

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[46]Note that in this example, the speaker also makes an error in gender marking. The noun *pære* 'pear' is feminine, so the target-like prenominal determiner would be *den*. The example is however used to illustrate the lack of the suffixed article on the noun.

prenominal determiner. Their inaccurate phrases lacked either the determiner, or both the suffix and the determiner. Based on these error patterns, Nordanger (2017) suggests that "English learners rely on a pattern licensed by their L1" (ibid:350).

(3.45) *det*   *stjålet pære*
        DEF.N.SG stolen pear
        'the stolen pear'
        (L2 learner of Norwegian with L1 English, Nordanger, 2017:349)

Axelsson (1994) studies the noun phrase in L2 learners of Swedish, which (as previously said) has a definiteness marking system that is quite similar to Norwegian, by speakers whose L1 is Finnish, Polish, or Spanish. These languages either lack articles completely (Finnish and Polish) or only use free-standing preposed articles (Spanish, which is like English in this respect). For each L1, a low-proficiency and a high-proficiency group of speakers participated. Axelsson (1994) used oral interviews to elicit speech, which means she did not elicit modified definite phrases specifically, and these were the least frequent type of noun phrases that were found in her data (ibid: 36,38). In addition, modified definite phrases were the category with the lowest accuracy score: 21.7% for the total group of participants (Axelsson, 1994:35).

The accuracy scores on simple (i.e., unmodified) definite and modified definite phrases in Axelsson (1994) are given in Table 3.7 below. As can be seen in the table, the scores for modified definite phrases are lower than those for simple definite phrases. The difference is striking even for the speakers with a high proficiency. Phrases that require CD are thus more often non-target-like than phrases that only require the suffixed article. The four types of modified definite phrases found in monolingual children are also found in these L2 learners: phrases with CD; phrases without the determiner but with the suffix; phrases without the suffix but with the determiner; and bare phrases. However, phrases that only contained the suffixed article were the least frequent of these options: they were found in only 13.36% of the phrases (Axelsson, 1994:64).

	Simple definite		Modified definite	
	n	**%**	**n**	**%**
Low proficient	273/560	48.8%	9/54	16.7%
High proficient	504/706	71.4%	16/61	26.2%

Table 3.7: Accuracy of definite noun phrases in L2 learners of Swedish. The number of accurate (target-like) and total amount of phrases, and the percentage of target-like phrases are given for both low- and high-proficient speakers (Axelsson, 1994:41, 63).

The data from Axelsson (1994) suggest that CD is difficult for L2 speakers in general, and that the suffix is particularly hard. It is unclear whether this is related to transfer from the first language, as there does not seem to be a large

difference between the groups of speakers with different L1s. All participants had a first language without suffixed articles. In addition to making errors in modified definite phrases, they also had some difficulty with the suffixed article in simple definite phrases (Axelsson, 1994:43). Together with the data from Nordanger (2017), this suggests that the suffixed article in CD is difficult for L2 learners who do not have such an article in their first language.

In a study of noun phrase internal agreement, Jin, Åfarli, and van Drommelen (2009) elicited modified definite phrases from L2 learners of Norwegian whose L1 is English or Chinese. This study mainly focused on agreement between the determiner and the noun. They found that both groups of learners produced many non-target-like determiners. In addition, they observed that the English learners omitted the prenominal determiner in more than 50% of the contexts where it was required. This seems rather surprising in light of the findings by Nordanger (2017) and Axelsson (1994). However, it should be kept in mind that Jin et al. (2009) did not look into the use of the suffixed article, so it is unclear how often this article was omitted by the L2 learners in their study. In addition, their participants were all very proficient learners of Norwegian, so-called "end-state learners", and that has potentially influenced the results.

Summarizing the limited amount of studies on L2 acquisition of CD in Norwegian, there seems to be some evidence for transfer in these speakers. English learners of Norwegian have more difficulty with the suffix than with the determiner, as do learners who have another L1 without suffixed articles. If the AmNo heritage speakers are influenced by transfer, we would expect them to show patterns similar to those in bilingual children and English L2 learners of Norwegian, and as such to leave out the suffix rather than the determiner.

3.3.2 Compositional definiteness in American Norwegian

The collection of spontaneous speech of AmNo heritage speakers in the *Corpus of American Nordic Speech* (CANS, Johannessen, 2015a) has inspired much research on the language of these speakers. I discussed some of these studies on gender marking and possessives in Section 2.3.3. Here, I focus on the two studies on CD in AmNo: Johannessen (2015b) and Anderssen et al. (2018). Both used spontaneous speech as their data.

Johannessen (2015b) is a case study of the spontaneous speech of one AmNo speaker, called 'Daisy', who is a second-generation immigrant.[47] In her childhood home, both English and Norwegian were spoken. At the time of recording (2010), Daisy was 89.5 years old and had not spoken Norwegian for fifteen years (Johannessen, 2015b:48). Johannessen argues that Daisy's production of Norwegian is to be classified as attrited; grammatically, she is different from both homeland Norwegian and from the other speakers of heritage Norwegian. Based on her background data, and on the fact that other heritage speakers who still use the language speak more fluently, Johannessen assumes that Daisy

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[47]Daisy is a pseudonym used by Johannessen. To ensure anonymity of the speakers, CANS has speaker codes and I use those codes to refer to the speakers. In this section, I follow Johannessen (2015b) with the pseudonym Daisy for this specific speaker.

is an attrited speaker. The fact that Daisy's intonation is fluent and includes the toneme system of Eastern Norwegian dialects (according to Johannessen's assessment), is taken as further evidence for this claim, since these Eastern Norwegian dialects are the dialects Daisy was exposed to a child. Johannessen (2015b:49) concludes: "The extent to which her grammar deviates from the norm must therefore be due to lack of use", in other words, attrition.

As admitted by Johannessen (2015b), this is quite a strong claim given that we do not have any linguistic data of Daisy from earlier periods in her life. Although it is probable that Daisy's language is influenced by attrition (given the fact that she has not spoken it for many years, and by comparing her with other, more fluent speakers), there is still a possibility that some grammatical phenomena were not completely acquired in childhood.

However, putting aside the exact cause of the deviant language, it is clear that Daisy produced non-baseline-like utterances. With respect to definiteness marking, she had many non-modified noun phrases that occurred in a definite context but without the definite suffix (Johannessen, 2015b:56-57); one example is given in (3.46a). According to Johannessen, it seems as if Daisy does not "have a full grip" on the suffix (ibid). In modified noun phrases, where CD is required, many non-baseline-like utterances could be found as well. In fact, she produced hardly any well-formed instances. Moreover, Daisy used the same type of non-baseline-like phrases that we have seen before in children and L2 learners: phrases without the determiner (3.46b), phrases without the suffixed article (3.46c), and phrases without any definiteness marking. The definite inflection on the adjective is present in most cases (Johannessen, 2015b:58-59).[48]

(3.46)   a.   *mange har   vondt i   fot*
              many   have pain   in foot
              'Many have pain in their feet'
              (Daisy, baseline: *fot-en*) (Johannessen, 2015b:56)
         b.   *norsk-e   flagg-et*
              norwegian-DEF flagg-DEF.N.SG
              'the Norwegian flagg'
              (Daisy, baseline: *det norske flagget*) (Johannessen, 2015b:58)
         c.   *de   to   barn*
              DEF.PL two child
              'the two children'
              (Daisy, baseline: *de to barn-a*) (Johannessen, 2015b:58)

This is a case study of a single speaker, and Johannessen explicitly states that this speaker is different in many respects from the other AmNo speakers she has met. Anderssen et al. (2018) investigated CD and possessive structures in the spontaneous speech of all speakers available in CANS at the time of their

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[48]Johannessen (2015b) also observes that Daisy has some difficulty with gender marking and with word order, especially word order in subordinate clauses. I do not go into the details of this here, but it should be noted that CD is not the only phenomenon in which non-baseline-like production is found.

research (50 speakers). Their results clearly show that it is not only Daisy who produces deviant modified definite phrases.[49]

Out of all the modified definite phrases in the corpus, 44% do not require CD, as shown by Anderssen et al. (2018). All these cases involve exceptional adjectives discussed in Section 3.1.2.2 above. This again shows the relative frequency of grammatical phrases without the determiner. Out of all the phrases that require CD, only 39.2% are baseline-like and contain both the determiner and the suffix. Phrases without the prenominal determiner are much more frequent (47.7%) than phrases without the suffix (13.1%) (Anderssen et al., 2018). Both of these structures are also found in the children's acquisition data discussed in Section 3.3.1. In the acquisition data and in Daisy's speech, bare modified definite noun phrases were also found. Anderssen et al. (2018) do not mention this type of non-baseline-like phrase. I think, however, that this is related to their methodology and not to the actual lack of such constructions in the data (see Section 5.6).

The data from Anderssen et al. (2018) are in line with the monolingual acquisition data from Anderssen (2012): several non-baseline-like phrases are used, but phrases without the prenominal determiner are most common. Unlike with the bilingual child studied in Anderssen and Bentzen (2013), modified definite phrases without the suffixed article are not frequently used in heritage Norwegian. However, individual differences can be found in the frequency of phrases without the suffixed article. Anderssen et al. (2018) show that there is a correlation between the amount of modified definite phrases without the suffix and the type of possessive structures a speaker uses. Speakers who use more post-nominal possessives (3.47a) tend to leave out the prenominal determiner, whereas speakers who use more prenominal possessives (3.47b) are much more likely to leave out the suffixed article. In other words: there is a group of speakers who typically use the structures where Norwegian and English are similar (prenominal possessive, prenominal determiner), but there is a (larger) group of speakers who typically use the structures that differ between the two languages (post-nominal possessive, suffixed article). Anderssen et al. (2018) argue that the latter group is influenced by cross-linguistic overcorrection (see Section 2.2), whereas the former is influenced by transfer.

(3.47) a. *bil-en   min*
           car-DEF.M.SG. my.M
           'my car'
        b. *min bil*
           my.M car
           'my car'
           (Faarlund et al., 1997:264)

Anderssen et al. (2018) furthermore argue that these groups of speakers fall into different proficiency groups, and that the speakers with mainly post-nominal

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[49]Daisy is one of the 50 speakers in CANS, so she is part of the data that Anderssen et al. (2018) describe.

possessives (and phrases without the determiner) have a higher proficiency, while the speakers with many prenominal possessives (and phrases without the suffix) are less proficient. Since the speakers in CANS have never been tested on their proficiency in Norwegian, Anderssen et al. (2018) use baseline-like use of grammatical gender as a proficiency measure. I am not completely convinced that this is the best measure for proficiency, and it differs from proficiency measurements such as speech rate and vocabulary knowledge that are typically used in heritage language research (see Section 4.4 for more). No statistically significant difference in proficiency was found between the two groups of speakers, although the error counts suggest that there might be a relation (Anderssen et al., 2018:758).

In this section, I have looked at the available studies on CD in American heritage Norwegian. Both studies show that many modified definite phrases in AmNo are different from homeland Norwegian, where they would be ungrammatical (as was described in Section 3.1). Moreover, the study by Anderssen et al. (2018) shows that not all speakers behave in the same way. They suggest that different speakers are influenced by English in different ways: either by transfer or by cross-linguistic overcorrection. However, both studies are limited in their data because they use spontaneous speech, where modified definite phrases are infrequent. Of the speakers in CANS, three never produced any modified definite phrases and only five speakers produced twenty or more phrases. If only phrases where CD is obligatory are included (i.e., not those that contain an exceptional adjective and could occur without the determiner in the baseline), only two speakers produced 20 or more phrases. By using elicitation experiments, a high number of modified definite phrases could be elicited for each speaker. This has two further advantages: the system of individual speakers can be studied, and speakers can be compared more easily, since the amount of phrases per speaker is more alike. This is the main reason for using elicitation tasks in this thesis. The methodology employed is described in the next chapter. First, however, I summarize this chapter and discuss some predictions for the current study.

3.4   Summary and looking ahead

This chapter consists of three parts. In Section 3.1, I established a baseline for compositional definiteness. In homeland Norwegian, CD is obligatory in modified definite phrases, and both the suffixed article and the prenominal determiner have to be present. It was shown that in the dialects spoken by the ancestors of the current speakers, there is quite some variation in the morphological realizations of the definiteness morphemes. These dialectal forms are included in the baseline. Furthermore, I showed that there is a set of exceptions; with a restricted (but frequent) group of adjectives, the prenominal determiner can be left out. Although the available data on CD in older generations of AmNo speakers is limited, I showed in Section 3.1.3 that CD seems to be used in the previous generations as well. Phrases with an exceptional adjective were

found, but otherwise, the determiner was always present in the modified definite phrases in the first generations of AmNo speakers in the investigated sources. In addition, some phrases without the suffix were found. I therefore concluded that, apart from these occasional phrases without the suffix of a kind that occurs in homeland Norwegian as well, the language of older generation AmNo is not different from homeland Norwegian. The combination of these types of data forms the baseline —the point of comparison for the current speakers of AmNo.

In Section 3.2, the syntactic structure of CD was discussed with a focus on two recent proposals of the Scandinavian nominal phrase: Julien (2002, 2005) and Anderssen (2006, 2012). In both proposals, two determiner-like projections are assumed: one associated with the prenominal determiner, and one associated with the suffixed article. Both also argue that the two definite markers in CD are not redundant, but each contribute a part of the definite semantics. These two theories differ in their explanation of CD; whereas Julien uses a movement account, Anderssen analyzes CD as a solution to an adjacency problem. In this thesis, I adopt Julien's analysis. In Chapters 6 and 7, I propose my analysis of the AmNo nominal phrase.

Previous research on CD was discussed in Section 3.3. We saw that monolingual children have been found to need time to acquire CD and the prenominal determiner in particular. This means that we can expect to find modified definite phrases that are different from the baseline in heritage speakers with less (and potentially different) input. This is indeed what is found in the studies on the spontaneous speech of AmNo speakers; CD is used, but all speakers produce modified definite phrases that are non-baseline-like. In the current study on CD that uses elicitation experiments, we can therefore also expect to find such non-baseline-like phrases. It would be highly surprising if AmNo speakers would perform baseline-like in an experiment while they show deviations in their spontaneous speech. As we will see in Chapter 5, deviations are indeed found in the experimental data as well.

Moreover, we can expect that different patterns of deviation from the baseline will be found. In the discussed studies on monolingual acquisition, bilingual acquisition, L2 learners, and heritage speakers, phrases with CD were found alongside phrases without the determiner, phrases without the suffix, and bare phrases with neither suffix nor determiner. These four types are therefore also expected in the present study, and based on Anderssen et al. (2018), we might expect phrases without the determiner to be more frequent. However, their study also shows that individual speakers may have different patterns of modified definite phrases. In other words, variation within the group of speakers is expected, and this is, in fact, typical for any population of heritage language speakers.

Importantly, the work discussed in Section 3.3 made clear that different types of non-baseline-like modified definite phrases can have different causes. If the heritage speakers follow the same patterns as monolingual children and show a (strong) preference for phrases without the determiner, this could be interpreted as incomplete acquisition. In this case, a pattern typical for child language would be maintained in the adult heritage speakers. However, speakers influenced by

transfer from English would use many phrases without the suffixed article. This was found in bilingual acquisition, L2 learners, and some of the heritage speakers. By using elicitation experiments, studying the individual systems of speakers, and comparing the individuals, patterns of CD in AmNo might become clearer. This could lead to a better understanding of the causes of these patterns. As we will see in Chapters 6 and 7, three different patterns can be found in the data, and I argue that they each have a different explanation.

Finally, the work by Anderssen et al. (2018) raises the question of whether there is a correlation between the use of CD and proficiency. I have therefore collected proficiency data in addition to elicited production data, in an attempt to answer this question. Also, we could wonder whether the non-baseline-like phrases found in language production are restricted to production difficulty, or whether they are a reflection of the underlying grammar. The use of acceptability judgment data relates to this issue, and in Chapters 6 and 7, I argue that some of the identified patterns are the result of a grammar that is different from the baseline grammar, while others are caused by a more superficial production difficulty.

Chapter 4

Methodology

The previous chapter introduced the phenomenon of compositional definiteness, established a baseline for the present study, and discussed studies of CD in American heritage Norwegian. We saw that until now, only spontaneous speech data have been used to study CD in AmNo (in Johannessen (2015b) and Anderssen et al. (2018)). However, modified definite phrases are quite infrequent in spontaneous speech (Dahl, 2015:121). Elicitation experiments are therefore necessary in order to study the use of CD in more detail. As was pointed out in Chapter 3, elicitation experiments also allow us to study individual systems of definiteness marking. For a more complete picture of the linguistic competence of the speakers, I used several experimental techniques. These are described in this chapter.

The current speakers of American heritage Norwegian were described in detail in Section 2.3.3. They are all descendants of Norwegian immigrants to the US, and are typically third- or fourth-generation immigrants. Although they are a diverse group, they have some characteristics in common: they are elderly speakers (most of them are over 70 years old); they are generally not literate in Norwegian; and they tend to be insecure about their own abilities to speak Norwegian. These characteristics affect the type of experiments that can be used to study their linguistic competence, and influence the way fieldwork can be organized. Before I discuss the experiments used in the present thesis, I discuss the specific requirements on experimental design and fieldwork in Section 4.1.

In order to study the use of CD, I conducted two elicitation experiments which are described and discussed in Section 4.2. These experiments aimed at eliciting modified definite phrases that require CD. I used two experimental techniques: a translation task (Section 4.2.1) and a picture-aided elicitation task (Section 4.2.2). The results of these experiments shed light on the production of CD by speakers of AmNo. Within heritage linguistics, it has been pointed out that differences between heritage speakers and baseline speakers can be caused by production difficulty, or by a different underlying linguistic system (see Section 2.2). This calls for the use of comprehension data in combination with production data. In this study, I used an acceptability judgment task (AJT), which is described in Section 4.3. I pointed out in Section 3.4 that the work by Anderssen et al. (2018) raises questions about the linguistic proficiency of the speakers. The two proficiency measurements that I used are discussed in Section 4.4. This chapter ends with a description of the group of participants in the current study in Section 4.5.

4.1 How to study this group of speakers

4.1.1 Requirements on the experimental design

To get a more diverse picture of the linguistic competence of the speakers, I used two types of experiments: elicitation experiments in which they produce modified definite phrases, and experiments in which they respond to modified definite phrases. My overall focus is on the morphosyntax of CD rather than the semantic interpretation. None of the tasks therefore test interpretation. Instead, they were designed to elicit specific structures or responses to these structures.[50]

Apart from the research goals and questions, the most important factor to take into account in the design of experiments is the group of participants. It might seem self-evident, but it is important to adapt to this specific population of heritage speakers in order to get useful and reliable results, and to maintain a good relationship with the speakers, who we completely rely on. Since the group of AmNo speakers is relatively small, we will need the same speakers again in future research. The fact that many speakers have participated in several data collections (see Section 4.1.2 below) indicates that the research group has succeeded in maintaining a good relationship with them.

Related to this point, data collection in general, and linguistic experiments in particular, should be done in a relaxed atmosphere. Speaking Norwegian is already a demanding task for the heritage speakers because it is not their dominant language. Putnam et al. (2018) point out that experimental tasks are "challenging and cumbersome" (ibid:265) for the elderly speakers of moribund heritage languages in general, and the AmNo speakers are no exception. Therefore, a relaxed atmosphere in which there is little pressure on them to 'perform' is important. Researchers should not ask too much from the speakers, and this applies to both the content and procedure of a specific experiment as well as to the length of a recording session.

The first characteristic of these speakers that has to be taken into account in experimental design is the fact that most of them are illiterate in Norwegian, or can only read a little Norwegian. Consequently, all experiments have to be conducted orally. A complicating factor is that some speakers experience hearing problems (as a result of age), which means that oral experiments can be difficult to administer. Related to illiteracy is the fact that these speakers do not know standard (written) Norwegian, or dialects other than those they grew up with (see Section 2.3.3). As a result, the researchers will have to try to adjust their spoken language to the dialect of the heritage speaker.

A second characteristic that is relevant is the high age of the speakers. The age of the speakers, combined with the fact that many of them have not spoken Norwegian regularly for years, has to be taken into account to ensure that the experiments are not too demanding for the speaker. An experiment

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[50]In some cases, studying interpretation can give information about the internal grammar of the speaker. Examples are the study of active versus passive clauses, subject versus object relative clauses (e.g., Polinsky, 2011), and generic versus specific noun phrases (e.g., Montrul and Ionin, 2012).

should not take too much time, and a session should not include too many experiments. Furthermore, experiments should not rely heavily on memory or involve complex and long instructions. Finally, a result of advanced age is that reaction times become slower (Marinis, 2010:144). In the present study, no experiments involving reaction times have been conducted. Rather, the experiments were designed so that instructions were repeated when necessary and speakers were encouraged to take their time.

Although the heritage speakers are in general eager to talk Norwegian, they are at the same time also insecure about their own abilities to do so. Especially when they feel that they have to perform or do something 'right', they might feel uncomfortable and nervous (see also Polinsky, 2018:79). Therefore, it is preferable if experiments are presented as a language game, and contain some fun elements. In the experiments used in the present study, stories or pictures were used as such fun elements. Furthermore, it was made explicit in the instructions that there were no correct or incorrect answers. Another factor that can make an experiment feel like a test is the use of special equipment. I therefore did not use equipment other than a laptop. The use of, for example, eye-tracking equipment or EEG-equipment would, however, have been very difficult. Not only because it would result in a heavily experimental atmosphere, but also because such equipment is typically not suitable for transporting, and is expensive and time consuming to use.

The factors mentioned above were all taken into account in designing the experiments described below. The experiments were conducted on two fieldwork trips to the Midwest of the US, one in the fall of 2016 and one in the summer of 2018. The fieldwork is discussed in the next section.

4.1.2 The fieldwork situation

As we saw in Section 2.3.2, there is a long research tradition on American Norwegian. The most recent period of fieldwork started in 2010 and is led by Janne Bondi Johannessen from the University of Oslo. To recruit Norwegian speakers, the researchers placed advertisements in American Norwegian magazines asking for people who grew up speaking Norwegian and whose ancestors came to the US prior to 1920. They received quite a number of responses, and these initial AmNo speakers also brought them in contact with more speakers.

During the fieldwork trips, two types of recordings were made: individual interviews with the speakers, conducted by a Norwegian researcher; and conversations between two AmNo speakers. The interview is partially a sociolinguistic background questionnaire, with questions including, for example, the generation of immigrant of the speaker, the region of origin of their Norwegian ancestors, and whether they can read and write Norwegian. Partially, the interview is meant to make the participant speak Norwegian, which means that questions about the childhood of the speaker, their jobs, and how they relate to Norwegian traditions and the Norwegian language are discussed. In the recordings of conversation, the speakers who were talking together usually

knew each other. The researchers suggested some topics to talk about, but in general did not interrupt these conversations. Both types of recording could be considered spontaneous or semi-spontaneous language. The interviews and conversations were recorded on audio and on video, and recordings from 2010 and 2011 have been included in CANS (Johannessen, 2015a).

In more recent years, new fieldwork trips have been organised. During these trips, both AmNo speakers who had been recorded on previous trips as well as new speakers have been recorded. In addition, some specific linguistic tasks have been used to collect data. I have been a part of two of these fieldwork trips. In the fall of 2016, the fieldwork included five researchers who visited seven places in three US states: Wisconsin, Minnesota, and North-Dakota.[51] Together, we recorded a total number of sixty speakers. In previous fieldwork trips (that I did not take part in), speakers had often been recorded at their homes. During this trip, however, most speakers came to a central place in the village like the local school or church, and only a few were visited in their home. The speakers came to the location in groups, but were recorded individually by one or two researchers. Both audio and video equipment were used for the recordings.

Each recording session started with a (semi-)spontaneous conversation between the researcher(s) and the heritage speaker. In addition to the usefulness of conversation data in itself, it allowed the speakers to 'warm up' in their heritage language, which is important for heritage speakers (Polinsky, 2018:82). This is best done in spontaneous speech rather than during an elicitation experiment. The heritage speakers typically do not speak Norwegian often, and some hardly use it in their daily life. In order to let the speakers get more used to speaking Norwegian and become familiar with the researcher, the sessions started with spontaneous conversation, lasting approximately twenty to thirty minutes. This was followed by one or several experiments. Not all of the speakers participated in all experiments for reasons of time and to ensure that we did not ask too much from them. There were short breaks between the experiments, and the speakers could indicate whether they were willing to continue recording. The length of the recording sessions varied, but most of them were no longer than ninety minutes.

Twenty of the speakers who were recorded during the fieldwork trip in 2016 had not been recorded before. For these speakers, we recorded more spontaneous speech, including the background interview mentioned above. As a result, these speakers participated in fewer experiments.

In 2018, the fieldwork trip was shorter and I was the only researcher.[52] During this trip, I recorded a subgroup of the speakers from 2016. I recorded 21 speakers in total, either at their homes or at a central location in the community. As with earlier fieldwork trips, each recording session started with a (semi-)spontaneous

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[51]The fieldwork team consisted of Janne B. Johannessen, Arnstein Hjelde, Kari Kinn, Alexander Lykke, and myself.

[52]During the first days of the fieldwork, two researchers from the University of Madison-Wisconsin joined the fieldwork team. I want to thank David Natvig and Laura Moquin for their help during these days. I was accompanied by journalist and photographer Ingerid Jordal for the whole trip.

conversation in Norwegian, followed by one or several experiments. The speakers were recorded individually, although the spontaneous speech was sometimes recorded with two speakers together as a conversation between them and me. In these cases, the two speakers knew each other very well (they were either spouses or siblings), and I made sure that both of them actively participated in the conversation. The experiments were always conducted with one speaker at a time. I recorded some spontaneous conversation in English as well (although the data are not used in the present thesis), and this was always the final part of the recording session.

Both in 2016 and 2018, the speakers enjoyed the recording sessions. They were very willing to participate, and enjoyed speaking Norwegian. The recording sessions all had a relaxed and joyful atmosphere. The fact that they had enjoyed participating in the conversations and experiments in 2016 meant that they were willing to participate again in 2018. This is very important for future research and illustrates how essential it is to design the experiments and the fieldwork setting according to the requirements described above.

4.2 Elicited production experiments

To elicit modified definite noun phrases, I carried out two elicitation experiments: a translation task and an elicitation task with pictures. In both experiments, nominal phrases in which CD is not found were also elicited, so that these could be compared with modified definite phrases; I refer to the former as the control conditions throughout the thesis. The translation task is described in Section 4.2.1, and the picture task is described in Section 4.2.2. The way the data from these experiments were analyzed is discussed in Section 4.2.3.

4.2.1 Translation task

In the translation task, participants were asked to translate sentences from their dominant language to the heritage language, i.e., from English to Norwegian. The experiment was a collaboration project of three researchers, all studying different linguistic constructions.[53] The experiment was therefore designed in such a way that the sentences contained relevant structures for all researchers. The experimental items of the other studies were the fillers for the current study on CD, and vice versa.

In order to make the task more enjoyable and reduce the testing atmosphere, the task was presented as a story-telling game. The task was designed in the form of a story about three children who live on a farm and go looking for a lost horse. The topics farm life and family life were chosen to accommodate the concepts that most participants would be familiar with. Norwegian was used in the childhood homes of all speakers. Most of them lived on farms during their childhood, and many worked as farmers in their adult lives as well. Therefore,

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[53]Besides CD, the investigated phenomena were: bare noun phrases (Kari Kinn), word order, and verbal inflection (Alexander Lykke).

the topics family and farm life are familiar to the speakers, as is the vocabulary related to these topics.

The story had a total length of 71 sentences. The task started with a 'training phase' of three relatively easy sentences, used to make the participants familiar with the procedure of the task. Responses to these sentences have not been analyzed. After the story, there were two final sentences used to end the story in a nice way. These have not been analyzed either. The full text of the experiment can be found in Appendix A.

The procedure during the task was as follows. The English sentences were prompted one at the time by the researcher, and the participant translated each sentence into Norwegian. The whole task was conducted orally. However, a few participants turned out to have hearing problems that made using an oral input sentence (almost) impossible. These participants could read the sentences while the researcher read them aloud. Since the task was about linguistic competence rather than memory, the participants could hear the English sentence as many times as necessary for them. Sometimes, parts of (long) sentences were repeated on their own.

To create the story, the research team needed to decide what lexical items to use in the sentences. With respect to the current project, nouns had to be chosen that would both fit in the story and could be expected to be known by (most of) the heritage speakers. To select these nouns, I created frequency lists from CANS, i.e., lists of nouns that are used by the population of heritage speakers. From these frequency lists, high frequency words that fit in the story were selected. I included nouns in all three genders, as well as plural forms. For my purposes (the elicitation of CD), 62 nominal phrases were created from 13 different nouns. The lexical nouns used to create the experimental items are listed in Table 4.1 below. For each noun, it is indicated what the gender of the noun is, whether it was elicited as singular or plural, and in which type of nominal phrase it was elicited.

The 62 test items are divided over four NP types: indefinite NPs (n=10), definite NPs (n=35), modified indefinite NPs (n=5), and modified definite NPs (n=12). The latter are contexts where CD is required, the other three contexts are used as control conditions. In total, 12 modified definite structures, i.e., phrases that require CD, were elicited.[54] Due to the story-nature of the experiment, some items were elicited several times in the same condition, since they refer to the protagonists of the story. These very frequent noun phrases are *the horse*, *the children* and *apples* in several contexts. To illustrate, an example of each NP type is given below. The examples have English prompt sentence with the test item bold-faced in (a), and the Norwegian target for the test item in (b).

(4.1)   Indefinite NP

    a.   Emma is picking **flowers**, and doesn't answer right away. (line 24)

    b.   target: *blomst-er*, flower-INDF.PL

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[54]In addition, two phrases were elicited in which CD is not obligatory because the adjective used is *andre* 'other'; this is one of the exceptions discussed in Section 3.1.2.2. These phrases were excluded from the analysis.

Noun	Gender	Number	NP type
barn, 'child'	N	PL	def, mod-indef, mod-def
blomst, 'flower'	M	PL	indef, mod-def
eple, 'apple'	N	PL	indef, def, mod-indef, mod-def
gjerde, 'fence'	N	SG	def, mod-def
gutt, 'boy'	M	PL	def, mod-def
gård, 'farm, barn'	M	SG	def
hest, 'horse',	M	SG	indef, def, mod-def
hus, 'house'	N	SG	def
jente, 'girl'	F	SG	mod-indef, mod-def
kjøkken, 'kitchen'	N	SG	def, mod-def
ku, 'cow'	F	SG	def, mod-indef
mais, 'corn'	M	SG	mod-def
vei, 'road'	M	SG	def

Table 4.1: Lexical nouns used in test items of the translation task. For each noun, the gender is given, in addition to whether it was elicited as singular or plural. It is also indicated in which type of NP the noun was elicited. NP type is either indef(inite) or def(inite), and either modified ('mod') or not.

(4.2) Definite NP
    a. **The children** go in the direction of the sound they heard. (line 32)
    b. target: *barn-a*, child-DEF.PL OR *ung-ene*, child-DEF.PL

(4.3) Modified indefinite NP
    a. Down the road, they see **a little girl**. (line 21)
    b. target: *ei lita jente*, INDF.F.SG little-F.SG girl

(4.4) Modified definite NP
    a. Ollie answers: "We found **the white horse**, just as you asked". (line 68)
    b. target: *den hvit-e hest-en*, DEF.SG white-DEF horse-DEF.M.SG

The translation task was first pre-tested in Norway with one L2 speaker of Norwegian whose L1 is English. This speaker had lived in Norway for nearly 30 years and was very proficient in Norwegian. The pre-test served two purposes. The first purpose was to estimate the length of the experiment. We knew that the heritage speakers would be far less proficient than the speaker in the pre-test. Since we did not want to exceed a testing time of 30 minutes, we did not want our pre-test to exceed 10 minutes. Without having to rush, the pre-test participant finished the whole translation task within this time frame. Most AmNo participants indeed finished the test (well) within 30 minutes.

The second purpose of the pre-test was to check whether the English sentences indeed prompted the Norwegian constructions we aimed for, and whether the

English sentences were not too complex. Several problematic constructions arose, which were difficult to translate into Norwegian for the pre-test participant. None of these constructions were test items, and since we did not want to complicate the experiment more than necessary, we decided to change or remove them. One example of a changed sentence is given below. Example (4.5a) is the sentence as used in the pre-test. Since the gerund *coming* does not have a structural counterpart in Norwegian, the pre-test participant struggled to translate it. Eventually, he formulated a Norwegian sentence with a relative clause (of which the English equivalent is shown in (4.5b)). Since the construction was too complex and not a test item, it was removed in the actual test, resulting in the sentence in (4.5c).

(4.5)   a.   The cow has not heard them coming.
        b.   The cow has not heard that they came.
        c.   The cow has not heard them. (line 35)

The participant reported after the pre-test that he considered both the story and the English sentences as natural, and that he had not guessed what our focus of study was.

As noted, the pre-test participant was an L2 learner of Norwegian with a high proficiency level, and therefore not completely compatible with the American Norwegian speakers. After the first day, when four participants had completed the task, some lexical items turned out to be more problematic than we had foreseen. These were therefore changed. None of these were test items, and the changes were minor. They are listed below.

- The general terms 'animal' and 'fruit' turned out to be difficult. Therefore, 'animal' was replaced by 'horse' (twice) and 'fruit' was replaced by 'apples' and 'food' (depending on the context).

- The verb 'to agree' turned out to be difficult, since there is no direct equivalent of this verb in Norwegian. It was therefore changed to 'think'.

- The personal names used in the task were difficult. 'Ola and Per' was therefore changed to 'Ollie and Peter'. However, some later participants still had difficulties with these names, and others enjoyed the names 'Ola and Per' since they reminded them of the well-known Norwegian American comic-series *Han Ola og han Per* that used to be published in the US.

Most test items in the experiment worked as expected. However, when the participants translated the English sentences, they sometimes deviated from the expected (target) response. For example, they left out words or phrases from long sentences, they used a pronoun instead of a noun phrase, they changed the order of the subordinate clause and the main clause, and many other deviations. Also in the test items of the present study, especially the noun phrases requiring CD, not all test items worked exactly as expected. This means that the participants changed the structure of the noun phrase in their translation, so that is was no

longer a phrase requiring CD. To illustrate this, some examples are given below. The bold-faced phrases are test items for the modified definiteness context.

(4.6)   And Emma puts **the red apples** in a bucket. (line 58)
         Target: *de rød-e eple-ene*, DEF.PL red-DEF apple-DEF.PL

(4.7)   "No", **the two boys** answer at the same time. (line 5)
         Target: *de to gutt-ene*, DEF.PL two boy-DEF.PL
         Common response: *begge gutt-ene*, both boy-DEF.PL, 'both the boys'

(4.8)   And just as Ollie said, the horse jumps over **the high fence**. (line 44)
         Target: *det høg-e gjerde-et*, DEF.N.SG high-W fence-DEF.N.SG
         Common response: *fence-et*, fence-DEF.SG.N, 'the fence'

The item in (4.6) worked as expected: virtually all participants responded with a modified definite phrase to this input sentence (although not necessarily with a baseline-like phrase). The item in (4.7), however, did not work as expected; many participants uttered structures that are comparable to the English *both the boys*, or simply the definite structure *the boys*. These are in themselves interesting constructions, but cannot be analyzed as modified definite constructions with a plural noun. The item in (4.8) did not lead to the expected response either, because most of the participants left out the adjective, i.e., responded with an unmodified definite phrase. This might be due to the fact that the sentence was too long to remember completely, or to the fact that 'the fence' was also mentioned two sentences earlier. Note that most speakers also used the English loan word, but combined it with a Norwegian definiteness suffix.

There is quite a bit of variation between the different participants in how they translated the English input sentences into Norwegian. Some participants had trouble with lexical access, others with remembering the sentences, and others still seemed insecure about their own abilities. Impressionistically, there also seems to be variation between the speakers in terms of how close their speech during the task resembles their spontaneous speech. As a consequence, the results are not highly systematic, which is due to the nature of the task. However, all participants uttered modified definite noun phrases during the experiment, and since many speakers participated in the experiment, there are enough data to be analyzed (for details on the analysis, see Section 4.2.3).

Whether a translation task is the best way to test an individual's competence on a certain phenomenon is debatable. It has been argued that tasks which require meta-linguistic skills, such as acceptability judgment tasks, are difficult for heritage speakers and do not reflect their grammar properly (Orfitelli and Polinsky, 2017). The same might be true for the translation task: apart from the linguistic competence, we are also testing the translation skills of the participants. This must be kept in mind when interpreting the results, and it is important to supplement the results from the translation task with the results from other tasks. These other tasks are described in the next sections. As we will see in Section 5.3, the results from the two elicitation experiments are not very different from each other.

A second risk of the translation task is the influence from the other language, i.e., from English. The task itself might trigger transfer, because the dominant language of the participants is very present (see Matthewson, 2004). It could be difficult to separate the general influence of transfer on these speakers' grammar from transfer induced by the task design. However, the results presented in Section 5.2 indicate that transfer does not influence the structure of modified definite phrases much (although individual differences are found).

Putting these potential problems aside, there is one good reason to use this experimental technique: most participants like it and are able to carry out this task. It is an experimental design that they are somewhat used to thanks to previous work by Janne Bondi Johannessen. Also, the translation task was easily 'hidden' in the format of story-telling. The participants enjoyed the story and this led to a comfortable and relaxed atmosphere. Another advantage of this particular translation task is that its results can be used by different researchers that were on the fieldwork trip. Therefore, there was no need for a very extensive test-battery that would have made the participants tired and uncomfortable. Finally, the modified definite phrases were produced in sentences rather than in isolation; a fact which meant the elicited speech more closely resembled natural speech. In this way, the results give us information about the use of definite and indefinite forms.

4.2.2 Picture-aided elicitation task

As a second experiment, I conducted a picture-aided elicitation task, based partly on experiments by Blom, Polišenská, and Weerman (2008), and Rodina and Westergaard (2015) used in children's language acquisition research. Since the participants only have to produce nominal phrases and not whole sentences, this task might be considered easier than the translation task. In fact, the procedure of the task is very simple.

In the experiments on which this task is based, participants are shown two pictures. Both of the pictures contain the same object, but it differs in only one characteristic, for example a green and a red apple —where the differentiating characteristic is color. The participants are asked to tell what they see, which elicits the nouns in the indefinite context. Then, one of the pictures is set aside; it is associated with a puppet in Blom et al. (2008), and it disappears in Rodina and Westergaard (2015). The participants are now asked to name the one with the puppet or the one that disappeared. This elicits the noun in the definite context.

Since the present study focuses on modified definite phrases, it is necessary that the informants utter full modified nominal phrases and that neither the adjective nor the noun is omitted. In the design of the studies mentioned above, however, omission of the noun could happen easily. In fact, the experiment by Rodina and Westergaard (2015) has been conducted with a few American Norwegian heritage speakers, and they omitted the noun relatively frequently (Johannessen et al., 2016). In the present experiment, participants were therefore shown four pictures at a time (in the part that elicits CD, see below), for example

a red and a green apple and a brown and a white horse. Now, in order to answer the question 'which one disappeared?' appropriately, the participant needs to utter both the adjective and the noun.

During the experiment, the participants saw the pictures on a computer screen. In the first phase of the experiment, only two pictures were displayed on the screen, depicting two different objects (e.g., a horse and a car). This was used to elicit unmodified noun phrases in both the indefinite and the definite context. In the second phase of the experiment, four pictures were displayed on the screen: two for each object. This was used to elicit modified noun phrases in both the indefinite and the definite context.

The lexical nouns that were used as test items were selected based on two criteria: frequency and depictability. Those nouns that were used frequently in CANS and which denote depictable, concrete items were selected. Following this procedure, I selected words that could be expected to be known by the speakers. I also checked that the selected adjectives were used in the corpus. All nouns are combined with adjectives that can logically be combined with them (e.g., the noun apple was combined with the adjectives red and green, not with blue or black). As a result, all adjectives denoted color or size, depending on the noun they were combined with.

In total, 60 nouns were used. These were equally distributed over the categories of masculine (n=14), feminine (n=15), neuter (n=16), and plural (n=15) nouns.[55] The plural condition contained equal numbers of masculine, feminine, and neuter nouns, i.e., 5 of each gender. All nouns used in the picture-aided elicitation task are listed in Table 4.2.

The pictures were selected from an online, open-source clip-art database.[56] They were chosen so that the two pictures for each noun were in the same artistic style and only differed from each other in terms of the relevant adjective (i.e., color or size). For some items, only one appropriate picture was found. In these cases, I edited the color or size in Microsoft Paint to create two different pictures.

As described above, the experiment consisted of two phases: one to elicit unmodified noun phrases and one to elicit modified noun phrases. Each phase consisted of sixteen screens. I chose not to mix the factors gender and number on the screens, so each screen displayed pictures of the same category (i.e., only masculine, only feminine, only neuter, or only plural nouns). The reason for this is that plural and singular items should not be combined in the unmodified condition, since the participant might mention the numeral (contrasting, e.g., one car with two horses). If a numeral is added, however, the noun phrase is modified and hence requires CD in definite context. As a result of this design, there were four screens per condition in each phase.

Since experiments should not be too long for this group of participants (see Section 4.1.1), all nouns were used either in the first phase or in the second phase. There were two versions of the experiment, and each participant was randomly

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[55]One neuter noun was erroneously selected as a masculine noun. Since gender is not the main phenomenon under investigation, I do not think this had a major influence on the results.

[56]https://openclipart.org/

Masculine	Feminine	Neuter	Plural
ball, 'ball'	*bok*, 'book'	*bord*, 'table'	*blomst*, 'flower'
bil, 'car'	*bru*, 'bridge'	*brev*, 'letter'	*bok*, 'book'
blomst, 'flower'	*bukse*, 'trousers'	*brød*, 'bread'	*bord*, 'table'
buss, 'buss'	*dør*, 'door'	*eple*, 'apple'	*eple*, 'apple'
fisk, 'fish'	*flaske*, 'bottle'	*flagg*, 'flag'	*fly*, 'airplane'
fot, 'foot'	*geit*, 'goat'	*fly*, 'airplane'	*fot*, 'foot'
fugl, 'bird'	*hånd*, 'hand'	*glass*, 'glass'	*gulrot*, 'carrot'
gave, 'present'	*høne*, 'chicken'	*hjerte*, 'heart'	*hest*, 'horse'
gris, 'pig'	*jakke*, 'coat'	*hjul*, 'wheel'	*hund*, 'dog'
hest, 'horse'	*klokke*, 'clock'	*hus*, 'house'	*hus*, 'house'
hund, 'dog'	*mus*, 'mouse'	*jordbær*, 'strawberry'	*hånd*, 'hand'
sau, 'sheep'	*pil*, 'arrow'	*piano*, 'piano'	*høne*, 'chicken'
slede, 'sled'	*seng*, 'bed'	*skip*, 'ship'	*ku*, 'cow'
telefon, 'telephone'	*skje*, 'spoon'	*tog*, 'train'	*sau*, 'sheep'
	skjorte, 'shirt'	*tre*, 'tree'	*øye*, 'eye'
		øre, 'ear'	

Table 4.2: Nouns used in the picture-aided elicitation task. The complete list of test items created with these nouns can be found in Appendix B.

assigned to one of the two versions. The versions differed only in which nouns were elicited in unmodified NPs and which in modified NPs; the nouns that were elicited in unmodified NPs in version A were used in modified NPs in version B, and vice versa. From each participant, this experiment elicited 32 unmodified indefinite phrases, 32 unmodified definite phrases, 64 modified indefinite phrases, and 32 modified definite phrases (which require CD).

The complete list of test items for the two versions of the task can be found in Appendix B. Below, I show a few examples to illustrate the procedure and the expected target responses.

Figure 4.1 shows a screen of the phase that elicited unmodified indefinite and definite nominal phrases. The researcher (which was me in all recordings of this experiment) asked the participant what they saw, and the participant was expected to name the two pictures. The target responses are given in (4.9a-b). In the next step, one picture disappeared, and the experimenter asked which one disappeared. The participant was expected to refer to that picture with the target response in (4.9c). Then, both pictures were shown again, followed by the disappearing of the other picture. Again the participant was expected to refer to that picture, with the target response in (4.9d).

(4.9)   Phase 1: unmodified nouns. Target responses for the screen in Figure 4.1

    a.   Target 1: *en hest*, INDF.M.SG horse, 'a horse'

    b.   Target 2: *en bil*, INDF.M.SG car, 'a car'
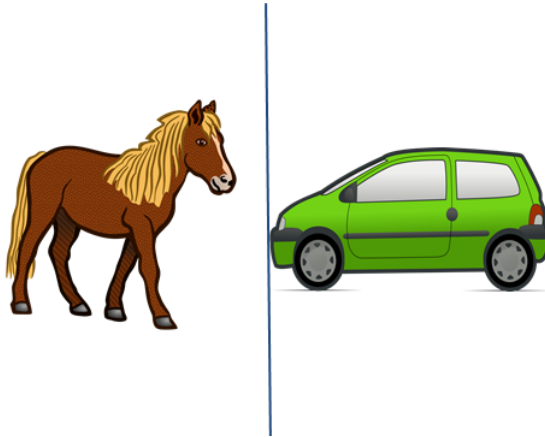
Figure 4.1: Example of a test screen used to elicit unmodified noun phrases. The nouns depicted are *hest* 'horse' and *bil* 'car' (gender=M).

    c.   Target 3: *hest-en*, horse-DEF.M.SG, 'the horse'
    d.   Target 4: *bil-en*, car-DEF.M.SG, 'the car'

The procedure of the task was immediately clear for the participants, and I did not have to repeat my questions for each screen. Most participants would (after a few screens) give the responses by themselves.

Figure 4.2 shows a screen of the phase that elicited modified nominal phrases. Just as during the first phase, I asked the participant what they saw and the participant was expected to name the four pictures. The target responses are given in (4.10a-d). Then, one picture disappeared, and I asked which picture that was. The participant was expected to refer to that picture with the target response in (4.10e). Next, all pictures were shown again, followed by the disappearing of another picture. Again the participant was expected to refer to that picture, with the target response in (4.10f). For both phases, it was randomized which picture disappeared first, but this random order was the same for all participants.

(4.10)   Phase 2: modified nouns. Target responses for the screen in Figure 4.2
    a.   Target1: *et rød-t tog*, INDF.N.SG red-N train, 'a red train'
    b.   Target2: *et blå-tt tog*, INDF.N.SG blue-N train, 'a blue train'
    c.   Target3: *et lite tre*, INDF.N.SG small.N.SG tree, 'a small tree'
    d.   Target4: *et stor-t tre*, INDF.N.SG large-N tree, 'a large tree'
    e.   Target5: *det stor-e tre-et*, DEF.N.SG large-DEF tree-DEF.N.SG, 'the large tree'
    f.   Target6: *det rød-e tog-et*, DEF.N.SG red-DEF train-DEF.N.SG, 'the red train'

With respect to the phase with modified noun phrases, some participants tended
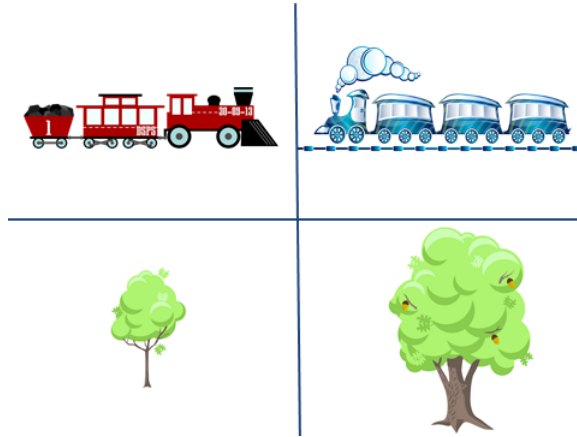
Figure 4.2: Example of a test screen used to elicit modified noun phrases. The nouns depicted are *tog* 'train' and *tre* 'tree' (gender=N).

to give responses such as "Two trains, a red one and a blue one". However, after some instruction, most participants followed the structure of the expected targets for most pictures. In a few cases, the participant did not mention the picture that disappeared, but the picture that was still visible, e.g., "the small tree" instead of (4.10e). Since the experiment was not testing memory, and since structure rather than lexical knowledge is relevant here, these responses are not problematic and were not commented on during the experiment.

After the fieldwork trip, the data collected from both experiments were analyzed. The procedures for this data analysis are described in the next section.

4.2.3 Data analysis

For both the translation task and the elicitation with pictures, the relevant noun phrases were transcribed and then categorized. Transcription was carried out with the help of a native speaker of Norwegian with experience in transcribing American Norwegian.[57] The noun phrases were transcribed on two levels: orthographic transcription and linguistic glossing of the utterances. In all examples in this and consequent chapters, I use the Bokmål standard of Norwegian.

As mentioned, only the nominal phrases were transcribed; the sentences around them were not. From the translation task, only the test items were transcribed and nominal phrases in filler sentences were not. This was done because of time limits: transcribing accurately is a very time consuming task. There were three cases in which I excluded a phrase from transcription and

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[57]I would like to thank Eirik Tengesdal from the Text Laboratory (University of Oslo) for his help and guidance in the transcriptions. His experience with transcription and knowledge of dialectal variation as well as American Norwegian have been crucial for my project.

analysis: cases where the nominal phrase was replaced by a pronoun (during the translation task), cases of noun ellipsis (as in (4.11b)), and cases where the entire phrase was in English.[58] Instances where only a part of the phrase (either the noun, adjective or determiner) was English were not excluded. Cases where the participant used a different lexical item than the expected or targeted one (as in (4.12b)) were not excluded either. The rationale behind this is that the two experiments are not meant to test lexical knowledge, but rather linguistic structure. Compositional definiteness can be studied in a phrase like (4.12b), regardless of the fact that a different noun (*båt* 'boat' instead of *skip* 'ship') or different adjective (*stor* 'large' instead of *liten* 'small') is used.

(4.11)   a.   target: *det blåe flyet* 'the blue airplane'
         b.   *den   blå-e*
              DEF.SG blue-DEF
              'the blue one'
              (sunburg_MN_12gk, PAET)

(4.12)   a.   target: *det lille skipet* 'the small ship'
         b.   *stor-e   båt-en*
              large-DEF boat-DEF.SG.M
              'the large boat'
              (sunburg_MN_04gk, PAET)

In transcribing the noun phrases, a few difficulties were encountered. Sometimes, it was simply difficult to decide exactly what the speaker said. An example of this is the difference between the English definite determiner *the* and the Norwegian neuter definite determiner *det*, in which the final -t is never pronounced. Another case is the so-called 'syllabic n': on masculine nouns ending in an -n, the definite suffixed article has the form *-n*, which makes it sometimes hard to distinguish between the indefinite form and the definite form of the same noun. In both cases, the intuitions of the native speaker transcriber together with the other utterances by the same participant were used to make a decision. For instance, if a speaker used the definite suffix in most of his definite phrases, I assumed that there was a syllabic -n in the case where it was hard to decide. Altogether, there were not many problematic cases and they were spread over the speakers.

The possibility of adjective incorporation (see Section 3.1.2.3) creates a particular difficulty. Typically, adjective incorporations have a specific intonational pattern that distinguishes them from juxtaposed adjectives and nouns. However, I encountered some phrases with an unexpected intonational pattern. These instances are difficult to analyze, as they could either be adjective incorporations with non-baseline-like intonation, or they could be two prosodic words (i.e., not an incorporation). These cases have been excluded from the analysis.[59] A few other instances where neither I nor the native speaker

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[58]Phrases from participants are accompanied by the speaker code of that participant (see Section 4.5). In addition, it is indicated whether the phrase was produced during the translation task (TT) or the picture-aided elicitation task (PAET).

[59]To my knowledge, there has not been any study of the intonational system of American

transcriber were able to make a decision on the exact transcription were also excluded. This forms only a small group of utterances.

After transcription and glossing, each uttered nominal phrase was categorized as to whether it was in accordance with the baseline that I established in Section 3.1, or not. In other words, the phrases were categorized as either baseline-like or non-baseline-like.[60] It is important to stress that this categorization is only with respect to definiteness marking. Accuracy in gender marking is not taken into account in the present study. As an illustration, consider the example in (4.13). In this example, the noun (*jordbær* 'strawberry') is neuter, and the suffixed article also has the neuter form. The prenominal determiner, however, has the common gender form (used for masculine and feminine). In other words, with respect to gender marking, this utterance is non-baseline-like. In the categorization with respect to definiteness marking, however, the utterance is baseline-like: both the prenominal determiner and the suffix are present.

(4.13) *den   stor-e   jordbær-et*
        DEF.SG large-DEF strawberry-DEF.N.SG
        'the large strawberry'
        (iola_WI_05gm, PAET)

Indefinite phrases, both unmodified and modified, were categorized along the following principles. Singular phrases were categorized as baseline-like when the indefinite determiner was present (4.14a), and plural phrases were categorized as baseline-like when the indefinite plural suffix was present (4.14b) or when an uninflected (bare) plural is allowed in the baseline (4.14c). The latter is the case for many neuter nouns (especially one-syllable ones). If either the indefinite determiner or the indefinite plural was missing, the utterance was categorized as non-baseline-like (4.14d).

(4.14) Categorization of indefinite phrases
        a. *en   hest*
            INDF.M.SG horse
            'a horse' (sunburg_MN_06gm, TT)
            baseline-like (indefinite determiner)
        b. *blomm-er*
            flower-INDF.PL
            'flowers' (sunburg_MN_06gm, TT)
            baseline-like (indefinite plural suffix)
        c. *hvit-e   bord*
            white-PL table

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heritage Norwegian. Therefore, it is not clear whether we would expect the intonational patterns in adjective incorporation to be similar to or different from the homeland patterns.

[60]In other heritage language studies, the terms 'target-like' and 'non-target-like' are often used. However, one of the aims of this thesis is to investigate American Norwegian in itself, rather than to discuss what the speakers do 'wrong' or 'inaccurate' compared to the homeland variety. I therefore prefer the more neutral term non-baseline-like.

'white tables' (westby_WI_01gm, PAET)
baseline-like (indefinite bare plural)

d. *blå-tt   luftskip*
blue-N airplane
'a blue airplane' (coon_valley_WI_06gm, PAET)
non-baseline-like (indefinite determiner missing)

I categorized unmodified definite phrases as baseline-like when the definite suffix
was present (4.15a). Utterances with only a prenominal determiner (and no
definite suffix, (4.15b)) or with compositional definiteness (4.15c) were categorized
as non-baseline-like. The latter can be seen as an overuse of CD, since CD is only
allowed in the baseline for modified phrases. In theory, the speaker could intend
a demonstrative meaning with these phrases (in which case this form would be
baseline-like). However, this is unexpected in the picture-aided elicitation task,
and the contexts provided in the translation task do not call for demonstrative
interpretations either. Therefore, constructions like these were categorized as
non-baseline-like.

(4.15)   Categorization of unmodified definite phrases

a. *vei-en*
road-DEF.M.SG
'the road' (sunburg_MN_06gm, TT)
baseline-like (definite suffixed article)

b. *det   eple*
DEF.N.SG apple
'the apples' (sunburg_MN_06gm, TT)
non-baseline-like (only prenominal determiner)

c. *the   ung-ene*
DEF.ENG child-DEF.PL
'the children' (hendricks_MN_07gk, TT)
non-baseline-like (CD in unmodified phrase)

The phrase types described so far are all control conditions: noun phrases
where CD is not possible. In modified definite phrases, CD is required in the
baseline, and this is the experimental condition. One of the questions in this
thesis is which element in CD is most vulnerable for omission or change in
AmNo. Therefore, it is important to know which form modified definite phrases
have, and I used several subcategories for this analysis. Utterances with both
prenominal determiner and suffixed article (i.e., with CD) and utterances with
adjective incorporation were categorized as baseline-like. Phrases where CD
is not obligatory (i.e., the exceptions to the rule discussed in Section 3.1.2.2)
are excluded from the analysis. The two types of baseline-like modified definite
phrases are illustrated in (4.16).

(4.16)   Modified definite phrases: baseline-like categories

a. *den   lille   hånd-a*
DEF.SG small.DEF hand-DEF.F.SG

'the small hand' (iola_WI_05gm, PAET)
compositional definiteness
b. *rød-buss-en*
red-bus-DEF.M.SG
'the red buss' (coon_valley_WI_10gm, PAET)
adjective incorporation

In previous studies on CD, three types of non-baseline-like utterances were found: phrases without the prenominal determiner, phrases without the suffixed article, and bare phrases with neither element present (see Section 3.3). Note that the bare phrases were semantically or contextually definite. In the current study, I also categorized these three types of utterances as non-baseline-like. They are illustrated in (4.17a-c) below. As we will see in the discussion of the results (Chapter 5), a fourth category of non-baseline-like modified definite phrases was also found. These are phrases where a demonstrative was used instead of a prenominal determiner, as in (4.17d), in a context where a demonstrative would not be used in the baseline.

(4.17) Modified definite phrases: non-baseline-like categories

    a. *hvit-e   hest-en*
       white-DEF horse-DEF.M.SG
       'the white horse' (westby_WI_06gm, TT)
       phrase without the determiner

    b. *alle-de   grønn epl-er*
       all-DEF.PL green apple-INDF.PL
       'all the green apples' (sunburg_MN_18gk, TT)
       phrase without the definite suffix

    c. *stor-e   skip*
       large-DEF ship
       'the large ship' (fargo_ND_09gm, PAET)
       bare phrase (suffix and determiner missing)

    d. *denne brun-e   hest-ene*
       DEM.SG brown-DEF horse-DEF.PL
       'the brown horses' (ulen_MN_01gm, PAET)
       overuse of demonstrative

This section has described the data analysis of the two elicited production experiments. The results of these experiments are presented in Chapter 5. In addition to these elicited production data, I also collected acceptability judgments and used proficiency measurements. These methods are discussed in the next sections.

4.3 Acceptability judgment task

As suggested in Section 2.2, the variation between heritage speakers and monolingual homeland speakers can be of two types. Firstly, there is variation

that can be assumed to be underlying, meaning that the two groups of speakers have a different grammar. Alternatively, the variation can be more superficial, in the sense that observed differences are caused by production difficulty that heritage speakers often have when using their non-dominant language.[61] With respect to the use of CD in AmNo, I argue in Chapters 6 and 7 that different findings are related to these different types of variation in different ways.

As linguists, we do not have direct access to the speaker's grammar. For a more complete and nuanced picture of a speaker's linguistic competence, it is therefore important to use different types of data that all provide some information about the grammar of that speaker. In order to try to separate variation in the grammar from variation caused by production difficulty, I used an acceptability judgment task (AJT) as a complement to the elicited production data. This task aimed to collect explicit responses to modified definite phrases with and without compositional definiteness. In addition, the AJT contained elements of an elicited imitation experiment, by which implicit responses to these phrases can be studied. The experimental design and the procedure are described below in Section 4.3.2. Since the use of AJTs with heritage speakers is not completely uncontroversial, I first comment on why I decided to use this technique.

4.3.1 Acceptability judgments in heritage linguistics

Acceptability judgment tasks (AJTs) are widely used with different groups of speakers, including heritage speaker populations. The procedure is simple: participants are given a sentence and have to judge whether it is an acceptable utterance in the relevant language. The judgments can be binary, in which case the sentence is judged to be either acceptable or unacceptable, or they can be scalar, when a speaker judges how acceptable the sentence is on a given scale. AJTs have been called grammaticality judgment tasks before, but are currently mostly referred to as acceptability judgments (Schutze and Sprouse, 2013).

There are several factors that make AJTs useful and sometimes necessary research tools (see Schutze and Sprouse, 2013:29-30). Firstly, they can provide data on phenomena that are (very) infrequent in spontaneous speech, and which could otherwise be hard to investigate. As noted, this is the case with compositional definiteness; modified definite phrases and especially modified definite phrases with CD are quite infrequent.

Secondly, AJTs provide explicit negative evidence, that is, evidence on what is not possible or acceptable in a language or language variety. By studying production, one collects positive evidence, but that a certain structure does not occur in production does not necessarily mean it is ungrammatical in that language (Schutze and Sprouse, 2013:29). AJTs aim to establish exactly which constructions are possible, and which are not. Therefore, they can potentially

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[61]In fact, even monolingual native speakers occasionally make production errors, and produce things they themselves consider unacceptable ("slips of the tongue", Schutze and Sprouse, 2013:29). For heritage speakers, the proportion of such production errors will naturally be higher, due to the difficulty of speaking a non-dominant language.

provide more information about the underlying grammar of speakers. Finally, as also pointed out above, responses in an AJT are not influenced by production difficulty since the participant does not have to produce language.[62]

This means that AJTs can be used to establish two things in addition to establishing whether a given structure is grammatical in a language. When a structure is not found in production data, an AJT can be used to investigate whether this lack of occurrence is the result of the ungrammaticality of the structure or of other factors. Furthermore, if an observed structure is unexpected (for example when it is produced by a heritage speaker but not by a monolingual native speaker), an AJT can help to establish whether that structure is the result of production difficulty or rather part of the speaker's grammar.

However, there is still some discussion in the field whether or not AJTs are a viable experimental technique for heritage speakers. Below, I briefly discuss this issue and explain my decision to use this method in the current study on American Norwegian.

Orfitelli and Polinsky (2017) discuss the use of acceptability judgment tasks as a method with non-native populations, i.e., L2 learners and heritage language speakers.[63] They question the use of this method and raise "certain red flags about the validity of grammaticality judgments as a measure of comprehension" in these populations (Orfitelli and Polinsky, 2017:198). It is important to note that they consider AJTs helpful to study monolingual speakers' intuitions, and that they are not against the use of AJTs in general. However, they are critical to its use with heritage speakers. They argue that AJTs should only be used when there is no other methodology available. Furthermore, they argue that AJTs, if used, should be part of a larger set of experiments, so that the results of different experimental methods can be combined.

Orfitelli and Polinsky (2017) mention three typical response patterns in AJT for heritage speakers and L2-learners. Firstly, there is inconsistency in the judgments, both within and between speakers. However, we know that the speakers can have different proficiency levels, and that heritage speakers are not completely consistent in their production either. Anderssen et al. (2018) find differences between the speakers and within speakers in the use of CD, and we will see in Sections 5.2 and 5.3 that the results from my elicitation experiments also contain such inconsistencies. Therefore, I think that this does not necessarily make AJTs more problematic than other types of tasks. In general, heritage speakers are not expected to show completely consistent linguistic behavior.

Secondly, Orfitelli and Polinsky (2017) observe differences between the results of AJTs and production data or other comprehension methods. They provide examples where heritage speakers differed from native monolingual speakers on an

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[62]It would, however, be incorrect to view AJTs as a direct reflection of a speaker's grammar. Rather, judgment data are a type of behavioral data, which can be influenced by other factors (Schutze and Sprouse, 2013:28).

[63]In Section 2.1, it was pointed out that the study of heritage languages calls the definition of 'native speaker' into question. I discussed that heritage speakers can be considered native speakers of the heritage language, and that their linguistic behavior might be different from monolingual native speakers in the homeland.

AJT, but not on other comprehension experiments. Therefore, they conclude that AJTs should not be used as a method to investigate comprehension of heritage speakers, and they suggest alternative methods such as truth-value judgment tasks, sentence-picture matching, and self-paced reading for comprehension measurement. I will come back to these alternatives shortly. However, I want to point out that the fact that different experimental techniques give somewhat different results is not necessarily problematic. Rather, results from these different experiments could complement each other and together provide a more elaborate view of the speakers' language. This is the approach taken in the present thesis.

Finally, there is a difference between heritage speakers' responses to grammatical and ungrammatical items. Heritage speakers typically accept grammatical sentences, but at the same time they tend to be reluctant to reject ungrammatical sentences. This is also known as the "yes-bias" (Polinsky, 2018:96). It should be mentioned, though, that this is especially problematic when comparing heritage speakers with monolingual speakers. It has been shown, for example in a study by Hopp and Putnam (2015), that heritage speakers distinguish grammatical from ungrammatical sentences, although they do not reject ungrammatical sentences as strongly as monolingual speakers tend to do. Polinsky (2018) suggests that the explicitness of an AJT makes it difficult for heritage speakers, and that more implicit tasks such as elicited imitation might be preferred (ibid:96). The AJT that I used contained elicited imitation, as is discussed more in Section 4.3.2 below.

Regardless of the objections to using AJTs, the method is widely used in studies of heritage languages (e.g., Montrul and Ionin (2012); Scontras, Polinsky, Tsai, and Mai (2017); Scontras, Polinsky, and Fuchs (2018)). For instance, Hopp and Putnam (2015) successfully use an oral AJT with a 6-point scale with speakers of Moundrigde Schweitzer German, a moribund variety of heritage German spoken in Kansas (US). In many respects, this population seems comparable to the American Norwegian population: the speakers are elderly, they constitute the final generation of speakers, and they are illiterate in the heritage language. This suggests that AJTs are possible with this type of speakers.

Summarizing, it is clear that on the one hand, there are good arguments against using AJTs with heritage speakers, but on the other hand, the method is widely used and seems to give results in a comparable population. While the critique of Orfitelli and Polinsky (2017) should not be disregarded, I think there are arguments to conduct an AJT studying CD in American Norwegian.

First and foremost, the goal of the experiment is to find out which of the structures used in the elicited production experiments are accepted by the heritage speakers. Orfitelli and Polinsky (2017) mainly discuss the use of AJTs to measure the comprehension of heritage speakers and to investigate differences with monolingual speakers. However, that is not the main point of my study. Rather, the goal of the AJT is to study whether the different types of modified definite phrases found in the elicited production experiments (see (4.16) and (4.17) above) are accepted by the speakers. If they are not, they might be the

result of production difficulty. In several studies, among them Hopp and Putnam (2015), heritage speakers were found to distinguish between different structures. For my goal, an AJT therefore seems useful and possible.

In fact, Orfitelli and Polinsky (2017) mention that the use of AJTs can be justified when "knowledge of ungrammaticality is directly in question" (ibid:208-209). That is exactly the case at hand here, where it is the question of whether the speakers accept the different types of modified definite phrases found in the elicitation experiments. In that sense, it is no different from the use of an AJT to study what is (un)grammatical in a given language, although it must be kept in mind that the results should be compared with other types of data in the case of heritage speakers. This is exactly what I do in the present study.

The alternative comprehension methods mentioned by Orfitelli and Polinsky (2017) are not proper alternatives in the present study. Both truth-value judgment tasks and sentence-picture matching tasks test the interpretation of sentences or constructions (cf. footnote 50 above). Here, I specifically aim to test the grammaticality of the structure, and do not focus on semantic interpretation. A self-paced reading or self-paced listening experiment could test for this as well. However, self-paced reading requires literacy skills which most of the AmNo speakers lack, and a self-paced listening task requires, among other things, an unimpaired hearing, which cannot be guaranteed with this elderly population. In addition, self-paced listening tasks are more complex to design than a simple AJT.

To conclude, an AJT seemed the best option to study the acceptability of different types of modified definite phrases. Taking the issues raised by Orfitelli and Polinsky (2017) and the specific challenges related to this population of speakers into account, I aimed to design the AJT in such a way that it would not be too long or too difficult. The results complement those from the elicited production tasks and the proficiency measurements. The design of the experiment and the experimental procedure are described in the next subsection. I evaluate this experimental design in Section 4.3.3.

4.3.2 Experimental design and procedure

The acceptability judgment task was designed as a scalar judgment task with a scale of three points. These were explained to the participants as good - neutral - bad, and should be understood as acceptable, marginal, and unacceptable. Based on previous experience with this population (Janne B. Johannessen, p.c.), I assumed that a larger scale would be unnecessarily complex. Apart from the three points on the scale, the participants were given the option "I don't know", that they could choose if they did not understand the sentence or could not make a choice. By doing this, it was ensured that the middle point of the scale was used exactly as a middle point: for sentences that are not completely (un)acceptable, rather than in cases of uncertainty.

To make the experiment easier, smiley faces were used to visualize the points on the scale. During the experiment, the participants looked at a PowerPoint presentation with three smiley faces in the middle of the screen. A green happy

face, a yellow neutral face, and a red unhappy face represented the three options on the scale. Below them, a smiley with a question mark on its head was visible, representing the "I don't know" option. Figure 4.3 below shows the screen that the participants saw during each sentence they heard during the task.
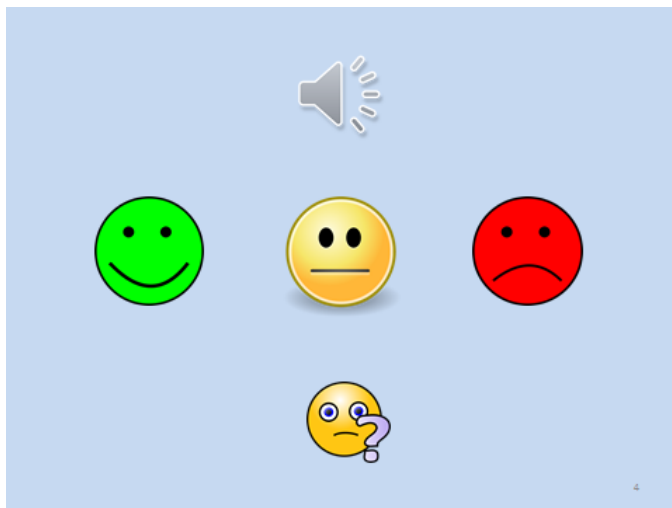
Figure 4.3: The screen during the acceptability judgment task. The audio element (i.e., the sentence to be judged) is visual at the top, and the judgment scale is depicted in the center of the screen with the options 'good', 'neutral', and 'bad'. At the bottom of the screen, the "I don't know" option is depicted.

The procedure of the task was as follows. First, the participants were given instructions about the experiment and the scale. They were told that they would hear a sentence, and that the smiley faces only represented intuitions about the way the sentence was formed, not about its content. The participants practiced the procedure first with three English sentences and then with four Norwegian sentences. They were told explicitly that they were allowed to say that a sentence was wrong (red smiley), and that we had made sentences that they would consider wrong. This was done to make sure they were willing to use all points on the scale, considering the yes-bias known from other studies of heritage language speakers (see Section 4.3.1 above).

After the training phases, the experimental sentences were played. There were 60 sentences in total, divided over two parts of 30 sentences each. The pre-recorded experimental conditions were divided equally over the two parts, so that participants could choose to do only one part. During the fieldwork, it became clear that the experiment was difficult and tiresome for the participants. Most therefore only completed one half of the experiment, which means that they only judged 30 sentences.

The experimental conditions of the AJT were designed based on the results from the elicitation experiments. These results are discussed in detail in the

next chapter, where it will become clear why certain conditions were relevant to test. For now, it suffices to know that some types of modified definite phrases that were used by participants in the elicitation experiments (see Section 4.2.3 for examples) were used in the AJT. Some extra conditions were added that tested for the exceptional adjectives discussed in Section 3.1.2.2, phrases that were modified by a numeral, and phrases with ellipsis of the noun.

Forty of the sentences in the AJT were experimental sentences testing for different types of modified definite phrases. In addition, the task contained a set of fillers, which did not contain modified definite phrases. I used two types of fillers: grammatical ones (n=10) and ungrammatical ones (n=10). The grammaticality of the fillers was based on word order: grammatical fillers showed the Norwegian SVO word order, whereas the ungrammatical fillers had SOV word order. All fillers had the required V2 word order.[64] An example of both types of fillers is given below in (4.18).

(4.18) a. *Mannen har spist mange epler.*
            the.man has eaten many   apple.PL
            'The man has eaten many apples.'
            condition: grammatical filler (SVO)
        b. *Jenta   liker bøker   å lese.*
            the.girl likes book.PL to read
            'The girl likes to read books.'
            condition: ungrammatical filler (SOV)

In addition to their role as fillers, these sentences served another purpose: they were used to check how participants reacted to sentences that were clearly (un)grammatical. In this set up, it can be tested whether the results of the AJT are valid, and whether the participants actually used the judgment 'bad' for ungrammatical sentences. In other words, these fillers make it possible to see whether the participants have a strong yes-bias, or not.

The participants listened to the sentences with headphones. During the practice phase, the volume was adjusted to the right level for each participant. All sentences were pre-recorded by a native speaker of homeland Norwegian. This speaker adapted to the AmNo dialect for many lexical items, which is necessary since the heritage speakers often have difficulty with dialects other than their own (see Sections 4.1 and 2.3.3). However, even though the stimuli were adapted to American Norwegian, the participants sometimes had problems understanding or hearing the stimuli. They could always ask to hear the sentence again, or ask for help or an explanation from the researcher. This procedure is similar to the one used by Hopp and Putnam (2015).

The participants were asked to repeat the sentence they heard, and then give their judgment. I asked for a repetition for two reasons. Because of their age,

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[64]All sentences contained a verbal complex with the inflected verb in the grammatical position (i.e., with V2). The main verb (*spist* in (4.18a) and *lese* in (4.18b)) was either in grammatical (SVO) or ungrammatical (SOV) position relative to the object or PP of the sentence.

and their difficulty with some dialects, the participants might have problems hearing the stimulus properly. By asking for repetition, I could check whether they had correctly heard the sentence, and could help them when necessary.[65] In addition, the use of repetition turns the experiment into a a combined elicited imitation experiment and acceptability judgment task. In an elicited imitation task, the participant hears a sentence containing a certain linguistic construction and is asked to repeat it. Some of the sentences are ungrammatical, and it is expected that the participant will correct this while they repeat the sentence. There has been some discussion on the use of this technique (see Vinther (2002) for an overview), but it has been used with several populations of speakers. For heritage speakers, this elicited imitation can also be useful, although the sentences that are to be repeated should not be too long (Polinsky, 2018:82-86).

Montrul, Davidson, de la Fuente, and Foote (2014) used elicited imitation in a study on grammatical gender in heritage speakers of Spanish. They also used two other tasks: a gender monitoring task, in which the participants were asked to choose whether the nominal phrase they heard was masculine or feminine, and an AJT in which the participants had to judge whether a phrase was grammatical or not. These two tasks are more explicit than the elicited imitation task, and in the latter, the heritage speakers performed on a par with monolingual native speakers and better than L2-learners of Spanish. This suggests that the explicitness of the task influences the results, and that implicit tasks such as elicited imitation might be preferable in studies with heritage speakers (Polinsky, 2018:99).

In an elicited imitation task, one can measure the accuracy of the response, response time, and whether the participants correct ungrammatical sentences. In my study, I only considered the latter. By combining the AJT with elicited imitation, I collected both explicit and implicit responses to the sentences. When a speaker rejects a sentence, this is an explicit judgment of the unacceptability of that sentence. However, if the speaker corrects a sentence and then judges it to be acceptable, this provides an implicit response that tells us that the sentence as prompted was considered ungrammatical. Both are informative, and we will see in the discussion of the results in Section 5.5 that the repetitions were necessary for the interpretation of the results.

Although the AJT aimed to study how the AmNo speakers respond to modified definite phrases in different forms, and did not have a comparison with homeland speakers as its main goal, I also carried out the task with two control groups of seven speakers each (seven heritage speakers participated in the task, see below). One control group judged the sentences in their written form. Their responses were used to check that all sentences received the expected judgment. The participants in this control group were all living in or had grown up in Oslo. They were asked to read the sentences one by one, while imagining that the sentences were being spoken to them, and then judge them on the same scale that was used for the AmNo speakers. The participants of this control group

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[65]The procedure where the participant repeated the sentence before the judgment was started after the first two speakers had participated in the task. My impression is that the task became somewhat easier for the participants when they repeated the sentences first.

completed the pen-and-paper task on their own, after instructions from me.

The second control group followed the same procedure as the heritage speakers. In other words, they heard the pre-recorded sentences and were asked to repeat and then judge them. The participants in this group were age-matched with the heritage speakers, and they were between 75 and 83 years of age. The goal of using this control group was also to check the grammaticality of the sentences. In addition, if the heritage speakers have difficulty with this task, the results from this control group can be used to see if this difficulty is related to age, or to the fact that they are heritage speakers. We will see in the discussion of the results that the two control groups gave very similar judgments, which suggests that the divergent responses of the heritage speakers are not only due to their age.

4.3.3 Evaluation of the acceptability judgment task

In this section, I briefly evaluate the AJT that I described above. There are two reasons for this. Since the use of AJTs with heritage speakers is not uncontroversial (see Section 4.3.1), it is important to evaluate whether the results obtained through this task are valid and can be used to draw conclusions. In addition, if AJTs are used with heritage speaker populations, they tend to be used with literate and young participants. The average age of the participants in Montrul and Ionin (2012), for example, was 23 years, and they were literate in Spanish, their heritage language. On the other hand, the study by Hopp and Putnam (2015) used an oral AJT with a group of elderly heritage speakers. My study can add to our knowledge about the types of experiments and designs that can be used with different populations of (heritage) speakers.

In general, the AJT was a difficult task for the AmNo speakers that was quite time consuming. The first thing that was difficult for them was hearing the sentences. With this group of illiterate speakers, there is no other option than to present the sentences orally, but some speakers had difficulty hearing the sentences properly. In addition, even though the speaker who recorded the sentences adjusted to the American Norwegian dialect (see Section 4.3.2 above), the speakers sometimes had difficulty understanding the sentence. As a result, they often asked me for help, either to explain the sentence or repeat it at a slower pace.

This is interesting given the results in Hopp and Putnam (2015). I used a similar procedure in my experiment, where speakers could hear the sentences again and could receive a translation or explanation as well. Moreover, the recordings of the sentences were adapted to the dialects of the heritage speakers in my study, whereas Hopp and Putnam (2015) did not do this. The stimuli in their experiment were recorded in Standard High German, whereas the heritage speakers spoke a Schweizer German dialect. In their study, this did not cause major problems. In my study, however, the AmNo participants had much more problems understanding the stimuli, despite the adaptations made by the monolingual speaker who recorded the stimuli sentences.

The second factor that made the AJT difficult for the AmNo speakers, was the use of judgments. Most speakers found it hard to express that a sentence was unacceptable. The task sometimes made them seem uncertain, and it seems that they felt they had to give the correct answer. Despite the instructions, which made it clear that all answers were good and useful, and that it was possible to say that a sentence was unacceptable, the speakers were hesitant to reject sentences. So, the often observed yes-bias (see Section 4.3.1) was also found in the AJT that I used.

At the same time, it is not the case that the participants accepted all sentences. They sometimes rejected ungrammatical sentences. As we will see in the results presented in Section 5.5, all participants used the three-point scale and judged some sentences to be marginal or unacceptable. This is most commonly found in the filler condition that contained sentences with grammatical and ungrammatical word order (see (4.18) above). All speakers judged the sentences with SOV word order, which is ungrammatical in Norwegian, to be marginal or unacceptable. This means that the speakers actually judged the sentences and that, despite their uncertainty and what seems like a small yes-bias, the results of this AJT are valid.

Not all sentences in the ungrammatical filler condition were judged unacceptable. The ones that were judged grammatical by the speakers, however, had been corrected to grammatical sentences during the speaker's repetition of the sentence. Such corrections were also found in the modified definite phrases, for example in the addition of a definite suffixed article where the stimulus sentence lacked the suffix. The results are discussed in more detail in Section 5.5, but it is important to note here that the combination of explicit judgments and implicit correction (through elicited imitation) worked very well, and provided insightful results.

Furthermore, a comparison between the fillers and the sentences with modified definite phrases indicates that explicit rejections were used more in the evaluation of the former, but implicit corrections were more frequent in the latter. The fillers contained grammatical and ungrammatical word orders, whereas the test conditions all contained modified definite phrases in different forms. This suggests that AJTs might work better for some linguistic phenomena (sentence word order), while a combination of AJT with elicited imitation might be better suited to test other linguistic phenomena (CD, noun phrase internal morphology).

Because of the difficulties the AmNo speakers had with the AJT, it was time consuming and tiresome for them. As a result, only seven speakers participated in the experiment and six of them completed only the first half of the experiment (30 sentences). Since the sentences from the different test conditions were evenly divided over the two parts of the task, all speakers judged sentences in all conditions. Unfortunately, due to the large amount of conditions, each speaker judged only a few sentences of each condition. Without the other types of data, it would be hard to draw conclusions from the AJT. As we will see, however, the results from the AJT further corroborate the findings from the other tasks.

The AmNo speakers who participated in the AJT used between 18 minutes and 25 minutes to complete half of the experiment. The speakers in the control

group who also judged the spoken sentences used between 14 and 20 minutes to complete the whole experiment. This also shows that an AJT is more difficult and demanding for heritage speakers than for monolingual native speakers. Since the speakers in the control group were age-matched with the heritage speakers, it is clear that the heritage speakers' difficulties with the task were not related to their age. Rather, it is demanding to do an AJT in the non-dominant language. Further support for this is found in the answers of the heritage speakers during the practice phase of the AJT. To practice the procedure, the speakers first repeated and judged a set of English sentences. None of the speakers had difficulty with the procedure in English, their dominant language.

Concluding this section, it is clear that an AJT is possible with this group of heritage speakers and can provide useful results. For more insightful results, a combination of acceptability judgment with elicited imitation is preferred. For elderly, illiterate heritage speakers, the task is difficult. In future AJTs with this group of speakers, it should be ensured that the experiment is not too long, and contains enough sentences in a small set of conditions. The difference in results between the test conditions and filler sentences suggests that AJTs might be more useful for certain linguistic phenomena than for others.

4.4   Measuring language proficiency

The proficiency of AmNo speakers has not been tested systematically before. During the fieldwork trip in 2018, I therefore carried out two proficiency measurements with a subgroup of the speakers who participated in the elicitation experiments. The goal of these proficiency measurements is to investigate whether there is a relation between the speaker's proficiency in Norwegian and their behavior during the elicited production tasks. As noted, Anderssen et al. (2018) use accuracy on gender marking as a proficiency measure to study whether proficiency correlates with the use of pre- and post-nominal possessives and CD (see Section 3.3.2) for the speakers in CANS. Although it is certainly interesting to study whether grammatical phenomena such as gender agreement and CD correlate with each other, that mainly provides insight into the grammar of the speakers. I think that it is important to have proficiency measures that are independent of the grammatical phenomenon under discussion. In fact, in order to use proficiency as an explanation in the analysis, it should be tested on something independent of grammar. I therefore used speech rate and lexical knowledge as proficiency measurements.

Proficiency has to do with the abilities a speaker has in a language, and can be measured on different levels: phonology, lexicon, semantics, syntax, pragmatics, and fluency (Montrul, 2016:180). Proficiency can be measured both with grammatical measures and with other linguistic variables, and in this study, I chose to do the latter. Different methods have been used in different studies. In a study on heritage Danish in North America and Argentina, Petersen, Hansen, Thøgersen, and Kühl (2018) investigate thirteen variables of proficiency and whether these correlate with each other. Their exploratory study

includes variables such as Danish words and words from the majority language, pauses, speech rate, type-token ratio, and ratio of subordinate-clauses to main clauses. They find that these variables cluster together in three more or less independent factors; for instance, the variables speech rate, pauses, runlength, self-interruption, and vowel lengthening (i.e., lengthening the vowel in hesitation) form one factor. Since the variables form three distinct clusters, Petersen et al. (2018) conclude that heritage language proficiency is a "multi-dimensional construct" (ibid:15). In addition, they find that the clustering of variables is different in the different generations of heritage speakers, and between the heritage speakers in the US and in Argentina. They therefore conclude that variables of proficiency might be correlated with each other in different ways in different groups of speakers, and that heritage speakers "should not be considered a discrete group with a specific linguistic profile" (Petersen et al., 2018:23).

Petersen et al. (2018) investigate whether different variables of proficiency cluster together, but they do not look at grammatical phenomena such as nominal morphosyntax. Here, I am specifically interested in this. I therefore used two proficiency measures, speech rate and lexical proficiency. As we will see below, both have been shown to correlate with grammatical accuracy in different groups of heritage speakers. Speech rate is also included in Petersen et al. (2018), and they show that it forms a cluster together with other fluency-related variables such as amount of pauses. Speech rate and lexical knowledge are often argued to correlate, because lexical retrieval difficulties (at least partially) cause a slower speech rate. In the next two subsections, I discuss the used proficiency measures in more detail and describe the procedures employed.

4.4.1 Speech rate

When dealing with a group of illiterate or low literate heritage speakers, such as the heritage Norwegian speakers, samples of spoken language are a good basis for several proficiency measures. Speech rate is often used, typically as a words per minute (wpm) measure in a sample of oral production, but syllables per minute can also be used (Montrul, 2016:181-182). The rationale behind using this measure is that a lower speech rate is caused by hesitations, disfluency, and lexical access problems and as such the result of a low productive ability in the language. In several studies, speech rate has been shown to correlate with accuracy of grammatical phenomena. Speakers of heritage Russian, for example, were found to fall into two groups based on their retention of the grammatical gender system: one group maintained the Russian three-gender system (with some modifications), whereas the other group had a restructured two-gender system. The latter group had a much lower speech rate than the former group (Polinsky, 2008). In heritage Arabic, speech rate has been found to correlate with the use of homeland-like plural forms (Benmamoun et al., 2014). Findings such as these indicate that speech rate is a reliable measure of proficiency.

Typically, speech rate is measured in one or several narratives that last for several minutes. Such narratives can be based on pictures, video clips, or can be spontaneous stories from the heritage speakers. The use of an uninterrupted

stretch of speech as the basis for speech rate measurements is referred to as the "desirable" procedure by Polinsky (2018:110). In the present study, however, I measured speech rate of the speakers during their semi-spontaneous conversation with a researcher. As described in Section 4.1.2, each recording session with a speaker started with such a semi-structured interview. As a result, semi-spontaneous speech has been collected from each speaker in this study. In these conversations, the researcher asked questions about the background of the AmNo speakers, and about their daily life. Topics that are typically addressed are how and when the speaker acquired Norwegian and English, how often they speak Norwegian nowadays, their youth at the farm,[66] the job they had before they retired, their trips to Norway, etc. In 2018, these interviews included many of the same topics, and I specifically aimed at eliciting some longer stretches of speech from the speakers.

Ideally, speech rate is measured in both languages of a heritage speaker (i.e., in both their heritage language and their dominant language) and then these speech rates are compared to a group of monolingual native speakers (see e.g., Polinsky, 2018). Here, however, I have only measured speech rate in Norwegian for the heritage speakers, and I correlate their speech rates with their baseline-like modified definite phrases rather than comparing it with monolingual speakers' speech rates.[67] This is the first proficiency measurement in AmNo to date, and it can hopefully be complemented in the future.

Transcribing is a time consuming task. For reasons of time, I did not transcribe complete conversations between researcher and AmNo speaker. Rather, I selected sections of the conversations where the AmNo speaker was talking continuously. It turned out to be difficult to elicit longer stretches of speech during the semi-structured interviews; unlike in narratives, the speakers tended to say maximally a few sentences at the time. I therefore selected parts of Norwegian oral production that were longer than a sentence, and selected several of such parts until a total speech time of two to three minutes (120-180 seconds) was reached. The total amount of words produced during this selection was used to calculate a words per minute speech rate.

Since heritage speakers typically have to warm up in their heritage language (see Section 4.1), I avoided parts of the conversation in the first two minutes of the conversation. I transcribed the selected parts and counted the number of words produced in them. I excluded hesitations ("*eh*"), unfinished words, and immediate repetitions (when the same word was uttered twice immediately after each other) from this count. Although I selected parts where the speaker was talking in Norwegian and had not switched over to English, the occurrence of some English words is inevitable with AmNo speakers. These were included in the count, but English interjections such as *well* and *you know* were excluded.

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[66]Virtually all heritage speakers grew up on a farm and spoke Norwegian there with their family. This is therefore a topic about which they are used to talk in Norwegian, and thus know the relevant vocabulary.

[67]In 2018, semi-structured interviews in English were recorded from a subset of the heritage speakers. For reasons of time, these recordings have not yet been analyzed.

The speech rate measurement that I used is slightly different from typical speech rate measurements. Mainly for practical reasons, the amount of speech that was analyzed and included in the measurement is rather limited. However, as a first step towards the study of the proficiency of AmNo speakers and its possible correlation with the use of CD, this method suffices. As will be shown in Section 7.1.2, there was a correlation between speech rate and the baseline-like use of the definite suffix in modified definite phrases. The recordings could be used in future research for a more in-depth study of fluency and proficiency, for example by analyzing measures such as sentence length, syntactic complexity, and lexical diversity.

4.4.2   Vocabulary task

In addition to speech rate, lexical knowledge has been used as a proficiency measurement for heritage speakers. Several studies found a correlation between lexical knowledge and grammatical accuracy. Polinsky (1997), for example, found that the lexical knowledge of speakers of American heritage Russian correlated with grammatical accuracy in the spontaneous speech of these speakers, for instance in the use of subject-verb agreement and the subjunctive. Benmamoun et al. (2014) found a correlation between lexical knowledge and homeland-like plural formation in heritage Arabic, and Montrul et al. (2014) noted a correlation between lexical knowledge and use of gender marking and agreement in heritage Spanish. The fact that such correlations occur across heritage languages and with respect to different linguistic phenomena, combined with the relative ease with which a vocabulary task can be carried out, make it a suitable method for testing proficiency.

There are several ways to test lexical knowledge: by calculating lexical diversity in a speech sample, by translating a basic word list (such as the Swadesh-list used in Polinsky, 1997) from the dominant language to the heritage language, or by testing vocabulary knowledge with pictures. Using pictures, receptive vocabulary knowledge can be tested with a picture-word matching task and productive vocabulary knowledge can be tested with a picture naming task. The Peabody Picture Vocabulary Test (PPVT) (L. Dunn and Dunn, 1997, 2007) is a standardized receptive vocabulary test which was developed for children, but which can also be used with heritage speakers. However, this task is not available in all languages, and it is not unusual for researchers to design their own vocabulary tests. In the present thesis, I used a vocabulary test which was developed within the project COST Action IS0804, which aimed to improve language assessment of minority language children.[68] In this project, several tasks were designed for the vocabulary measurement in bilingual children in different languages (Haman, Łuniewska, and Pomiechowska, 2015). I used the version that was designed to test vocabulary knowledge in Norwegian (Simonsen, Hansen, and Łuniewska, 2002).[69] Originally, this test was developed for bilingual

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[68]See the project's website for more information: http://bi-sli.org/

[69]See http://www.psychologia.pl/clts/ for more information about the test and the versions

children, but there is nothing that would make it problematic to be used with adults. Since the vocabulary items in the test were chosen because they are acquired early, the task is also suitable for AmNo speakers who received most of their Norwegian input during their (early) childhood.

The original vocabulary test consists of four tasks that test the Norwegian vocabulary of the participants on different dimensions: receptive and productive knowledge of nouns and verbs. In the receptive tasks, the participants are asked to select a given word from a set of four pictures. In the productive tasks, they see one picture and are asked to say what it shows. The whole set of tasks is conducted orally, and both accuracy and speed (reaction time) can be measured. Each task consists of 32 items (see Haman et al., 2015 and Simonsen et al., 2002 for more details).

For the present project, I only used one of the tasks of the vocabulary test, as using all four would make the recording sessions too long. Since the goal of the project is not to conduct an in-depth study of vocabulary knowledge, but rather to see whether proficiency measures (such as vocabulary knowledge) correlate with grammatical accuracy on a specific phenomenon (CD), only the productive test of nouns was used. This task seemed best suited to the population of heritage speakers for several reasons.

First of all, depicting and eliciting words with static pictures is more difficult for verbs than for nouns (Pernille Hansen, p.c.). For eliciting verbs, moving images are probably more suitable. Moreover, participants do not have to listen to Norwegian in the productive task. This means that speakers with hearing problems can also participate, and that confusion between the homeland Norwegian dialect used in the original receptive tasks and the dialects spoken by the AmNo participant does not arise. During the fieldwork, I tried the receptive task with nouns with one heritage speaker. It turned out that it was indeed difficult for him to hear or understand the stimuli used in that task. Therefore, only the production task with nouns was carried out with the other heritage speakers.[70]

An advantage of vocabulary tasks is that they are typically easy to carry out. The vocabulary task that I used is no exception: the procedure is straight-forward and the instructions are very simple. The participants were told that the only thing they had to do was to say the Norwegian word for the thing they saw on the pictures. I also told them that it can sometimes be difficult to remember words and this was no problem, so they could give the English word if they did not know or remember the Norwegian word. The task consisted of 32 nouns, and completing the experiment did not take more than 5 minutes per participant (including instructions). The experiment was recorded with sound and video. The list of elicited nouns is given in (4.19), in the order in which they appeared in the task.

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of different languages. I want to thank Pernille Hansen (MultiLing, University of Oslo) for sharing this experiment with me.

[70]I did not use the results of the single receptive task in establishing the proficiency of this speaker.

(4.19)   *katt* 'cat', *hund* 'dog', *trapp* 'stairs', *tiger* 'tiger', *ballong* 'balloon',
          traktor 'tractor', *skjorte* 'shirt', *vannmelon* 'watermelon', *belte* 'belt',
          strykejern 'iron', *racket* 'racket', *høne* 'hen', *solbriller* 'sun glasses', *lue*
          'cap', *hus* 'house', *paraply* 'umbrella', *hest* 'horse', *leppestift* 'lipstick', *nål*
          'needle', *blyant* 'pencil', *briller* 'glasses', *sebra* 'zebra', *blomst* 'flower',
          blad 'leaf', *slange* 'snake', *pensel* 'brush', *fyrstikker* 'matches', *sol* 'sun',
          kurv 'basket', *snømann* 'snowman', *reir* 'nest', *ugle* 'owl'

The procedure that I used differs in two aspects from the procedure of the original
experiment with bilingual children. First, the original experiment contained a
voice that asks *hva er dette?* 'what is this?' before each picture appears on the
screen. This could potentially confuse our participants, and since they did not
need a reminder of what they had to do, the sound of the computer was turned
off during the task. Second, the experiment was designed for a touch screen, on
which the children touch the picture once they have said the word. With these
touches, the reaction time of their answer was measured. With the heritage
speakers, a computer without a touch screen was used, and the researcher used
a mouse-click to proceed from one picture to the next.

The vocabulary task can be analyzed with two measures: accuracy (amount
of correct items) and speed (response time). In the present thesis, I only used
the accuracy scores as a proficiency measure. Since there are 32 items elicited
in this task, the vocabulary scores have a value between 0 and 32. To obtain
these scores, I transcribed the answers of the participants and then categorized
each answer as correct or incorrect. In this analysis, only the noun given by the
participant, and not morphosyntax, was taken into account. In some cases, the
participant gave both an English and a Norwegian answer. In those cases, I only
transcribed and analyzed the Norwegian answer.

Responses with the target Norwegian word (i.e., the word listed in (4.19)
above) were categorized as 'target'. When the participant responded with a
Norwegian word that could also be considered a match with the target, this was
categorized as 'alternative correct'. Examples of alternative correct answers are
synål 'sewing needle' for *nål* 'needle', and *orm* 'snake' instead of *slange* 'snake'.
The vocabulary score of each speaker is the combination of the number of target
and alternative correct answers they gave.

All other responses were categorized as non-target. Several types of non-
target responses were given by the participants. I discuss them here to give an
impression of the type of answers that this vocabulary task elicited, but they
are not taken into account in the analysis of the speakers' proficiency. The
participants used two types of Norwegian responses that were analyzed as non-
target answers. There were responses that could not be seen as an alternative
for the target, such as *hest* 'horse' for the picture of a zebra (the Norwegian
target is *sebra*). In addition, some speakers used a description in Norwegian
rather than producing the target noun. An example is given in (4.20).

(4.20)   a.   target: *blyant*, 'pencil'
          b.   response: *noe å skrive med*, 'something to write with'

(fargo_ND_09gm)

In the instructions, the participants were told that they could say the English word when they did not know or could not remember the Norwegian word. As a result of this instruction, there are quite a few English responses. When the participant responded with the correct English word, this was categorized as 'target English', for example *balloon* instead of *ballong*. If another English word was given, such as *lion* for tiger, I categorized the response as 'wrong English'. Only few responses of this type were given. Sometimes, the participant responded with a mixture between English and Norwegian, for example *stryke iron* for *strykejern* 'iron'. This was categorized as 'mixed response'. In those cases when the participant did not give an answer, said "I don't know", received help from the researcher, or only commented on the picture, I categorized this as 'no answer'.

This analysis procedure resulted in a vocabulary score for each participant. In theory, these scores could be between zero and 32. The AmNo speakers who participated in this task had a vocabulary score between 13 (40.63%) and 24 (75%), with an average score of 19.09 (59.66%). In Section 7.1.2, the results from the vocabulary score and the speech rate measurement are discussed and correlated with the use of CD in modified definite phrases.

4.5 Participants

The speakers that participated in the experiments described above are all heritage speakers of Norwegian in the United States. The population of American heritage Norwegian speakers was described in more detail in Section 2.3.3. As discussed previously, there are some characteristics that all (or most) current speakers of heritage Norwegian share. They are typically over 70 years of age, are third- or fourth-generation immigrants, and are almost always the last generation of speakers. They have not passed on their language to the next generation, which means that they do not have many people around them to speak Norwegian with. The speakers have experienced language shift and, at this point in their life, their dominant language is English. They have had their education in English. Most of them are not able to read or write Norwegian.

A total of 21 speakers are included in the present study. They are born between 1924 and 1946 in the US, as third- or fourth-generation immigrants. This means that their grandparents or great-grandparents moved from Norway to the US. In the background interview, most of the speakers said that their ancestors came from the Eastern Norwegian valleys; they mentioned Gudbrandsdal and Hallingdal in particular. These valleys are part of the Oppland and Buskerud regions, which where used in Section 3.1 to establish the baseline.

Five of the participants are women.[71] All participants are L1 speakers of

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[71] The imbalance in the gender of the participants is interesting. This seems to be the result of the way speakers have been recruited, and might be difficult to avoid. In the results, there does not seem to be a difference between the male and the female participants in their use of compositional definiteness.

Norwegian, whose language dominance shifted to English from the moment they entered school. A few acquired English earlier, already at home or at preschool, but all of them acquired Norwegian from birth. They did not receive schooling in Norwegian, and most participants did their Lutheran church confirmation in English. One participant recalls that she was the last in her church community to be confirmed in Norwegian. The majority of the participants have either never or only once been to Norway. Recordings from seven of the speakers are available in CANS, which means that they are part of the study of Anderssen et al. (2018) (as well as many other studies).

As was discussed in Section 4.1.2, not all speakers that were recorded during the fieldwork trips participated in all experiments. This has a practical reason: an extensive test battery would make a recording session too long and too demanding for these elderly heritage speakers. For the present study, the results from the two elicitation experiments discussed in Section 4.2.1 and 4.2.2 are central. Twenty speakers participated in the picture-aided elicitation task, and nineteen of them also participated in the translation task.[72]

The acceptability judgment task described in Section 4.3 turned out to be quite time consuming and demanding for the speakers. Some speakers could not participate in this task due to hearing difficulties. As a result of these factors, only seven speakers participated in the AJT. Six of them participated in the elicitation experiments, the other speaker only participated in the AJT.

Not all speakers who participated in the elicited production tasks, participated in the proficiency measuring tasks. For the speech rate measurement, I included only those speakers who were part of the 2018 fieldwork trip. This means that I have speech rate data from 14 of the speakers. Eleven of them also participated in the vocabulary task. An overview of all participants and in which tasks they participated can be found in Table 4.3 below.

In the table, the participants are listed by their speaker code, assigned to each speaker to ensure their anonymity. In the presentation of the results in the following chapters, each example is accompanied by the speaker code of the individual who uttered the example. The code consists of the place and state where the speaker is from, followed by a unique number identifying the speaker, followed by two letters expressing some background information. The first letter is always a *g*, indicating that the speaker is older than fifty (from the Norwegian word *gammel* 'old'). The second letter is either a *k* for female speakers (from *kvinne* 'woman') or a *m* for male speakers (from *mann* 'man').[73]

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[72]In fact, there are many more speakers who completed the translation task (the total is around 40), but these have not been included in the present study. I have chosen to include only those speakers I have more linguistic data from, i.e., those who participated in the picture-aided elicitation task as well.

[73]The system of speaker codes in CANS is identical to that of the Nordic Dialect Corpus (NDC, Johannessen et al., 2009). In the latter, both young and older speakers are included, so speakers codes with a *u* for younger speakers can also be found. The heritage speakers of Norwegian in CANS and this study are, however, all elderly speakers, and therefore always have a *g* in their speaker code.

Speaker	TT	PAET	AJT	VocT	SR	CANS
coon_valley_WI_06gm	yes	yes	yes		yes	yes
coon_valley_WI_10gm	yes	yes				
fargo_ND_01gm	yes	yes	yes	yes	yes	yes
fargo_ND_08gm	yes	yes		yes	yes	
fargo_ND_09gm	yes	yes		yes	yes	
flom_MN_01gm	yes	yes	yes	yes	yes	yes
hendricks_MN_07gk	yes	yes				
iola_WI_05gm	yes	yes				
sunburg_MN_04gk		yes	yes		yes	yes
sunburg_MN_06gm	yes	yes		yes	yes	
sunburg_MN_07gm	yes	yes				
sunburg_MN_09gm	yes	yes			yes	
sunburg_MN_11gk	yes	yes				
sunburg_MN_12gk	yes	yes		yes	yes	yes
sunburg_MN_15gm	yes	yes				
sunburg_MN_16gm			yes			
sunburg_MN_18gk	yes	yes		yes	yes	
ulen_MN_01gm	yes	yes	yes	yes	yes	
westby_WI_01gm	yes	yes		yes	yes	yes
westby_WI_06gm	yes	yes	yes	yes	yes	yes
westby_WI_11gm	yes	yes		yes	yes	
Total	19	20	7	11	14	7

Table 4.3: Overview of speakers and in which experiment(s) they participated. TT = translation task, PAET = picture-aided elicitation task, AJT = acceptability judgment task, VocT = vocabulary task, SR = speech rate analysis, CANS = speech from this speaker is available in the corpus. I carried out the TT and PAET in 2016, and the AJT, VocT, and SR in 2018. The available data in CANS come from the period 2010-2011, and were collected during fieldwork trips that I was not involved in.

4.6   Summary

In this chapter, I have discussed the different methods used to study CD in American heritage Norwegian. Research on elderly speakers of a moribund heritage language, such as AmNo, is "accompanied with particular challenges", mainly the factors of age, illiteracy, and task anxiety (Putnam et al., 2018:265). I therefore started this chapter with a brief discussion of research with this particular group of speakers, including requirements on the experimental design and the set-up of fieldwork in Section 4.1.

   In this study, I used several experimental methods to collect different types of linguistic data. The first type of data is elicited production, which was collected with two different experiments: a translation task (Section 4.2.1) and a picture-

aided elicitation task (Section 4.2.2). In these experiments, a large number of modified definite phrases that require CD are elicited from each speaker. This is especially relevant given the low frequency of such phrases in spontaneous conversation. As we will see in the next chapter, elicitation of a high number of phrases allows us to investigate the use of CD by individual speakers as well as by the group of AmNo speakers as a whole.

As a second type of method, I used an acceptability judgment task (AJT, Section 4.3). The main goal of this task was to investigate whether the different forms of modified definite phrases used by the speakers were also accepted by these speakers. In other words, the results of this experiment provide insight into whether differences between AmNo and the baseline are caused by production difficulty or by a change in their grammar. We will see in Section 5.5 that the results of the AJT corroborate the findings from the elicited production tasks. At the same time, the results indicate that AJTs are a difficult task for the AmNo speakers (Section 4.3.3). The second goal of this task was indeed to see if AJTs are at all possible with this group of speakers, and the results show that this is possible, but is best be combined with elicited imitation (and other methods). The use of this method therefore not only provides insight into the use and acceptability of CD, but also the types of experimental designs that are possible with speakers of AmNo.

The final type of method that I employed measures the proficiency of the speakers. To the best of my knowledge, the present study is the first to collect proficiency data from the AmNo speakers. Two types of proficiency measurements were used: speech rate in a semi-structured interview (Section 4.4.1) and a vocabulary task to investigate lexical proficiency (Section 4.4.2). In Chapter 7, I investigate whether there is a correlation between proficiency and the use of CD (and the suffix in particular) in modified definite phrases.

There is no perfect method for linguistic research, and heritage language research poses particular challenges (Polinsky, 2018:76,113). This is why a combination of several methods is so useful: it will provide different types of linguistic data and lead to a more diverse picture of the speaker's language. As we will see in the following chapters, the use of elicited production data in combination with judgment data and proficiency data allows us to reveal different patterns of CD in American Norwegian.

Chapter 5

Results: compositional definiteness in American Norwegian

The previous chapter described the different experiments and the procedures for data analysis. In this chapter, I present the results of the experiments. First, Section 5.1 is concerned with whether the speakers of AmNo make a distinction between indefinite and definite phrases. Then, the results of the translation task and the picture-aided elicitation task are discussed separately in Sections 5.2 and 5.3 respectively. These results are brought together in Section 5.4, where I divide the speakers into groups based on their behavior in the elicited production experiments. In Section 5.5, I show that although the acceptability judgment task was only conducted with a few speakers, its results support the findings from the elicitation experiments. Finally, in Section 5.6, I summarize the findings.

Before I present the results, two remarks on the presentation of examples of utterances are in order. First, all examples are given in the Bokmål standard of Norwegian. In the establishment of the baseline and in the transcription and analysis of the utterances, the dialect of the speaker was taken into account, but the examples are presented here in standard orthography. Second, all examples are accompanied by a speaker code, which has been assigned to each speaker to assure their anonymity. See Section 4.5 above for more on the speaker codes.

5.1 Marking of definiteness in NPs

This study focuses on compositional definiteness. There is however no reason to assume that this is the only type of nominal syntax or even the only type of definiteness marking that might distinguish AmNo from homeland Norwegian. It is important to separate difficulties with the phenomenon CD from possible difficulties with definiteness marking in general. Before we consider the use of CD, I therefore investigate first whether the speakers make a grammatical distinction between definite and indefinite phrases.

The heritage speakers are all bilingual in Norwegian and English. Both these languages make a morphosyntactic distinction between definite and indefinite phrases. The contexts to use (in)definite marking are also by and large the same in the two languages. I therefore assume that speakers know when to use the semantic concepts DEFINITE and INDEFINITE in Norwegian (see Section 3.1 for definitions of these semantic categories).

However, I have observed that a few speakers use 'pragmatically strange' nominal phrases, although this is a small group with typically only a few examples per speaker. I use the term 'pragmatically strange' for phrases that given the context can be said to be definite, and nevertheless have an indefinite form. As an example, compare (5.1) with (5.2). In (5.1), the speaker does not translate

the English sentence in (5.1a), but changes it to an indefinite meaning and form. As a result, the phrase in (5.1c) is uttered, rather than the phrase in (5.1b). In this case, this is pragmatically correct: the weak quantifier *noen* 'some' is always followed by an indefinite noun, just as in English. In example (5.2) however, the speaker seems to intend a definite meaning: the nominal phrase is followed by a restrictive relative clause, which creates a definite context. Surprisingly, the noun phrase has an indefinite form. I use the term 'pragmatically strange' for utterances such as (5.2c).

(5.1)   a.   English sentence:
           "No, of course we don't buy <u>the apples</u>", Ollie says.

         b.   *epl-ene*
           apple-DEF.PL
           'the apples' (expected response)

         c.   *noen epl-er*
           some apple-INDF.PL
           'some apples' (observed response)

(5.2)   a.   English sentence:
           Then, the horse starts looking for <u>the apples</u> the kids put in the bucket.

         b.   *epl-ene*
           apple-DEF.PL
           'the apples' (expected response)

         c.   *epl-er   som ...*
           apple-INDF.PL that ...
           'apples which...' (observed response)

These two examples come from the translation task. In the picture-aided elicitation task, the context for indefinite and definite phrases is more straightforward: indefinite phrases are appropriate (and expected) when the pictures are mentioned for the first time, and definite phrases are appropriate when the speakers tell which picture disappeared (see Section 4.2.2 for details of the procedure of this experiment). It can be difficult to analyze bare phrases: do speakers intend the expected (in)definite semantics, or not? On the assumption that speakers have difficulty with morphological marking rather than with pragmatics, I decided to analyze phrases as definite when they are semantically (or pragmatically) definite.

Based on whether they make a morphological distinction between indefinite and definite phrases, the participants can be divided into three different groups. The first group (n=12, 60%) consists of speakers who do not have difficulties with the marking of definiteness, and consistently make a distinction between definite and indefinite phrases on both singular and plural nouns. Speaker fargo_ND_01gm is an example from group 1, as illustrated below with examples from the picture-aided elicitation task (PAET). In indefinite contexts, when he is asked what he sees in the picture, he uses indefinite determiners (5.3a-b). In definite contexts, when he is asked which of the pictures disappeared, he uses

either the definite suffix (5.3c-d) or compositional definiteness (5.3e). Although he uses non-baseline-like phrases in modified definite contexts (such as (5.3d)), there still is overt definite morphology in these phrases. As shown in (5.4), the distinction is also found in the plural. Note furthermore that the word order in the phrases in (5.3-5.4) is exactly as in homeland Norwegian: indefinite and definite determiners appear on the left-most position, and the cardinals and adjectives are placed before the noun. This is also the case for the other American Norwegian speakers.

(5.3)   a.   *en*   *båt*
              INDF.M.SG boat
              'a boat'

       b.   *en*   *svart sau*
              INDF.M.SG black sheep
              'a black sheep'

       c.   *hus-et*
              house-DEF.N.SG
              'the house'

       d.   *svart-e*   *glass-et*
              black-DEF glass-DEF.N.SG
              'the black glass'

       e.   *den*   *blå bok-a*
              DEF.SG blue book-DEF.F.SG
              'the blue book'
              (fargo_ND_01gm, PAET)

(5.4)   a.   *to brun-e*   *høn-er*
              two brown-PL chicken-INDF.PL
              'two brown chickens'

       b.   *desse*   *to brun-e*   *høn-en*
              DEM.PL two brown-DEF chicken-DEF.PL
              'the two brown chickens'
              (fargo_ND_01gm, PAET)

Group 2 (n=4, 20%) contains the speakers who in general have no difficulty with the marking of definiteness. However, they make the distinction between definite and indefinite only in singular phrases and not (or only occasionally) in plural phrases. These speakers use the indefinite plural suffix in both indefinite and definite contexts.[74] Speaker sunburg_MN_11gk is an example from this group. All examples in (5.5-5.6) come from the picture-aided elicitation task, where she uses indefinite determiners to indicate indefiniteness (5.5a-b) and the suffix, CD, or the determiner to indicate definiteness (5.5c-e). With plural nouns, she uses the same form of suffix in both contexts (5.6a-b), and as a result they are not distinguished morphologically. Occasionally, she uses a determiner with plural

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[74]There are very few examples where a definite plural suffix is used as the only plural suffix, but typically the speakers in this group have extended the indefinite plural suffix to all plural contexts.

definite nouns, as in (5.6c), where the suffix is still indefinite plural. As we will see in this chapter, this preference of the determiner over the suffix makes her different from the other speakers.

(5.5) a. *ei   seng*
            INDF.F.SG bed
            'a bed'

       b. *en   hvit   hest*
            INDF.M.SG white horse
            'a white horse'

       c. *bok-a*
            book-DEF.F.SG
            'the book'

       d. *den   stor-e   tre-et*
            DEF.SG large-DEF tree-DEF.N.SG
            'the large tree'

       e. *den   blå-e   bok*
            DEF.SG blue-DEF book
            'the blue book'
            (sunburg_MN_11gk, PAET)

(5.6) a. *to hvit-e   høn-er*
            two white-PL chicken-INDF.PL
            'two white chickens'
            context: researcher asks "what do you see on this picture?"

       b. *to brun-e   høn-er*
            two brown-DEF chicken-INDF.PL
            'the two brown chickens'
            context: researcher asks "what disappeared?"

       c. *det   tre   rød-e   bok-er*
            DEF.N.SG three red-DEF book-INDF.PL
            'the three red books'
            (sunburg_MN_11gk, PAET)

Speakers from group 3 (n=4, 20%) have problems with the marking of definiteness, in both singular and plural phrases. These speakers produce more pragmatically strange utterances than the speakers in the other groups, and they often use phrases without any functional morphemes. This results in bare nouns that are not formally marked as definite or indefinite. An example from this group is speaker hendricks_MN_07gk, who uses bare nouns in both definite and indefinite contexts (5.7a-b). Functional material is not completely absent in the speakers in this group though; this particular speaker occasionally utters definite phrases with some definiteness marking, as in (5.7c), and some indefinite phrases with an indefinite determiner. In these cases, the functional material is often borrowed from English (5.7d-e).

(5.7) a. *blå skjorte*
            blue shirt

'a blue shirt'
context: researcher asks "what do you see on this picture?"

b. *rød skjorte*
red shirt
'the red shirt'
context: researcher asks "what disappeared?"

c. *det   brun   dør*
DEF.N.SG brown door
'the brown door'

d. *a   hvit   dør*
INDF.ENG white door
'a white door'

e. *the   brun   sled*
DEF.ENG brown sleigh
'the brown sleigh'
(hendricks_MN_07gk, PAET)

The three groups discussed above show different degrees in the marking of definiteness. There are speakers that show no problems with marking this distinction (group 1), speakers who only have difficulties with the distinction in the plural (group 2), and a set of speakers have difficulty with functional material that expresses definiteness in all phrases (group 3). A summary of the groups, including the list of speakers in each group, can be found in Table 5.1.

Group 1 (n=12)	Group 2 (n=4)	Group 3 (n=4)
Morphological distinction between indefinite and definite	Morphological distinction between indefinite and definite, but not on plural nouns	No or no consistent morphological distinction between indefinite and definite
coonvalley_WI_06gm coonvalley_WI_10gm fargo_ND_01gm iola_WI_05gm sunburg_MN_07gm sunburg_MN_09gm sunburg_MN_12gk sunburg_MN_15gm ulen_MN_01gm westby_WI_01gm westby_WI_06gm westby_WI_11gm	flom_MN_01gm sunburg_MN_06gm sunburg_MN_11gk sunburg_MN_18gk	fargo_ND_08gm fargo_ND_09gm hendricks_MN_07gk sunburg_MN_04gk

Table 5.1: Classification of speakers in three different groups, based on whether they morphologically distinguish between indefinite and definite nouns during the production experiments.

Setting CD aside, most AmNo speakers do not have problems with the grammatical distinction between definite and indefinite. The majority use the expected functional morphemes to express this distinction. A small group of speakers have difficulty with marking definiteness on plural nouns, and another small group have difficulty with the morphological marking of definiteness in general. As a result, the latter group of speakers utters nominal phrases without functional morphemes that mark definiteness. Importantly, these difficulties do generally not lead to the use of indefinite determiners in a definite context or definite suffixed articles in an indefinite context, but rather to the omission of definiteness marking. In the picture-aided elicitation task, only a few examples of definite suffixes in indefinite contexts were found (I discuss this further in Section 5.3 below). As we saw above, the AmNo speakers do not have difficulty with the semantic or pragmatic meanings of definiteness. Rather, some speakers have difficulties with the use of functional material to mark the intended pragmatics.

As noted in this section, the speakers omit functional morphemes rather than use non-baseline-like functional morphemes. The only exception is the use of indefinite plural suffixes in a definite context. It seems clear that some speakers (those in group 2 and group 3, but occasionally in group 1 as well) only have one form at their disposal which is used on plural nouns in both indefinite and definite contexts. This suffix seems to indicate plural rather than definiteness. We will observe the same pattern in the discussion of the results of the elicitation and judgment tasks as well. I discuss this finding in Section 7.2.

From the data presented in this section, I conclude that the heritage speakers do not have pragmatic difficulties with the concepts indefiniteness and definiteness. Furthermore, we have seen that most speakers do not have general difficulties with marking these concepts morphologically. The next sections discuss the results from the translation task and the picture-aided elicitation, focusing on compositional definiteness.

5.2 Results from the translation task

In this section, I present the results from the translation task, which was described in Section 4.2.1. The first question this section aims to answer is whether AmNo speakers use compositional definiteness in the translation task. In order to answer this question, modified definite phrases are compared to nominal phrases that do not require CD. These control conditions are unmodified ('simple') indefinite, unmodified definite, and modified indefinite phrases.

As mentioned in Section 4.2.1, the translation task contains 62 test items and each of these nominal phrases has been analyzed as either baseline-like or non-baseline-like following the procedure described in Section 4.2.3. It is important to keep in mind that this categorization is based only on the absence or presence of (in)definite morphemes (i.e., determiners and articles), and not on whether these morphemes inflect for gender in a baseline-like manner. In Table 5.2, the group results for the four types of nominal phrases are presented.[75] The

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[75]The results under 'control condition' were calculated by adding all phrases in the three

results are also displayed in Figure 5.1.

NP type	Mean score	SD	Range	n at ceiling
Simple indefinite	99.47 %	2.294	90 - 100 %	19
Simple definite	95.75 %	6.797	72.41 - 100 %	17
Modified indefinite	97.41 %	6.267	80 - 100 %	16
Control conditions	96.86 %	4.679	80.43 - 100 %	18
Modified definite	**25.17 %**	**19.488**	**0 - 72.73 %**	**0**

Table 5.2: Group results from the translation task (number of participants = 19). For each type of NP, the mean score, standard deviation (SD), range of scores, and number of participants at ceiling ($\geq 90\%$ baseline-like) is given. Modified definite NPs are the test condition, the other NP types are the control conditions, which are combined under 'control conditions'.
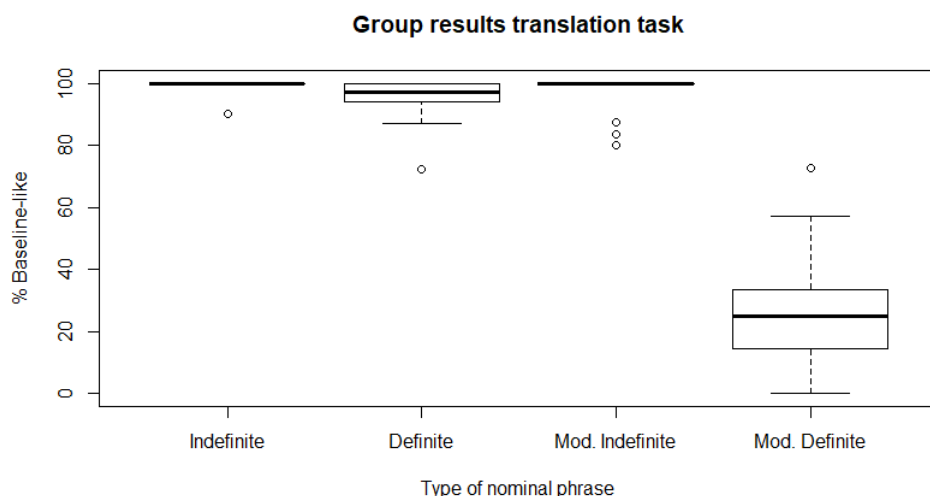
Figure 5.1: Box plot of the group results from the translation task. Number of participants = 19. The indefinite, definite, and modified indefinite phrases are control conditions, the modified definite phrases are the test condition.

The results in Table 5.2 show that there is a large difference between the control conditions on the one hand and the experimental condition (modified definite, requiring CD) on the other hand. In the three control conditions, the mean score of baseline-like phrases is over 95% and virtually all participants score at ceiling (defined as $\geq 90\%$ baseline-like). The range of scores and standard

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control conditions together.

deviation (SD) are relatively small. This also confirms the conclusion from Section 5.1 that the AmNo speakers distinguish correctly between definite and indefinite marking.

The results for modified definite phrases, which require CD, are very different. The mean score of baseline-like phrases is only 25.17% and none of the participants score at ceiling. Rather, the individual scores of baseline-like phrases vary from 72.41% all the way down to 0%. In other words, the variation among the participants is much larger in this condition, which is also expressed in the higher standard deviation (SD). Each individual speaker scores lower on CD than on definiteness marking in the control conditions.

The results of the three control conditions are very similar. Most speakers score 100% in these conditions, and when they score lower, they typically produced only one non-baseline-like phrase. I therefore think it is reasonable to merge the responses on the unmodified indefinite, unmodified definite, and modified indefinite phrases into one category. I compare the results from this combined control condition with the results from the modified definite phrases. Since the data are not normally distributed, a paired Wilcoxon-test was used to compare the controls with CD.[76] This shows that there is a statistically significant difference between the two conditions (N=19, V=190, p<0.001). The size of this effect is rather large (Cohen's d≈3.73). In other words, the participants score differently on the control conditions and the modified definite phrases; the score is (much) lower in the latter.

From the results, it can be concluded that compositional definiteness is a phenomenon where AmNo speakers differ from the baseline, whereas definiteness marking in other contexts is largely baseline-like. As is typical for populations of heritage speakers, the data also show variation between the individual speakers. This variation is larger in modified definite phrases, which is another indication that CD is vulnerable to change.

Now that it is clear that the AmNo speakers do not use CD to a baseline-like extent, the next question is what form modified definite phrases have. Most speakers (n=14, 73.68%) use CD during the translation task, although not in all contexts where it is obligatory in the baseline. Two examples are given below.[77] In (5.8a), the definite phrase is modified by a cardinal number, and contains both the determiner and the suffixed article. This phrase was uttered by the speaker with the highest score of baseline-like modified definite phrases in the translation task. In (5.8b), the speaker uses an English loanword (the Norwegian would be *gjerde* 'fence'), but the phrase still has CD.

(5.8)   a.   *de   tre   ung-ene*
             DEF.PL three child-DEF.PL

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[76]The Sapiro-Wilk normality test shows that the control condition is significantly different from the normal distribution (W≈0.683, p<0.0001), and that the modified definite condition is not (W≈0.929, p≈0.166).

[77]For the examples uttered during the translation task, I provide the English sentence that was translated with the relevant nominal phrase in square brackets.

'the three children'
English sentence: [The three kids] take the apples to the horse.
(iola_ND_05gm)

b. *det   høgest-e   fence-t*
   DEF.N.SG highest-DEF fence-DEF.N.SG
   'the highest fence'
   English sentence: And just as Ollie said, the horse jumps over [the
   high fence].[78]
   (westby_WI_11gm)

In addition to the phrases with CD, phrases with adjective incorporation (see Section 3.1.2.3) are also treated as baseline-like. However, only one such phrase was uttered during the translation task.

The speakers produced several non-baseline-like structures. In Table 5.3, the frequency of the different types of modified definite phrases is given. As the table shows, only 25.68% of all the utterances are baseline-like, and the vast majority of the utterances (74.32%) are non-baseline-like.

	Number	Percentage
Baseline-like		
Compositional definiteness	37	25.0 %
Adjective incorporation	1	0.68 %
Non-baseline-like		
Without determiner	60	40.54 %
Without suffix	12	8.11 %
Bare noun	25	16.89 %
Overuse of demonstrative	13	8.78 %
Total	148	100 %

Table 5.3: Types of modified definite phrases in translation task, with the number of occurrences for the whole group of speakers (number of participants = 19).

The data in Table 5.3 show that the most frequent non-baseline-like modified definite phrase is a phrase without the prenominal determiner. In fact, this category is more frequent than phrases with CD, both within and across speakers. All but one speaker uttered modified definite phrases without a determiner, and this was the most frequent type of non-baseline-like phrase for most individual speakers. Some examples are given in (5.9). The examples illustrate modified definite phrases without the prenominal determiner in phrases with a masculine noun (5.9a), a neuter noun (5.9b), a plural noun (5.9c), and a plural noun with a numeral (5.9d).

(5.9) a. *hvit-e   hest-en*
           white-DEF horse-DEF.M.SG

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[78]Note that the speaker translates the adjective with a superlative adjective. This does not influence the analysis of this phrase as baseline-like.

'the white horse'
English sentence: "Dad wants you to go look for [the white horse]",
Mom says.
(westby_WI_06gm, baseline: *den hvite hesten*)

b. *varm-e   kjøkken-et*
warm-DEF kitchen-DEF.N.SG
'the warm kitchen'
English sentence: The kids walk in the door and into [the warm
kitchen].
(flom_MN_01gm, baseline: *det varme kjøkkenet*)

c. *blå-e   blomm-ene*
blue-DEF flower-DEF.PL
'the blue flowers'
English sentence: The boys wait and Emma picks all [the blue
flowers].
(sunburg_MN_12gk, baseline: *de blåe blommene*)

d. *tre   ung-ene*
three child-DEF.PL
'the three children'
English sentence: [The three kids] take the apples to the horse.
(sunburg_MN_15gm, baseline: *de tre ungene*)

The opposite pattern, modified definite phrases with the determiner but without
the suffix, are much less frequent (only 8.11%). Two examples are given in
(5.10), with a singular definite noun without the definite suffix in (5.10a), and
a plural definite noun without the definite suffix in (5.10b). Phrases without
the determiner (as in (5.9)) are five times more frequent than ones without the
suffix (as in (5.10)), and the latter are produced by only six of the nineteen
participants.

(5.10)   a. *den   små jente*
DEF.SG little girl
'the little girl'
English sentence: [The little girl] turns out to be Emma, their
little sister.
(sunburg_MN_11gk, baseline: *den lille jenta*)[79]

b. *the   to gutt-er*
DEF.ENG two boy-INDF.PL
'the two boys'
English sentence: "No", [the two boys] answer at the same time.
(hendricks_MN_07gk, baseline: *de to guttene*)

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[79]In homeland Norwegian, the adjective *små* 'little' is only used in plural contexts. In
indefinite singular contexts, the forms *liten*(M), *lita*(F) and *lite*(N) are used. In definite singular
contexts, *lille* or *vesle* is used. In AmNo, several speakers use *små* in both singular and plural
contexts, possibly as a result of transfer from English. The example here is mainly used to
illustrate modified definite phrases without the suffix. The atypical choice of adjective was not
taken into account in the categorization of this phrase as non-baseline-like.

Phrases with neither the determiner nor the suffix in a clearly definite context were analyzed as 'bare definite phrases'. This third type of non-baseline-like utterance is illustrated in (5.11), with a singular noun in (5.11a) and a plural noun in (5.11b).[80] In both, the adjective is inflected while the determiner and the suffix are omitted. Bare phrases are more frequent than phrases without the suffix (16.89%), and produced by nine of the speakers. It is interesting to note that many of the phrases without a suffix, as well as bare definites, are found in plural nominal phrases. As was already mentioned in Section 5.1 above, some AmNo speakers have difficulty with marking definiteness in the plural, and this is not only restricted to modified definite phrases.

(5.11) a. *hvit-e   hus*
            white-DEF house
            'the white house'
            (fargo_ND_09gm, baseline: *det hvite huset*)
        b. *rød-e   eple*
            red-DEF apple
            'the red apples'
            English sentence: (...) and Emma puts [the red apples] in a bucket.
            (sunburg_MN_06gm, baseline: *de røde epla*)

As we can see in the examples above, the same types of non-baseline-like modified definite phrases are attested in heritage speakers as were previously observed in the language of monolingual children (see Section 3.3.1). In addition, a fourth type of non-baseline-like phrases was found, in which the determiner is replaced by a demonstrative, see (5.12). Examples like these constitute a small portion of the utterances (8.78%), and they are produced by eight of the participants. In principle, these phrases are grammatical in homeland Norwegian: they consist of a (proximal) demonstrative and the suffixed article, as the examples in (5.12) illustrate.

(5.12) a. *denne   hvit-e   hest-en*
            DEM.SG white-DEF horse-DEF.M.SG
            'the white horse'
            English sentence: Ollie says: "We found [the white horse], just as you asked."
            (fargo_ND_01gm, baseline: *den hvite hesten*)
        b. *denne   vesle   jent-a*
            DEM.SG little.DEF girl-DEF.F.SG
            'the little girl'
            English sentence: [The little girl] turns out to be Emma, their little sister.
            (coon_valley_WI_10gm, baseline: *den vesle jenta*)

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[80]In (5.11a), the English sentence that had to be translated is not given, because the speaker made a translation mistake. The nominal phrase he was given was 'the white horse', and he used the Norwegian *hus* 'house' instead of *hest* 'horse'. However, the reason this phrase was analyzed as non-baseline-like is the omission of both the suffix and the determiner.

Because of the grammaticality of these phrases, it could be argued that they are baseline-like. The speaker might intend a demonstrative meaning ('this white horse' in (5.12a) and 'this little girl' in (5.12b)), even though it is not present in the English sentence they translate, but they might also overuse the demonstrative in a regular definite context. From the translation data, it is hard to tell these options apart.[81] However, in the picture-aided elicitation task, there are no contexts in which a demonstrative meaning would be expected. Utterances like those in (5.12) were also found in the picture-aided elicitation task (see Section 5.3 below), and I therefore chose to analyze them as overuse of demonstratives. In other words, I consider them to be non-baseline-like. It should be noted, though, that if they had been excluded from the analysis, the tendencies described in this section would not be very different. The majority of the utterances would still be non-baseline-like (97 out of 135 if demonstratives are excluded, cf. Table 5.3).

In summary, the results from the translation task show that speakers of American heritage Norwegian differ from the baseline when it comes to compositional definiteness. The speakers do not show difficulty with definiteness marking in other nominal phrases, but most score low on the use of CD in modified definite phrases. There is much variation within the group, but CD is vulnerable in all speakers. I therefore conclude that the speakers maintained the definite-indefinite distinction, while CD is susceptible to change. Furthermore, the data presented in this section reveal that most of the modified definite phrases lack the prenominal determiner, whereas the suffix is used in a more stable manner. This suggests that the difficulty with CD is primarily a difficulty with the prenominal determiner.

5.3   Results from the picture-aided elicitation task

The second production experiment was a picture-aided elicitation task, described in detail in Section 4.2.2. As in the previous section, I first discuss whether the speakers used CD during this experiment, and then take a closer look at the forms of their modified definite phrases. The group results for the four types of elicited nominal phrases are given in Table 5.4. The data are also presented as a box plot in Figure 5.2.

As can be seen in Table 5.4 and Figure 5.2, the mean percentage of baseline-like phrases in the control conditions (simple indefinite, simple definite, and modified indefinite) is not very high. In addition, there is quite some variation between the speakers. The scores are lower than those in the translation task on these types of NPs. The results of the three control conditions seem less similar than in the translation task. I come back to this below.

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[81]For the item *den*, intonation can help to decide whether it is a determiner or a demonstrative, since it is stressed only when it is a demonstrative (Faarlund et al., 1997:210). Stress is not necessary for disambiguation for proximal demonstratives like *denne*, because it does not have an unstressed counterpart that functions as a determiner.

NP type	Mean score	SD	Range
Simple indefinite	64.81 %	23.620	22.58 - 97.22 %
Simple definite	79.37 %	20.098	18.52 - 100 %
Modified indefinite	75.35 %	23.440	25.93 - 100 %
Modified definite	**25.17 %**	22.536	**0 - 74.19 %**

Table 5.4: Group results from the picture-aided elicitation task (number of participants = 20). For each type of NP the mean score, standard deviation (SD), and range of scores is given. Modified definite NPs are the test condition, the other three are control conditions.
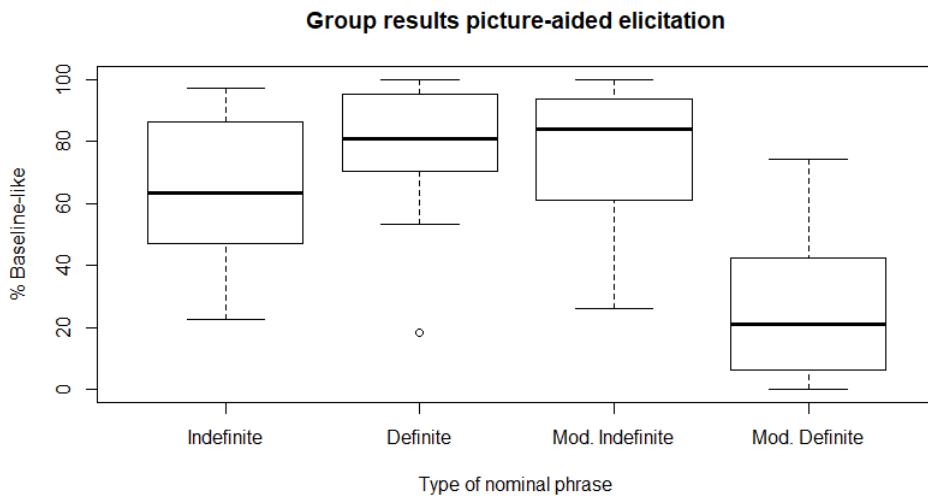
Figure 5.2: Box plot of the group results from the picture-aided elicitation task. Number of participants = 20. The indefinite, definite, and modified indefinite phrases are control conditions, the modified definite phrases are the test condition.

At the same time, the score of modified definite phrases (i.e., on phrases that require CD) is much lower than the scores of the three control conditions. Notably, it is the same as it was in the translation task (25.17%), and the range of scores is also similar (from 0% to slightly over 70% baseline-like responses, cf. Table 5.2). All individual participants score lower on CD than on the control conditions. These results strengthen the findings in the translation task (Section 5.2) that CD is difficult for AmNo speakers, and more difficult than other types of definiteness marking.

Since the data in most conditions are not normally distributed, paired Wilcoxon-tests were used to compare each of the three control conditions with

the modified definite phrases.[82] To correct for the increased family-wise error rate (FWER), I used the Bonferroni correction to adjust the α-level to 0.0167 (see e.g., Baayen, 2008:105-106). It turns out that there is a statistically significant difference between the results of each control condition and those in the modified definite condition (V=205, p<0.0001 for the comparison indefinite - modified definite; V=210, p<0.00001 for the comparison definite - modified definite; V=210, p<0.00001 for the comparison modified indefinite - modified definite). The effect sizes are large in all three cases as well (respective effect sizes: Cohen's d≈1.47, Cohen's d≈2.57, and Cohen's d≈2.06). This verifies the conclusion from the translation task that the participants score (much) lower on the modified definite phrases than on the three other types of phrases.

With respect to the scores on CD, there is no statistically significant difference between the group results from the two elicitation experiments (paired Wilcoxon-test: V=81, p≈0.85, n.s.). However, the results on the two experiments show a statistically significant difference with respect to the control conditions (paired Wilcoxon-test: V=189, p<0.00001).[83] In the picture-aided elicitation task, the mean scores in the control conditions are lower than in the translation task, and the variation among the speakers is also larger in the picture-aided elicitation task. This difference between the two elicitation experiments is arguably task-related. In the translation task, nominal phrases were uttered in the context of a sentence. During the picture-aided elicitation, on the other hand, speakers often only produced the nominal phrase. In the indefinite conditions, when they had to tell what they saw on the pictures, they sometimes only named the pictures, leaving out all grammatical material. For some speakers, this led to a high number of bare indefinite phrases (as in (5.13a)) and a lower number of baseline-like indefinite phrases with an indefinite determiner (as in (5.13b)).

(5.13)   a.   *grønn bok*
             green book
             'a green book'
             (coon_valley_WI_10gm, baseline: *en grønn bok*)
        b.   *et   hvit brød*
             INDF.N.SG white bread
             'a white bread'
             (coon_valley_WI_10gm, baseline-like)

These task-effects might be a (partial) explanation for the lower scores on indefinite phrases in the picture-aided elicitation than in the translation task. It seems that in the picture-aided elicitation task, where the nominal phrases

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[82]A Shapiro-Wilk normality test reveals that the scores on indefinite phrases (W≈0.919, p≈0.093) and modified definite phrases (W≈0.908, p≈0.059) are not different from the normal distribution, whereas scores on definite phrases (W≈0.860, p<0.01) and modified indefinite phrases (W≈0.869, p=0.01) are.

[83]For this comparison, I compared the scores of the combined control conditions. For the TT, the 'control condition' score is given in Table 5.2. For the PAET, the 'control condition' has a mean score of 73.16% (SD=19.314). The scores in this condition are not normally distributed (Shapiro-Wilk: W≈0.901, p=0.04).

are produced without a context, omission of the indefinite determiner is more likely. When the difference between the tasks is considered, we can conclude that the speakers typically know when to use the indefinite determiner in indefinite phrases, as long as there is a context sentence.

Some speakers, however, not only use indefinite phrases without the indefinite determiner, but also occasionally use the definite form of the noun in an indefinite context. An example is given in (5.14), which is uttered by a speaker when she mentions what she sees on the screen. Eight of the speakers utter phrases where the definite suffix appears in an indefinite context, while this was not found in the translation task at all. These phrases are highly infrequent, though; the eight speakers together use 34 phrases like (5.14), while the task elicits 96 indefinite phrases per speaker.[84] Moreover, each individual speaker produced more bare indefinite phrases than indefinite phrases with a definite suffix. In other words, omission of the indefinite determiner is more common than overuse of the definite suffix in an indefinite context.

(5.14)   *fugl-en*
         bird-DEF.M.SG
         intended: 'a bird'
         context: researcher asks "what do you see?"
         (sunburg_MN_18gk, baseline: *en fugl*)

One explanation for examples like (5.14) might be that the definite form is the so-called 'citation form', the form of a word used in word lists or as the answer to the question "what is this called?". As noted by Dahl (2015:48-49), the definite form is used as the citation form in some Swedish dialects, and something similar could explain the occurrence of examples like (5.14) in the picture-aided elicitation task. At the same time, however, it could indicate that these speakers have difficulty with marking definiteness. The fact that this difficulty is more pronounced in the picture-aided elicitation than in the translation task is unsurprising, since the nominal phrases are elicited in isolation in the former. In this way, the non-baseline-like use of definite forms in indefinite conditions could also be considered a task effect.

The non-baseline-like unmodified definite phrases require a different explanation. Many of the non-baseline-like definite phrases are plural nouns with an indefinite plural suffix. In other words, part of the lower-than-ceiling score on this condition is caused by difficulty with marking definiteness in the plural. This is not restricted to the picture-aided elicitation task, as we observed a similar pattern in the results from the translation task (Section 5.2 above). In the picture-aided elicitation task, this difficulty seems to be amplified. For many participants, their score on definite phrases improves if only singular nouns are analyzed. Speaker sunburg_MN_09gm serves as an example. In most cases, he produces baseline-like definite phrases, as in (5.15a-b), and the only occurrences of non-baseline-like definite phrases are in the plural (5.15c).

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[84]Recall from Section 4.2.2 that the picture-aided elicitation task elicits 32 indefinite phrases and 64 modified indefinite phrases.

(5.15) a. *hus-et*
            house-DEF.N.SG
            'the house'

     b. *konvolutt-en*
            envelope-DEF.M.SG
            'the envelope'

     c. *føtt-er*
            feet.PL-INDF.PL[85]
            'the feet'
            (sunburg_MN_09gm, baseline: *føttene*)

To summarize, it seems likely that at least part of the relatively low scores in the control conditions in the picture-aided elicitation task can be explained by something other than difficulty with expressing definiteness. The general difficulty with plural definites, and the fact that nominal phrases are uttered without a context in the picture-aided elicitation task, largely explain the differences in the results on the two tasks. The results from both experiments clearly show that all speakers have difficulty with CD in modified definite phrases. The results from the picture-aided elicitation corroborate the conclusion from the translation task that CD is vulnerable in AmNo.

Let us now consider the different types of modified definite phrases. In the picture-aided elicitation task, two types of baseline-like phrases were found: phrases with CD (i.e., with both determiner and suffix), and phrases with adjective incorporation (cf. the results from the translation task). Some examples of utterances with CD are given in (5.16) for both singular and plural nouns. Adjective incorporation was much more frequent in the picture-aided elicitation task than in the translation task. Some examples of adjective incorporation are given in (5.17). We can conclude (as from the results of the translation task) that although it is vulnerable, CD has not completely disappeared from AmNo.

(5.16) a. *den   rød-e   blomm-en*
            DEF.SG red-DEF flower-DEF.M.SG
            'the red flower'
            (coon_valley_WI_06gm)

     b. *den   stor-e   jordbær-et*[86]
            DEF.SG large-DEF strawberry-DEF.N.SG
            'the large strawberry'
            (iola_WI_05gm)

     c. *de   gul-e   hus-a*
            DEF.PL yellow-DEF house-DEF.PL
            'the yellow houses'
            (westby_WI_01gm)

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[85]This speaker uses the suffix *-a*, which is in some dialects used as the definite plural on masculine nouns. However, these dialects would differentiate between indefinite and definite plural. This speaker uses the same form in both contexts, and therefore the example in (5.15c) is analyzed as a non-baseline-like definite phrase.

[86]In this example, the determiner is non-baseline-like with respect to gender. In the baseline,

(5.17)   a.   *bron-brød-et*
              brown-bread-DEF.N.SG
              'the brown bread'
              (coon_valley_WI_10gm)
         b.   *grønn-epl-et*
              green-apple-DEF.N.SG
              'the green apple'
              (flom_MN_01gm)
         c.   *rød-tog-en*
              red-train-DEF.M.SG
              'the red train'
              (westby_WI_06gm)

Apart from these two baseline-like types of modified definite phrases, four types of non-baseline-like modified definite phrases were observed, where CD (or adjective incorporation) would be used in the baseline. These types are the same as in the translation task: phrases without the determiner, without the suffix, bare phrases, and overuse of demonstratives. The frequencies of the different categories are presented in Table 5.5.

	Number	Percentage
Baseline-like		
Compositional definiteness	106	18.28 %
Adjective incorporation	46	7.86 %
Non-baseline-like		
Without determiner	279	47.69 %
Without suffix	23	3.93 %
Bare noun	98	16.75 %
Overuse of demonstrative	33	5.64 %
Total	585	100 %

Table 5.5: Types of modified definite phrases in the picture-aided elicitation task, with the number of occurrences for the whole group of speakers (number of participants = 20).

As can be seen in the table, compositional definiteness is more frequent than adjective incorporation. Together, the baseline-like phrases form 25.98% of the utterances. This is similar to the result in the translation task (cf. Table 5.3 above).

Just like in the translation task, modified definite phrases without the determiner are the most frequent type. Almost half of the utterances (47.69%) are of this kind, and all twenty speakers produce phrases like this. Moreover, all speakers produce phrases without the determiner at a high frequency. Some examples are given below.

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the neuter *jordbær-et* would be accompanied by the neuter determiner *det*.

(5.18)   a.   *norsk-e*   *flagg-en*
             Norwegian-DEF flagg-DEF.M.SG
             'the Norwegian flagg'
             (sunburg_MN_04gk, baseline: *det norske flagget*)

         b.   *grå-e*   *mus-a*
             grey-DEF mouse-DEF.F.SG
             'the grey mouse'
             (sunburg_MN_07gm, baseline: *den gråe musa*)

         c.   *brun-e*   *hund-ene*
             brown-DEF dog-DEF.PL
             'the brown dogs'
             (sunburg_MN_09gm, baseline: *de brune hundene*)

The opposite pattern, where the prenominal determiner is present but the definite suffix is absent, is much less frequent. It is found in less than 4% of the phrases, produced by only six participants. Some examples are given in (5.19); (5.19a) illustrates a singular noun without the suffix and (5.19b) contains an indefinite plural for the expected definite plural.

(5.19)   a.   *den*   *grønn-e*   *bil*
             DEF.SG green-DEF car
             'the green car'
             (sunburg_MN_11gk, baseline: *den grønne bilen*)

         b.   *de*   *to*   *stor-e*   *hend-er*
             DEF.PL two large-DEF hand.PL-INDF.PL
             'the two large hands'
             (sunburg_MN_06gm, baseline: *de to store hendene*)

Bare nouns, where both the definite suffix and the determiner are lacking, are more frequent than phrases with only the determiner (16.75%). This type is used by 14 speakers, of which seven use it relatively frequently. As was observed above, bare phrases are often used in the plural and are (partially) caused by a difficulty with the plural suffixes. Some examples are given in (5.20), where it can also be seen that the adjective is sometimes inflected for definiteness (5.20b) and sometimes not (5.20a).

(5.20)   a.   *brun*   *hest*
             brown horse
             'the brown horse'
             (fargo_ND_08gm, baseline: *den brune hesten*)

         b.   *tre*   *rød-e*   *eple*
             three red-DEF apple
             'the three red apples'
             (sunburg_MN_18gk, baseline: *de tre røde eplene*)

As in the translation task, some phrases with a demonstrative instead of the determiner were found in the picture-aided elicitation task. Two examples

are given in (5.21). In the context that was used in order to elicit modified definite phrases, a demonstrative meaning would be unexpected. Indeed, in a very similar experiment with homeland speakers of Norwegian (Busterud et al., 2019), no such demonstrative phrases were observed. I therefore analyze these phrases as non-baseline-like. They were quite infrequent (see Table 5.5), but three participants produced them often. In other words, these speakers seem to overuse demonstratives as determiners.

(5.21) a. *denne   blå-e   bok-en*
            DEM.SG blue-DEF book-DEF.M.SG
            'the blue book'
            (sunburg_MN_15gm, baseline: *den blåe boken*)
        b. *denne   hvit-e   sau-en*
            DEM.SG white-DEF sheep-DEF.M.SG
            'the white sheep'
            (ulen_MN_01gm, baseline: *den hvite sauen*)

In this section, we have considered the results from the picture-aided elicitation task. From the results, it can be concluded that AmNo speakers differ from homeland Norwegian with respect to the use of CD. In particular the determiner is vulnerable in AmNo: it is very often omitted and all participants produced a considerable number of modified definite phrases without it.

The results from this experiment are in line with the results from the translation task (presented in Section 5.2 above). The results of the two tasks differ with respect to the control conditions, but this can at least partly be explained by task-specific effects. When it comes to CD, the two tasks give very similar results. Although there is much variation within the group, the data clearly show that CD is difficult for all participants. The determiner is particularly vulnerable to omission, and, in addition, the definite plural suffix is vulnerable in some speakers.

5.4 Results across tasks: groups of speakers

The two previous sections made clear that the two elicitation experiments had very similar results at the group level. The mean percentage of baseline-like modified definite phrases was similar and the same types of modified definite constructions were produced by the speakers. In these two tasks, speakers differed from homeland Norwegian in a similar way: modified definite phrases without the determiner were the most frequent category.

However, we can find differences between the scores on CD in the different tasks at the individual level. The percentage of baseline-like modified definite phrases for each participant in the two tasks is given in Table 5.6. Ten people (half of the participants) score lower on the picture-aided elicitation task than on the translation task, while the others have an equal score on both or score higher on the picture-aided elicitation. As was shown in the previous section, the group results did not differ in a statistically significant way between the two

tasks with respect to CD. If the two tasks reflect the speakers' competence of CD in the same way, we would, in addition to this non-significant difference, also expect to find a correlation between the scores. In other words: speakers who score well in the translation task are then expected to score well in the picture-aided elicitation task as well. However, this prediction is not borne out: the correlation test shows a relatively weak correlation which is not statistically significant (Spearman's rho=0.319, S=776.32, p≈0.18, n.s.).

Speaker	Translation	Picure-aided elicitation
We_01gm	20%	74.19%
Io_05gm	72.73%	68.75%
CV_10gm	0%	50%
Su_11gk	33.33%	46.88%
CV_06gm	37.5%	44.83%
Fl_01gm	20%	40%
Fa_01gm	25%	32.26%
We_06gm	0%	26.32%
Ul_01gm	57.14%	22.58%
Su_09gm	33.33%	21.62%
Su_12gk	33.33%	20.83%
Su_07gm	25%	16.67%
Su_15gm	22.22%	14.29%
We_11gm	44.44%	7.69%
Su_18gk	16.67%	6.9%
Su_04gk		5.88%
He_07gk	25%	3.7 %
Su_06gm	12.5%	0%
Fa_08gm	0%	0%
Fa_09gm	0%	0%

Table 5.6: Individual results in the two experiments. For each participant (N=20), the percentage of baseline-like modified definite phrases is given for the translation task and the picture-aided elicitation task. Note that one speaker did not participate in the translation task. The speakers are sorted according to their score on the PAET.

One might wonder what this means, and why there is no clear correlation between the scores in the two tasks. Since CD is difficult for all speakers, there will naturally be some arbitrary variation in how baseline-like their modified definite phrases are. This might have influenced the lack of a clear correlation. In the scatter plot in Figure 5.3, it can be seen that four speakers have a large difference between the two scores. Interestingly, two of them scored much higher on the translation task, whereas the other two scored much higher on the picture-aided elicitation task. Each task could be said to have its own difficulties, and individual speakers might respond differently to these, and this would then lead

to the different scores in the two tasks. On the one hand, the picture-task could be easier since it elicits only nominal phrases, and the participants do not have to translate. On the other hand, the vocabulary might have been more difficult, and the translation task may be more natural since it involves sentences rather than isolated phrases. Every method has its own advantages and disadvantages, and this is in fact the reason why I used two different elicitation experiments to study CD (see also Chapter 4).

Apart from the differences between the two types of tasks, other factors could have played a role. The order of the two tasks varied, and speakers might be more tired during the second experiment. Conversely, they could also become more fluent when they have been speaking Norwegian longer. Of course, there could have been individual differences in focus, how much they liked the experiment, how much the experiment felt like a test, and possibly other factors. It is therefore not surprising that the individual scores vary on the two tasks. In general, however, it is clear that CD is vulnerable in all speakers, and that although they sometimes produce modified definite phrases with CD, more often than not their phrases lack CD.
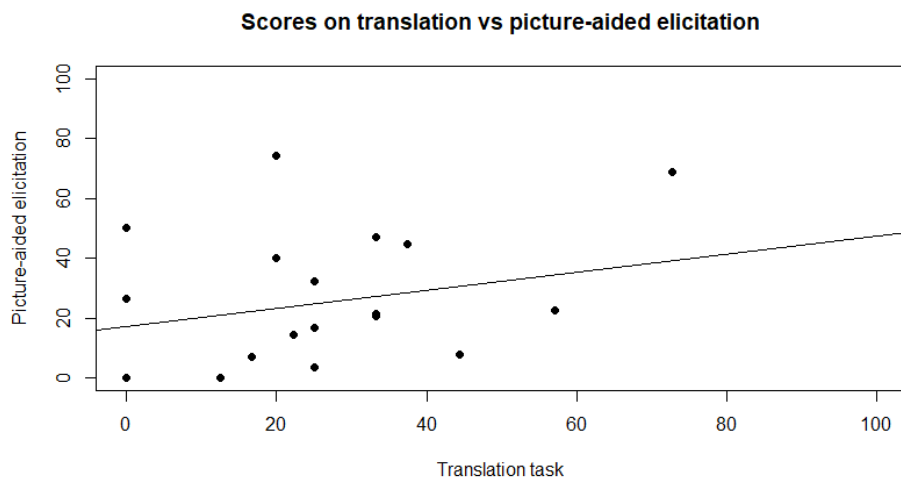
Figure 5.3: Correlation between the scores on baseline-like modified definite phrases in the translation task and those in the picture-aided elicitation task, with regression line. Number of speakers = 19.

In the two sections above, we could observe four types of non-baseline-like modified definite phrases. We saw that these types are not equally frequent, and that not all participants produced all of them. In fact, the participants can be divided into four groups based on the type(s) of non-baseline-like phrases they produced. In grouping the participants, I included three categories: phrases without the determiner, phrases without the suffix, and bare phrases. I did not

take the the overuse of demonstratives into account. Since it was shown above that some speakers have problems with definiteness marking in the plural, a lack of the definite suffix in the plural could be caused by the plural context, rather than by a grammar which permits modified definite phrases without a suffix. I therefore only included singular nouns when I divided the speakers into groups.

The speakers in group 1 (n=5, 25%) only produced baseline-like phrases or phrases without the determiner. They did not produce phrases without the suffix or bare phrases. It varies how often these speakers use CD, but phrases without CD always have the same form: the determiner is omitted.

The speakers in group 2 (n=2, 10%) produced two types of non-baseline-like phrases: phrases without the determiner and phrases without the suffix. This means that all modified definite phrases produced by these speakers contained at least one definiteness marker. Note that for both of the speakers in this group, the number of phrases without the suffix is low: only 1 or 2 instances. So, even though these speakers sometimes uttered modified definite phrases without the suffix, the suffix is still more stable than the determiner in these speakers' language.

Group 3 (n=6, 30%) also consists of speakers who produced two types of non-baseline-like phrases, but in addition to the phrases without a determiner they produced bare phrases. This means that the non-baseline-like phrases of these speakers either lack the determiner, or lack both the determiner and the suffix. Five of the speakers in group 3 more often produced phrases without the determiner than bare phrases, and for one speaker (fargo_ND_08gm) the two types are equally frequent (9 instances of bare definites, and 9 singular phrases without the determiner).

Group 4 (n=7, 35%) is the largest group, and could be said to be the most disparate. These speakers produced all three types of non-baseline-like phrases: without the determiner, without the suffix, and bare definites. Again, most of the speakers mainly produced phrases without the determiner, along with some other types of non-baseline-like phrases. For two speakers (hendricks_MN_07gk and fargo_ND_09gm), bare phrases are the most frequent type, and for one speaker (sunburg_MN_11gk), phrases without the suffix are most frequent.

In Table 5.7 below, the four groups of speakers are summarized. Appendix C provides a table with the individual speakers' use of the different types of modified definite phrases.

In the patterns of production discussed above, several things should be observed. First, the results are systematic. In particular, all speakers produced modified definite phrases without the determiner. Even when they also uttered other types of modified definite phrases, the phrases without the determiner are most frequent. Only two speakers (see Appendix C) are an exception to this generalization. The second observation is that there are more speakers who use bare phrases than speakers who use phrases without the suffix. These generalizations together suggest that the determiner is more vulnerable to omission than the suffix. In Chapter 7, I come back to the speakers who produced phrases without the suffix and bare phrases. We will see that there are indications that they are less proficient in Norwegian than the other speakers.

Group 1 (n=5)	Group 2 (n=2)
Without determiner	Without determiner, or without suffix
coon_valley_WI_06gm coon_valley_WI_10gm fargo_ND_01gm westby_WI_01gm westby_WI_11gm	iola_WI_05gm sunburg_MN_12gk

Group 3 (n=6)	Group 4 (n=7)
Without determiner, or bare definite	Without determiner, or without suffix, or bare definite
fargo_ND_08gm flom_MN_01gm sunburg_MN_04gk sunburg_MN_09gm ulen_MN_01gm westby_WI_06gm	fargo_ND_09gm hendricks_MN_07gk sunburg_MN_06gm sunburg_MN_07gm sunburg_MN_11gk sunburg_MN_15gm sunburg_MN_18gk

Table 5.7: Division of the participants (N=20) into four different groups, based on the type(s) of non-baseline-like modified definite phrases they produced during the two production experiments.

5.5 Results from the acceptability judgment task

The results presented so far come from the production experiments, where participants produced spoken Norwegian. In summary, the results show that CD is difficult for all AmNo speakers and that the determiner is the most vulnerable element. Some phrases without the suffix were also found, but they seem to be restricted to a subgroup of speakers. In addition, difficulty with the definite suffix is found in the plural in particular. In addition to these production experiments, I conducted an acceptability judgment task (AJT), to investigate whether the observed types of modified definite phrases were accepted by the speakers. This task provides a different type of data (judgment rather than elicited production), which gives us a more diverse view of the competence of the speakers.

Recall from Section 4.3.2 that the the participants of the AJT listened to a Norwegian sentence, and that they were asked to repeat the sentence and then judge how acceptable it was. The judgment scale had three points: 'good' (acceptable), 'slightly wrong' (marginal), and 'completely wrong' (unacceptable). In addition, the participants could choose 'question mark' when they did not understand the question or could not choose. The participants could always ask to hear the Norwegian sentence again, or ask the researcher to explain a word they did not hear or understand.

As was described in Section 4.3.2, the AJT was difficult for the AmNo speakers,

as well as time-consuming. As a result, only seven speakers participated in the AJT and six of them completed only half of the experiment (30 sentences out of 60). This means that the amount of data is small, and that we can only draw tentative conclusions. However, the results from the AJT still show us two things. First, we will see in this section that its results support the findings from the elicited production tasks. Although the AJT does not constitute the strongest data set by itself, it strengthens my conclusions based on the production data. In addition, I show how this type of task can be used with this population of elderly, illiterate heritage speakers. As expected, AJTs are difficult for them (see also Section 4.3.3), but including repetition can give us insights into the linguistic competence of the speaker.

In this section, I discuss the results from four of the conditions in the AJT.[87] These conditions contained four types of modified definite phrases that were found in the elicited production experiments: with CD (n=8), without the determiner (n=4), without the suffix (n=4), and bare definites (n=4). An example sentence from each condition is given in (5.22), with the relevant nominal phrase in bold face.

(5.22) a. Condition: phrase with CD
        Det store huset *er veldig gammelt.*
        'The large house is very old.'
    b. Condition: phrase without the determiner
        Jenta ser ***hvite hesten****.*
        'The girl sees the white horse.'
    c. Condition: phrase without the suffix
        Mannen liker ***den grønne bil****.*
        'The man likes the green car.'
    d. Condition: bare definite phrase
        Jeg ser ***gule fugl****.*
        'I see the yellow bird.'

The group judgments of these four types of modified definite phrases are given in Table 5.8 below. For each condition, the table indicates how often the group of participants judged the sentences from that condition to be acceptable, marginal, or unacceptable. As can be seen, 84.38% of the phrases with CD were judged to be acceptable (n=27 out of 32 judgments in this condition). Interestingly, this condition has the lowest acceptance rate, while it is the only one that is grammatical in homeland Norwegian. That being said, the difference between the four categories is not large; all four conditions are judged more or less equally acceptable by the AmNo speakers. In other words, the AmNo speakers do not seem to make a distinction between the conditions.

It is not uncommon for heritage speakers to accept more than homeland speakers (see Section 4.3), and this is also true for the AmNo speakers in this

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[87]The AJT contained several different conditions, see Section 4.3.2. The results from the conditions that are not mentioned here are discussed in later chapters, at the point where they are relevant; specifically in Section 6.2.1.

	with CD		no det.		no suf.		bare phrase	
	n	%	n	%	n	%	n	%
Acceptable	27	84.38%	15	93.75%	15	93.75%	15	93.75%
Marginal	2	6.25%	1	6.25%	0	0%	0	0%
Unacceptable	1	3.13%	0	0%	1	6.25%	0	0%
Question mark	2	6.25%	0	0%	0	0%	1	6.25%
Total	32	100%	16	100%	16	100%	16	100%

Table 5.8: The judgment data from the group of AmNo speakers (number of participants = 7) on four types of modified definite phrases: with CD, without the determiner, without the suffix, and bare phrases that lack both suffix and determiner.

AJT. The homeland speakers in the control groups only judged phrases with CD as acceptable, while the AmNo speakers seem to accept all types of modified definite phrases.[88] This difference between homeland and heritage speakers is partly caused by the insecurity heritage speakers have of their language skills, and their general reluctance to reject sentences (the "yes-bias", see Section 4.3). But it can also be caused by a different underlying grammar. Given the production results, it is surprising that the speakers judged all conditions equally acceptable. In the elicitation experiments, the suffix was found to be stable and it is therefore unexpected that speakers who never omit the suffix judge phrases where it is lacking to be acceptable.

However, the AJT did not only collect judgments from the participants; they were also asked to repeat the sentences. These repetition data are, as we will see shortly, useful to distinguish the four conditions. In the analysis of the repetitions, I used four categories: The first category is 'repetition', which means that the participant repeated the stimulus sentence. For a response to be counted as a repetition, the relevant (tested) construction had to be repeated by the speaker without modification. If an irrelevant element of the sentence was changed or left out, the sentence was still analyzed as a repetition.[89] When the participant changed the sentence in such a way that the relevant construction was no longer part of it, I analyzed this response as 'changed'. An example of a change is when a definite phrase was repeated as an indefinite phrase. I labeled a response as a 'correction' when the participant changed the sentence from

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[88] For the homeland speakers who judged the written sentences, the acceptance rates are the following: 96.43% for phrases with CD, 0% for phrases without the determiner, 7.14% for phrases without the suffix, and 0% for bare phrases. For the homeland speakers who judged the spoken sentences, the acceptance rates are the following: 100% for phrases with CD, 3.57% for phrases without the determiner, 10.71% for phrases without the suffix, and 3.57% for bare phrases. Complete results from the control groups can be found in Appendix D.

[89] To illustrate, the following stimulus was used (i) *Den roaden er stengt, så vi tar den andre* 'This road is closed, so we take the other one'. One response was (ii) *Den roaden er stengt, så vi må ta den andre* 'This road is closed, so we <u>must</u> take the other one'. In (ii), the relevant nominal phrase of (i) was repeated (*den andre*), and therefore (ii) is categorized as a repetition.

something that would be ungrammatical in the baseline in something that would be grammatical. An example of a correction is the addition of a determiner to a modified definite phrase that did not contain a determiner in the stimulus sentence. The opposite, when the speaker changed a sentence to something that is ungrammatical according to the baseline, is called a 'false correction'. In other words, correction means that the speaker produced something that is baseline-like, whereas false correction means they changed to something that is unlike the baseline. Both types of responses are more implicit reactions to the acceptability of the stimulus sentence than explicit acceptability judgments.

The results of the repetition part of the AJT are presented in Table 5.9. Of the seven participants, only five were asked to repeat the sentences. As a result, the repetition data contain fewer responses than the judgment data in Table 5.8. The table summarizes how often each type of modified definite phrase was repeated, changed, corrected, or falsely corrected. The results reveal some differences between the four conditions, while the results of the explicit judgments did not (cf. Table 5.8). As can be seen, modified definite phrases without the determiner were repeated in all instances, while sentences from the other three conditions were repeated less often. Phrases with CD were sometimes falsely corrected (i.e., changed to something unlike the baseline), while phrases without the suffix were corrected by some speakers. For the bare phrases, the interpretation turns out to be important, as we will see shortly.

	with CD		no det.		no suf.		bare phrase	
	n	%	n	%	n	%	n	%
Repetition	21	80.77%	11	100%	7	58.33%	10	83.33%
Correction	0	0%	0	0%	4	33.33%	0	0%
False correction	3	11.54%	0	0%	0	0%	0	0%
Change	2	7.69%	0	0%	1	8.33%	2	16.67
Total	26	100%	11	100%	12	100%	12	100%

Table 5.9: The repetition data from the group of AmNo speakers on four types of modified definite phrases: with CD, without the determiner, without the suffix, and bare phrases that lack both suffix and determiner.

Modified definite phrases with CD (sentences like (5.22a) above) were generally accepted (84.38%) and repeated correctly (80.77%). One speaker judged one of the sentences in this condition as marginal, and mentioned that he preferred the structure without the determiner, see (5.23). Moreover, there were three cases of false correction (11.54%). In these cases, the speakers changed a sentence with CD to a sentence without CD, which would be ungrammatical in homeland Norwegian. Two of those are a false correction to a phrase without the determiner (5.24), and the other one is a false correction to a phrase without the suffix (5.25).

(5.23) a. stimulus: *Det grønne eplet smaker godt.*
           'The green apple tastes good.'
        b. comment: "I would just say __ *Grønne eplet smaker godt*"
           (flom_MN_01gm)

(5.24) a. stimulus: *Det store huset er veldig gammelt.*
           'The large house is very old.'
        b. response: __ *Store huset er veldig gammelt.*
           (ulen_MN_01gm)

(5.25) a. stimulus: *Mannen liker den nye bilen.*
           'The man likes the new car.'
        b. response: *Mannen liker den nye bil__*
           (sunburg_MN_16gm)

Sentences that contained modified definite phrases without the determiner (e.g., (5.22b) above) were in most cases accepted (93.75%, Table 5.8) and all of them were repeated without modification by the participants (Table 5.9). Given the frequency of this type of non-baseline-like phrase in the production results, this is not surprising. We saw in Table 5.8 above that sentences with phrases without the suffix (e.g., (5.22c)) also had a high acceptance rate (93.75%). However, the results from the repetition data are very different; this condition had the lowest amount of repetitions (less than 60%). Four corrections were found, where the speaker changed the phrase to something that is baseline-like. In all these cases, the suffix was added to create a phrase with CD, as in (5.26). This correction during the repetition could be seen as implicit information on the acceptability of the sentence.

(5.26) a. stimulus: *Jeg ser den svarte fugl.*
           'I see the black bird.'
        b. response: *Jeg ser den svarte fugl-**en**.*
           (flom_MN_01gm, fargo_ND_01gm)

From these results, we can tentatively conclude that the participants prefer phrases with CD over phrases without the suffix. The suffix was added spontaneously, whereas the determiner was never added (in the four conditions under discussion here, cf. Section 6.2.1). This suggests that AmNo is different from the baseline, particularly with respect to the determiner; this is in line with the results from the elicited production tasks. In fact, the results from the AJT and repetition suggest that the determiner is not required by the speakers' grammar.

Sentences with bare phrases (like (5.22d) above) had a high acceptance rate (93.75%, Table 5.8) and a high repetition rate (83.33%, Table 5.9). There were no instances were participants added a determiner or a suffix (or both) to these phrases. However, the (spontaneously given) translations of these sentences or phrases indicate that this type of phrase did not receive a definite interpretation. In nine cases (75%), the sentence was translated to English as indefinite. It seems as though a phrase with neither determiner nor suffix was not interpreted

as a (grammatical) definite phrase, despite the definite inflection of the adjective. Two examples are given below. Note that the participants repeated the definite inflection on the adjective (-*e*), as in the example in (5.27), but nevertheless translated the sentence as indefinite. Some of the participants in the AJT produced bare phrases during the production experiments. The results from the AJT suggest that such phrases are not interpreted as definite, whereas the other three types of phrases that I tested in this task are interpreted as definite.

(5.27) a. stimulus: *Mannen liker store bil.*
            'The man likes the large car.'
        b. response: *Mannen liker store bil.*
        c. translation: "a large car"
            (sunburg_MN_16gm)

(5.28) a. stimulus: *Jeg ser gule fugl.*
            'I see the yellow bird.'
        b. translation: "a yellow bird"
            (westby_WI_06gm, no repetition given)

To conclude, the judgment results in Table 5.8 above did not reveal differences between the four types of modified definite phrases, and I therefore used the repetition data (Table 5.9) and interpretations to draw (tentative) conclusions. Together with the general difficulty heritage speakers have with AJTs (see Section 4.3 for details), one might question whether the results from this AJT are valid results at all. Below, I briefly argue that they are, based on the results of the filler sentences.

In addition to the conditions testing the acceptance of modified definite phrases, the experiment included a set of filler sentences (see also Section 4.3.2). These did not contain modified definite phrases, but were sentences with either grammatical SVO word order (n=10), or ungrammatical SOV word order (n=10), illustrated in (5.29).[90] These sentences did not only function as fillers, but also served to check whether the AmNo speakers would reject or correct sentences at all. In other words, they can be used to check the validity of the experiment. The results of the two filler conditions are given in Table 5.10.

(5.29) a. *Mannen har spist mange epler.*
            'The man has eaten many apples.' (SVO)
        b. *Far skal et nytt hus kjøpe.*
            'Father will buy a new house.' (SOV)

As can be seen in the table, the two conditions of the fillers were judged rather differently by the AmNo speakers. The grammatical SVO-fillers were typically judged to be acceptable (more than 80%). In some of the cases where the participant judged a sentence from this condition to be marginal or unacceptable, they commented on the use of a specific lexical item. It is therefore likely that

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[90]All filler sentences had the grammatical V2 word order, and SOV or SVO refers to the location of the main verb in the sentence. See footnote 64 above.

	filler SVO		filler SOV	
	n	%	n	%
Acceptable	31	81.58%	13	32.5%
Marginal	2	5.25%	6	15%
Unacceptable	4	10.53%	20	50%
Question mark	1	2.63%	1	2.5%
Total	38	100%	40	100%

Table 5.10: The judgment data from the group of AmNo speakers (number of participants = 7) on the filler sentences. SVO-order is grammatical in Norwegian, SOV-order is not.

these sentences were not rejected based on their word order, but based on another factor.[91] One speaker rejected several of the SVO-fillers. This was unexpected since heritage speakers typically tend to behave like homeland speakers when it comes to grammatical sentences (see Orfitelli and Polinsky, 2017). However, since this speaker did not repeat the sentence, it is hard to know exactly what he judged as unacceptable. He did not give any feedback on his judgments either. I think these few unexpected rejections should not be given too much importance, especially since the two filler conditions were judged rather differently at the group level.

Contrary to the SVO-fillers, the ungrammatical SOV-fillers were judged acceptable only in 32.5% of the sentences, and unacceptable in 50%. No other condition of the experiment had such a high rejection rate, and all participants judged some of the SOV-fillers to be ungrammatical. This indicates that these participants can and in fact do reject sentences that are ungrammatical to them. This condition was furthermore the only condition where the participants sometimes explicitly commented on what was ungrammatical in the sentences. This is another clear indication that they were able to notice the ungrammaticality.

When the sentences in the SOV-condition received the judgment "acceptable", they were corrected or changed to a grammatical sentence in virtually all cases. During the repetition of the sentences, some corrections to SVO-order were found (n=4, 15.38%). An example is given in (5.30). In addition to the corrections, there are some instances where the speaker changed the sentence so that it no longer contained a verbal complex (n=6, 23.08%). Due to V2, the OV-VO distinction is not visible in such sentences. All of these changed sentences were grammatical, see (5.31) for an example. Together with the high rate of unacceptable judgments, the corrections and changes indicate that the participants considered the SOV-fillers ungrammatical, and that they rejected them during the task.

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[91]One speaker, for example, rejected the phrase *dra på ferie* 'go on holiday' from the stimulus, and said that *reise på ferie* 'travel on holiday' would be acceptable.

(5.30)   a.   stimulus: *Jenta liker bøker å lese.*
              'The girl likes to read books.'
              (SOV, literally "The girl likes books to read.")
         b.   response: *Jenta liker å lese bøker.*
              (SVO, sunburg_MN_16gm)

(5.31)   a.   stimulus: *Mannen har kuer hatt på farmen sin.*
              'The mas has had cows on his farm.'
              (SOV, literally "The man has cows had on his farm")
         b.   response: *Mannen har kuer __ på farmen hans.*
              'The man has cows on his farm.'
              (fargo_ND_01gm)

The results from the two types of fillers suggest that the AmNo speakers can reject ungrammatical sentences, at least with respect to word order (though they do so less often than the homeland control group speakers).[92] When the heritage speakers did not reject the ungrammatical fillers, they tended to correct them implicitly in the repetitions. As we have seen, such corrections were also found in the modified definite phrases without the suffix. Based on the results of the fillers, I conclude that the AJT was a valid experiment with meaningful results. At the same time, the elicited imitation element in the task that provided repetition results turned out to be crucial in the interpretation of the results on the modified definite phrases.

To summarize, the results from the AJT largely corroborate my conclusions from the elicited production tasks. First, it seems that both phrases with CD and phrases without the determiner are acceptable in AmNo and part of the speakers' grammar. Phrases without the suffix are accepted to a much lesser degree, and seem to be less grammatical than phrases with CD. Finally, modified definite phrases with neither suffix nor determiner do not appear to be acceptable in AmNo.

There is one caveat with respect to these conclusions: the data come from a relatively small group of speakers, and most of them completed only half of the experiment. Therefore, I did not conduct a statistical analysis of the data; a larger study would be needed. At the same time, though, the results show that AJTs are, to some extent, possible with this population of speakers. This is a relevant methodological point: the combination of acceptability and repetition data could also be used in future studies on AmNo, or other groups of elderly heritage speakers. The experiment should however be kept short.

Despite the low number of participants and the low number of items per participant, the results from the AJT corroborate those of the production experiments. The difficulty with CD, the use of modified definite phrases without the determiner, and the stability of the definite suffix were found in individual speakers, across the speakers and, as this section has shown, also

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[92]Sentences with SVO-order had an acceptance rate of 97.14% in the group of homeland speakers who judged the written sentences and 97.14% in the group who judged the spoken sentences. Sentences with SOV order had acceptance rates of 0% and 1.43% respectively. A detailed overview with all results of the homeland speakers can be found in Appendix D.

across different types of data. It seems clear that modified definite phrases without a determiner have become part of American heritage Norwegian. On the other hand, phrases without a suffix are much less frequent and they are part of the language production of certain individual speakers only.

5.6 Summary and conclusion

In the preceding sections, I presented the results from the elicited production experiments and the AJT. From the results, we can conclude that compositional definiteness in American Norwegian differs in systematic ways from the baseline. In the baseline, CD is obligatory in modified definite phrases, but most AmNo speakers use it only occasionally. There is some variation within the group of participants as to how baseline-like their modified definite phrases are, but CD is optional in all speakers. Earlier work on CD in the semi-spontaneous conversation of AmNo speakers (Johannessen, 2015b, Anderssen et al., 2018) also showed a non-baseline-like performance (see Section 3.3.2).

In the results from the two elicited production tasks, four types of non-baseline-like modified definite phrases were found: phrases without the determiner, phrases without the suffix, bare phrases (with neither suffix or determiner), and phrases with a demonstrative instead of a determiner. Interestingly, the results from Anderssen et al. (2018) contain only the first two of these types, and no bare phrases. This difference in findings probably results from a difference in methodology. During the elicitation experiments, the pragmatic context was controlled for, and as a result, it was clear whether the phrase was pragmatically definite or not. When both the determiner and the suffix were omitted from these definite phrases, I categorized the utterance as a bare phrase. Anderssen et al. (2018), on the other hand, used the conversations available in CANS, which is automatically tagged. A search for adjectives followed by a definite noun will provide phrases with CD and phrases without the determiner, and a search for the string 'determiner-adjective-noun' will provide phrases without the suffix. However, phrases with neither the determiner nor the suffix will remain undetected with these searches. In a similar way, it is very hard, if not impossible, to detect demonstratives that are used instead of determiners in CANS.

This illustrates the benefit of using elicited production data in addition to corpus data. Not only could I elicit many more modified definite phrases per speaker than were found in the corpus, but the experiments also controlled for the pragmatic context. This makes it possible to compare the use of CD with a speaker's use of definiteness marking in other phrases (see Section 5.1), and to detect the use of bare modified definite phrases by some speakers. The combination of different types of data (i.e., elicited production and an acceptability judgment task in addition to corpus data), and the fact that they give similar results, make these findings more reliable.

Based on the results presented in this chapter, another methodological point can be made. The present study is the first one to use an acceptability judgment

task (AJT) with AmNo speakers. In this chapter, I argued that this type of task is possible with this population of speakers, but difficult for them at the same time, and should therefore be kept short. The combination of AJT with elicited imitation (i.e., the combination of judgments and repetition data) was argued to be particularly useful, especially with respect to compositional definiteness.

In summary, three main findings can be distinguished in the results presented in this chapter: (i) the typical AmNo modified definite phrase only contains the suffixed article and lacks the prenominal determiner; (ii) some speakers also produce modified definite phrases without the suffix; and (iii) some speakers have difficulty distinguishing between the indefinite plural and the definite plural suffixes. The typical AmNo modified definite phrase with only the suffix is illustrated in (5.32). The finding that the determiner is much more vulnerable to omission than the suffix was consistent across speakers, and across types of data: the (semi) spontaneous speech (in previous research), the elicited production, and the judgment and repetition data (in the present study).

(5.32)   The typical AmNo modified definite phrase
      a.   *hvit-e   hest-en*
           white-DEF horse-DEF.M.SG
           'the white horse'
      b.   Adjective Noun-suffix

The fact that this is the typical AmNo modified definite phrase indicates a language change in AmNo. In the establishment of the baseline in Chapter 3, I showed that the previous generations of AmNo speakers used CD in obligatory contexts. In this respect, the language of the previous generation is similar to present-day homeland Norwegian. In AmNo on the other hand, modified definite phrases without the determiner are uttered frequently and by all speakers. I therefore conclude that this language change is shared by all AmNo speakers, and that phrases without the definite determiner have become part of the language variety as a whole. Importantly, this language change has not made AmNo more similar to English. If transfer had been involved in this change, we would expect the suffix to be omitted rather than the determiner; this is the opposite of what is found.

In Chapter 6, I discuss finding (i) in more detail. First, I propose a syntactic analysis of the determiner-less modified definite phrases. We will then see that the patterns in AmNo are remarkably similar to those in monolingual acquisition of Norwegian. This leads me to argue that the observed language change is related to the acquisitional process of CD and the prenominal determiner in particular.

Findings (ii) and (iii) are both related to the suffixed article, and we have seen in this chapter that these patterns are only found in a subgroup of the speakers. In Chapter 7, I discuss this further. The first part of the chapter is concerned with the modified definite phrases without a suffix, and I suggest that they are the result of attrition. I also argue that the speakers who often omit the suffix, and are influenced more by attrition, are less proficient in terms

of speech rate and vocabulary knowledge. In the second part of the chapter, I discuss finding (iii), i.e., the lack of the definiteness distinction in the plural that was found in some speakers. I argue that this can be analyzed in terms of morphological impoverishment in the context of the marked plural feature. I also suggest that this is related to simplification of the heritage language.

Chapter 6

Modified definite phrases without the determiner

In the previous chapter, we could observe three general patterns: Firstly, the determiner is the most vulnerable element in AmNo modified definite phrases, as it is omitted frequently and by all speakers. In addition, a subgroup of speakers has difficulty with the use of the definite suffix in modified definite phrases, and the plural definite suffix turned out to be particularly unstable. The latter two findings, both related to the suffixed article, are discussed in the next chapter. The present chapter is concerned with the phrases without the determiner. The chapter has two goals. First, I provide a syntactic analysis of AmNo that captures the existence of modified definite phrases without the determiner. Secondly, I propose an explanation for the language change that has led to the suggested nominal syntax.

In Section 6.1, I discuss other Scandinavian varieties that have modified definite phrases without a determiner. In Section 6.2, I investigate whether AmNo can be accounted for with a similar syntactic analysis, but I argue that AmNo is in fact different from these Scandinavian varieties. It turns out that AmNo is best described as a language where the spell-out of the definite determiner in D is optional. As we will see in Section 6.3, the patterns found in AmNo are very similar to those in monolingual Norwegian children. I therefore propose that phrases without the determiner have become the typical AmNo modified definite phrase as the result of incomplete acquisition.

6.1 Phrases without the determiner in Scandinavian

In this section, I discuss the syntax of modified definite phrases without a determiner in varieties of Scandinavian. First, Icelandic and Northern Swedish are discussed in Section 6.1.1. In Section 6.1.2, I suggest that this analysis can be extended to determiner-less phrases in homeland Norwegian, and in Section 6.1.3, I show that this suggestion is supported by acceptability judgments from homeland speakers. In other words, I argue in this section that modified definite phrases without a determiner in different Scandinavian varieties can be accounted for with one syntactic analysis. However, as will see in Section 6.2, the determiner-less modified definite phrases in AmNo are of a different type.

6.1.1 Icelandic and Northern Swedish

In Section 3.2, I discussed the syntactic analysis of compositional definiteness and I adopted the analysis of Julien (2002, 2005). As noted, there are two basic assumptions in this analysis. The first is that the DP layer must contain overt

material in order to make the phrase referential, and the second assumption is that D must agree in features with N. Julien argues that the differences between the Scandinavian languages are caused by different strategies to fulfill the first requirement. In this thesis, I build on Julien's analysis of the Scandinavian nominal phrases, and propose an analysis that captures the patterns found in AmNo.

The syntactic structure of the Scandinavian nominal phrase is given in (6.1), and I briefly summarize Julien's analysis below, before I discuss the analysis of Icelandic and Northern Swedish.

(6.1)   The structure of Scandinavian DPs
(adopted from Julien, 2005:11, see Section 3.2.1)

```
        DP
       /  \
        DP
       /  \
      D    CardP
          /   \
       WQP    CardP
             /   \
          Card    αP
                 /  \
               AP    αP
                    /  \
                   α    ArtP
                       /   \
                     Art    NumP
                           /   \
                        Num    NP
                               /\
                              NP
                             /\
                            N
```
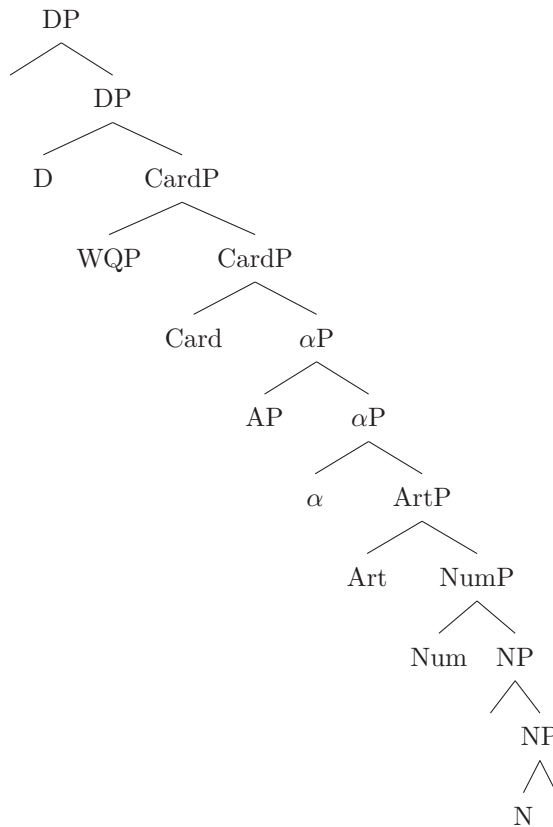
In Norwegian unmodified phrases, the projections CardP and αP are absent, and the DP is located directly on top of the ArtP. In definite unmodified phrases, the complex Art-head (which is created through movement and contains N, Num, and Art, see Section 3.2.1) moves to Spec-DP. As a result, there is overt material in the DP layer, and the phrase can receive a referential interpretation. In modified phrases, on the other hand, an adjective (headed by αP) or a cardinal number (headed by CardP) is present, and this blocks the movement of ArtP to

Spec-DP. To fulfill the requirement that the DP layer must be overt, D is spelled out. As a result, modified definite phrases show CD, as in (6.2).

(6.2)   *det   stor-e   hus-et*
         DEF.N.SG large-DEF house-DEF.N.SG
         'the large house'

This analysis applies to the Scandinavian languages that have CD: Norwegian, Swedish, and Faroese. There are two Scandinavian varieties that do not use prenominal determiners: Icelandic and Northern Swedish. In these languages, modified definite phrases only contain the suffixed article, as illustrated in (6.3-6.4). This makes them at least superficially similar to the typical modified definite phrase in AmNo.

(6.3)   *græn-a   kjól-inn*
         green-M.SG.ACC dress-DEF.M.SG.ACC
         'the green dress'
         Icelandic (Julien, 2002:287)

(6.4)   *grann-hest-a*
         fine-horse-DEF.PL
         'the fine horses'
         Northern Swedish (Julien, 2002:288)[93]

Icelandic is different from the other Scandinavian languages in that it has case marking, which means that agreement between D and Art includes case features (e.g., accusative in (6.3)). Julien (2005) suggests that the referentiality of a phrase does not depend on D in Icelandic, but can be enabled by overt case marking. This explains why Icelandic indefinite phrases do not have an indefinite determiner, whereas the indefinite determiner is obligatory in the other Scandinavian languages (putting aside exceptions such as mass nouns). In definite phrases, Julien (2002, 2005) proposes that αP, which contains both AP and the complex ArtP, moves to Spec-DP. This movement can be observed in phrases that also contain a cardinal number, because αP then moves across CardP. As a result, the numeral ends up at the end of the nominal phrase in the surface structure. This is illustrated in (6.5) below.

(6.5)   *fræg-u   bæk-ur-nar   mín-ar   þrjár*
         famous-W.PL book-F.PL.NOM-DEF.PL my-F.PL.NOM three
         'my three famous books'
         Icelandic (Vangsnes, 1999:145; Julien, 2002:284)

Julien (2002, 2005) moreover suggests that this movement of αP to Spec-DP is enabled in Icelandic by its case marking. American Norwegian does not have overt case marking.[94] In addition, AmNo does not allow for the word order in

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[93]As was discussed in Section 3.1.2.3, adjective incorporation as illustrated in (6.4) is also found in some Norwegian dialects, especially in the Trøndelag region.

[94]See footnote 38 in Chapter 3.

(6.5); cardinal numbers precede the adjective and the noun (see e.g., example (5.4)). Therefore, one might argue that a similar movement of αP to Spec-DP cannot explain the modified definite phrases without a determiner in AmNo.

However, Julien (2002, 2005) proposes another restriction on αP-to-Spec-DP movement in Icelandic: the movement can only happen when the noun is overt. In cases of noun ellipsis, a prenominal determiner is obligatorily inserted in D, as in (6.6). Julien argues that only elements with a referential index can move to Spec-DP, and that adjectives lack such a referential index. Therefore, αP can only move if it contains an element with a referential index, in other words, a noun.

(6.6)   *Ég keypti *(þann)   græn-a*
        I   bought DEF.M.SG.ACC green-M.SG.ACC
        'I bought the green one'
        Icelandic (Julien, 2002:286)

Northern Swedish complicates the picture. Much like Icelandic, the Northern Swedish dialects lack definite prenominal determiners (see (6.4) above). Julien (2002, 2005) argues that αP moves to Spec-DP in modified definite phrases. However, it is important to note that Northern Swedish lacks case marking on nominals. Therefore, I suggest that case marking is not the crucial enabling factor for αP-to-Spec-DP movement. As in Icelandic, ellipsis of the noun leads to a special construction in Northern Swedish. In such phrases, the adjective carries the definite suffix, as in (6.7). This suffix can be analyzed as a realization of D (Julien, 2005:63), suggesting that D must be visible when there is no noun in the αP.

(6.7)   *stor-en*
        big-DEF.M.SG
        'the big one'
        Northern Swedish (Julien, 2005:63)[95]

Northern Swedish differs from Icelandic with respect to the position of cardinal numbers. Contrary to Icelandic, the Northern Swedish αP cannot move across CardP, so the cardinal always precedes the adjective and the noun (see (6.8), cf. with (6.5) above). When a numeral is present, movement of αP is blocked and D must be made visible. Since Northern Swedish does not have prenominal determiners, a (complex) demonstrative is inserted, as illustrated in (6.8).[96]

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[95]As pointed out in footnote 93 above, some Norwegian dialects are similar to Northern Swedish in that they use adjective incorporation in modified definite phrases. These dialects might also be expected to use the suffixed article on the adjective in case of ellipsis. As we will see below, an AmNo speaker who uses adjective incorporation indeed produces a phrase similar to (6.7).

[96]It is beyond the scope of the current study to discuss all the details of Northern Swedish. Julien (2002:287-288) provides a detailed analysis of the complex demonstrative in the role of a definite determiner in example (6.8). I remain agnostic about this analysis, but adopt her glosses.

(6.8) *dem-derna trei grann-hest-a*
they-there three fine-horse-DEF.PL
'the three fine horses'
Northern Swedish (Vangsnes, 1999:138; Julien, 2002:287)

To summarize, Icelandic and Northern Swedish do not have CD. Their modified definite phrases without a determiner can be analyzed as movement of αP to Spec-DP. In (6.9), the structure of a nominal phrase after αP-to-Spec-DP movement is given. This movement fulfills the requirement that the DP layer must contain overt material. Contrary to Julien, I do not think case marking is a prerequisite for this movement. There are two constraints on αP-to-Spec-DP movement: the noun must be overt (in both languages), and there cannot be an intervening cardinal number (in Northern Swedish).[97]

(6.9) Nominal phrase with αP-to-Spec-DP movement

```
                        DP
               _____/  _____
             αP                    DP
          __/  \__                __/ \__
        AP        αP             D     αP̶
              __/  \__
            α        ArtP
                  __/  \__
                Art       NumP
             __/ \__     __/ \__
           Num   Art   N̶um     NP
          __/ \__               |
         N    Num               N̶
```
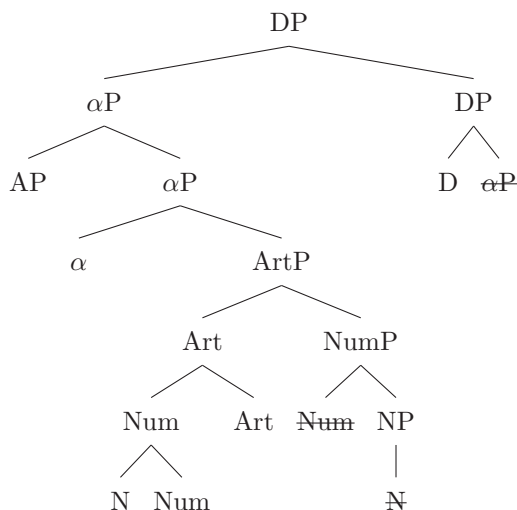
Of the two languages discussed so far, AmNo is more similar to Northern Swedish, based on word order (Card-Adj-N) and absence of case marking. The question now is: could a similar analysis of αP-to-Spec-DP movement explain the existence of modified definite phrases without determiners in AmNo? If the answer to this question is yes, it can be expected that the two constraints found in Northern Swedish also hold in AmNo. It is then predicted that the definite determiner is still obligatory in two cases: when there is a numeral in the phrase, and when there is ellipsis of the noun. Since CD is still found in AmNo, αP-to-Spec-DP movement cannot be obligatory as it is in Icelandic and Northern Swedish. The hypothesis would therefore be that αP-to-Spec-DP movement has become available in AmNo as an alternative to CD. As we will

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[97]The difference between Icelandic and Northern Swedish with respect to the position of the cardinal number is interesting, but will not be discussed further here. See Julien (2002:284-285) for an explanation.

see in Section 6.2.1, there is, however, little evidence for this.

6.1.2   Homeland Norwegian

If AmNo is indeed like Northern Swedish, and αP-to-Spec-DP movement can explain the determiner-less modified definite phrases in AmNo, this movement has become available in the language. This means that the input must have been such that it contains evidence for both CD and αP-to-Spec-DP movement. Put differently, there should be evidence in homeland Norwegian for this movement. Therefore, the question is whether determiner-less phrases found in Norwegian can also be accounted for in terms of αP-to-Spec-DP movement.

   The baseline for CD was established in Section 3.1. We saw that although CD is obligatory, there are exceptions. With a restricted set of adjectives, which were discussed in Section 3.1.2.2, the prenominal determiner is optional. The exceptional adjectives are listed in (6.10) and some examples are given in (6.11).

(6.10)   a.   superlatives
         b.   ordinal numbers
         c.   *siste* 'last', *første* 'first', and *eneste* 'only'
         d.   *andre* 'second, other'
         e.   directional words *venstre* 'left', *høyre* 'right', *øvre* 'upper', *nedre* 'lower', *neste* 'next', and *forrige* 'previous'

(6.11)   a.   *beste   plass-en*
              best.DEF place-DEF.M.SG
              'the best place'
         b.   *første   gang-en*
              first.DEF time-DEF.M.SG
              'the first time'
         c.   *på andre   sid-a*
              on other.DEF side-DEF.F.SG
              'on the other side'
              (Nordic Dialect Corpus, see Section 3.1.2.2 for more examples)

It has been observed by several scholars that these adjectives all express a certain definite semantics or uniqueness (Dahl, 2015:125; Julien, 2005). Julien (2002, 2005) assumes that D can be empty when the phrase is inherently referential, as with personal names. She suggests that when the referent of αP is present in the discourse, the context makes the phrases referential, and that when the semantics of αP uniquely select its referent, the phrase is referential as well. In those cases, the DP seems to be empty. In other words, Julien argues that the requirement that DP must contain overt material in order to be referential can be set aside "in some varieties, under certain conditions" (Julien, 2005:33).

   Given the discussion in the previous section of determiner-less phrases in Icelandic and Northern Swedish, there is an alternative analysis for the homeland Norwegian phrases such as those in (6.11). We could assume that in these cases, the DP is not empty, but that αP has moved to Spec-DP. Julien (2016) proposes

something along these lines: "It is even possible that the adjective can move to D if nothing intervenes" (ibid:80). However, in Section 6.1.1 above, we saw that these phrases in Icelandic and Northern Swedish can be analyzed as having movement of αP —which contains both the adjectival phrase (AP) and the suffixed noun (in ArtP, see the structure in (6.9)) —to Spec-DP. If we extend this analysis to the exceptional adjectives in homeland Norwegian, we could assume that it is the αP that moves, and not the adjective as suggested by Julien (2016). This movement could probably only happen under certain conditions in homeland Norwegian: when the context or semantics of the adjective are inherently definite. In other words, this movement is context sensitive, and happens only with what I refer to as exceptional adjectives (i.e., those listed in (6.10) above).[98]

I suggest that the analysis of determiner-less modified definite phrases in Icelandic and Northern Swedish should be extended to the exceptions in homeland Norwegian. In other words, I assume that these phrases involve movement of αP. It can then be expected that the same restrictions on αP-movement are found as in Northern Swedish. This means that we expect that no cardinal can be present (see also the quote from Julien (2016) above) and that the noun has to be overtly present. In the cases where movement is restricted, αP cannot move to Spec-DP, and D must be spelled out instead, even with the exceptional adjectives. This leads to the predictions below, illustrated with a superlative (6.12) and *andre* 'other, second' (6.13).

(6.12)   Predictions for Norwegian phrases with nominal ellipsis

    a. *(det)*   *eldst-e*   *barn-et*
        DEF.N.SG oldest-DEF child-DEF.N.SG
        'the oldest child'

    b. *(det)*   *eldst-e*
        DEF.N.SG oldest-DEF
        'the oldest one'

(6.13)   Predictions for Norwegian phrases with cardinal numbers

    a. *(de)*   *andre*   *hest-ene*
        DEF.PL other.DEF horse-DEF.PL
        'the other horses'

    b. *(de)*   *tre*   *andre*   *hest-ene*
        DEF.PL three other.DEF horse-DEF.PL
        'the three other horses'

Anderssen (2006) claims that the prediction in (6.13a) is incorrect, and that the determiner is always obligatory when the noun is plural, even with exceptional

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[98]As observed by Julien (2005), in some dialects of Norwegian, the determiner might be left out when the referent is present in the discourse context. I showed in Section 3.1.2 that this is not the case for the regions Oppland and Buskerud, where the current AmNo speakers typically have their ancestors from. I therefore concluded that such phrases are not part of the baseline. In Swedish, the determiner seems to be more optional in these contexts (see Bohnacker, 2003:201, 234).

adjectives (ibid:132-135). However, in my corpus study of the exceptional adjectives (see Section 3.1.2.2), I found examples like the ones in (6.14) below, where the determiner is absent even though the noun is plural. In my corpus results, it is more frequent to include the determiner than to leave it out with plural nouns.[99] Yet, Anderssen's claim seems too strong. At the same time, the prediction in (6.13b) is more important with respect to the hypothesis of αP-movement.

(6.14) a. *det har vært mye vann i bekk-ene*   ***siste***   ***dag-ene***
            it   has been much water in stream-DEF.PL last.DEF day-DEF.PL
            'There has been much water in the streams the last days.'
            (NDC, meraaker_03gm)

    b. *omtrent*   *alle* ***andre*** ***hytte-eier-ene***   *var oppå*
        approximately all   other.DEF cabin-owner-DEF.PL was up.on
        fjell-a.
        mountain-DEF.PL
        'about all the other cabin owners were up on the mountains.'
        (NDC, rauma_04gk)

I tested the predictions that the determiner is obligatory with the exceptional adjectives when there is ellipsis of the noun and when there is a cardinal number with speakers of homeland Norwegian. The acceptability judgment task (AJT, see Section 4.3) contained three conditions with exceptional adjectives. Two groups of homeland Norwegian speakers participated in the AJT. Based on the results of these control groups, we can compare heritage speakers with homeland speakers, and furthermore test specific predictions about homeland speakers. The result of the homeland AJT with respect to αP-to-Spec-DP movement are presented in the next section.

6.1.3 αP-to-Spec-DP movement in homeland Norwegian

As described in Section 4.3, I carried out the AJT with two control groups of seven participants each. The first control group judged the sentences in written form, and the second control group judged the sentences in spoken form. The latter group was also age-matched and followed the same procedure as the AmNo speakers, including repetition of the sentences. The group who judged the spoken sentences chose 'marginal' more often, while the group who judged the written sentences judged those sentences as 'ungrammatical'. In general, however, the results of the two groups of homeland speakers are very similar. I therefore discuss the results from the two groups together.

Three conditions of the AJT are relevant for the αP-to-Spec-DP hypothesis, as they contain what I refer to as exceptional adjectives. These conditions are: phrases with exceptional adjectives, phrases that contain an exceptional adjective and a cardinal number, and phrases with an exceptional adjective and ellipsis

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[99]In the study of the exceptional adjectives, I found that about 13% of the plural modified definite phrases with an exceptional adjective lacked the determiner.

of the noun. Each condition was presented twice with a determiner, and twice without a determiner. The αP-to-Spec-DP movement hypothesis predicts that phrases with exceptional adjectives will be accepted in either case, whereas the phrases where the adjective is combined with a cardinal or ellipsis will only be accepted when the determiner is present.

Based on the use of the exceptional adjectives in the Nordic Dialect Corpus (NDC, see Section 3.1.2.2), we expect to find that they can be used with or without the determiner. The results in Table 6.1 are in line with this. The results clearly show that with these adjectives, the determiner can be present: virtually all phrases with a determiner were judged acceptable. In the written group, one speaker judged one of these phrases marginal, and commented that he preferred the phrase without the determiner. The phrases where the exceptional adjective was not combined with a determiner were also accepted, but to a lesser extent (50% and 71.43% in the written and spoken groups respectively).

Phrases with exceptional adjectives							
	Written				Spoken		
	with det.		without det.		with det.		without det.	
	n	%	n	%	n	%	n	%
Acceptable	13	92.86%	7	50%	14	100%	10	71.43%
Marginal	1	7.14%	4	28.57%	0	0%	1	7.14%
Unacceptable	0	0%	3	21.43%	0	0%	3	21.43%
Total	14	100%	14	100%	14	100%	14	100%

Table 6.1: The results from the AJT with homeland Norwegian speakers of definite phrases with an exceptional adjective, with and without the determiner. Sentences were judged in written form by one group of speakers (n=7) and in spoken form by the other group (n=7).

The speakers who judged the written sentences all accepted one of the sentences in the condition without the determiner. Interestingly, all these speakers accepted the sentence in which *andre* 'second' was used without a determiner, whereas the sentence in which a superlative (*største* 'largest') was used without a determiner were judged marginal or unacceptable. This suggests that not all exceptional adjectives behave similarly: the determiner seems to be preferred more with some adjectives than with others. This was also pointed out in Section 3.1.2.2 based on corpus data.

The same difference between the different adjectives without the determiner can be observed in the group which judged the spoken sentences. Furthermore, this group accepted the phrases without the determiner more than the other group. This suggests that the exceptional adjectives without a determiner are more readily accepted in spoken than in written (standardized) language.

In Table 6.2, the results for the phrases with an exceptional adjective and a cardinal number are presented. These results show that the phrases with the determiner had a higher acceptance rate than the phrases without the

determiner. This is found in both groups of homeland speakers, and is in line with the prediction that the determiner is obligatory when the phrase contains a cardinal number. In the written group, some speakers judged the sentence to be marginal or unacceptable even though the determiner was present, which is unexpected. In these sentences, the cardinal was placed before the superlative adjective, as in (6.15a). The negative judgments possibly reflect a preference for the order superlative-numeral, as in (6.15b).[100]

(6.15)   a.   *de   to   siste   uk-ene*
             DEF.PL two last.DEF week-DEF.PL
             'the two last weeks'
             (order: cardinal - superlative)
         b.   *de   siste   to   uk-ene*
             DEF.PL last.DEF two week-DEF.PL
             'the last two weeks'
             (order: superlative - cardinal)

Exceptional adjectives and cardinal numbers							
	Written				Spoken		
	with det.		without det.		with det.		without det.	
	n	%	n	%	n	%	n	%
Acceptable	10	71.43%	0	0%	14	100%	5	35.71%
Marginal	2	14.29%	3	21.43%	0	0%	4	28.57%
Unacceptable	2	14.29%	11	78.57%	0	0%	5	35.71%
Total	14	100%	14	100%	14	100%	14	100%

Table 6.2: The results from the AJT with homeland Norwegian speakers of definite phrases with an exceptional adjective and a cardinal, with and without the determiner. Sentences were judged in written form by one group of speakers (n=7) and in spoken form by the other group (n=7).

The speakers who judged the written sentences never accepted the phrases with an exceptional adjective and cardinal if that sentence lacked the determiner. The speakers who judged the spoken sentences typically rejected these sentences as well, and clearly judged them as less acceptable than their counterparts with the determiner, but they still accepted 35% of the sentences lacking the determiner. This is unexpected given the αP-to-Spec-DP hypothesis.

However, the repetition data provide useful information. In the five cases where this condition was accepted, the speakers corrected the sentence when they repeated it (by adding the determiner). An example is given in (6.16). When the

[100]According to the Norwegian Reference Grammar, the superlatives *første* 'first', *siste* 'last', and other adjectives denoting an order in time can be placed both before and after a cardinal number. Both sentences in (6.15) are thus grammatical in Norwegian. Other superlatives (e.g., *beste* 'best') are placed after the cardinal, just like other adjectives (Faarlund et al., 1997:249).

speakers repeated the sentence as it was presented (without the determiner), they always judged it to be marginal or unacceptable. This is indirect evidence for the hypothesis that the determiner is obligatory when the exceptional adjective is combined with a numeral.

(6.16) a. stimulus: *Det har vært veldig kaldt i tre siste ukene*
        b. repetition: *Det har vært veldig kaldt i **de** tre siste ukene*
            'It has been very cold the three last weeks'
            (control group speaker 1)

The results of the phrases with exceptional adjectives and ellipsis of the noun are presented in Table 6.3. As can be seen in the table, both groups of participants accepted phrases with ellipsis when the determiner was present, but not (or much less) when the determiner was absent.

Exceptional adjectives and ellipsis								
	Written				Spoken			
	with det.		without det.		with det.		without det.	
	n	%	n	%	n	%	n	%
Acceptable	13	92.86%	0	0%	13	92.86%	3	21.43%
Marginal	1	7.14%	5	35.71%	0	0%	6	42.86%
Unacceptable	0	0%	9	64.29%	1	7.14%	5	35.71%
Total	14	100%	14	100%	14	100%	14	100%

Table 6.3: The results from the AJT with homeland Norwegian speakers of definite phrases with an exceptional adjective and ellipsis of the noun, with and without the determiner. Sentences were judged in written form by one group of speakers (n=7) and in spoken form by the other group (n=7).

In each group, only one of the phrases with the determiner was judged marginal or unacceptable, and this might be related to pragmatic factors. Although the sentences created the right context for ellipsis, the participant might consider the sentence "out of the blue" and judge it as less acceptable. The results also show that the phrases without the determiner were judged much less acceptable. In fact, none of the written sentences in this context were accepted. In the spoken experiment, phrases in this condition were accepted only a few times, in one case with a correction during the repetition (see (6.17)). Often, the speakers commented on the sentence with an explicit correction that contained the determiner, i.e., by saying that the phrase should be *den andre* ('the other one') or *den største* ('the largest one'). This indicates that the determiner is obligatory when there is ellipsis of the noun, even with the exceptional adjectives. This is in line with the predictions based on αP-to-Spec-DP movement.

(6.17) a. stimulus: *Den roaden er stengt, så vi tar andre.*[101]
        b. repetition: *Den roaden er stengt, så vi tar **den** andre.*
            'That road is closed, so we take the other one.'

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(control group speaker 4)

In the data presented in this section, the speakers who judged the written sentences and those who judged (and repeated) the spoken sentences do not differ much from each other. Both groups accepted modified definite phrases without the determiner when the adjective was one of the exceptions, although CD seemed to be preferred. Furthermore, both groups rejected the phrases without a determiner when the exceptional adjective was combined with a cardinal number or ellipsis of the noun. This shows that while the determiner is optional if the adjective is one of the exceptions, there are restrictions on this optionality. This is exactly what is predicted by the αP-to-Spec-DP hypothesis, which states that αP can only move to Spec-DP when there is no intervening material and the noun is overt. When these requirements are not met, the determiner is obligatory, as was confirmed by the two groups of homeland speakers in the AJT.

I suggested in Section 6.1.2 that the exceptions in homeland Norwegian, in which the determiner is optional, can be accounted for by αP-to-Spec-DP movement. The results presented above confirm this. As in Icelandic and Northern Swedish, αP can move to Spec-DP in Norwegian. However, this movement is restricted to a small group of adjectives in Norwegian: the exceptions such as superlatives listed in (6.10) above. I therefore conclude that αP-to-Spec-DP movement is found in homeland Norwegian. This means that we can assume that it was part of the language of the first immigrants. In fact, in the available data from the first immigrants in Haugen (1953), we can find modified definite phrases without a determiner, and these are only found with exceptional adjectives (see Section 3.1.3).

To account for the optionality of CD found in American Norwegian, one could assume that αP-to-Spec-DP movement has been generalized to all adjectives in AmNo. As a result of this, the definite determiner would be optional with all adjectives. However, we will see in the next section that this hypothesis is not supported by the data from AmNo. Although αP-to-Spec-DP movement can account for the determiner-less modified definite phrases in homeland Norwegian, it turns out that it cannot account for the patterns in AmNo.

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[101]The word *roaden* 'the road' is a common AmNo word, homeland Norwegian speakers would say *veien* instead. Most speakers commented on this lexical item, and two of the 'acceptable' judgments were given after a discussion about this word. It is possible that this word distracted them from the grammatical structure of the sentence, which results in an unexpected judgment.

6.2 The syntax of American Norwegian modified definite phrases

6.2.1 αP-to-Spec-DP movement tested in American Norwegian

If the αP-to-Spec-DP hypothesis can account for AmNo modified definite phrases without the determiner, we expect to find the same restrictions as in homeland Norwegian, Northern Swedish, and Icelandic. In other words, it is predicted that the determiner is obligatory when a cardinal number intervenes between αP and DP, or when there is ellipsis of the noun. The predictions are presented with examples in (6.18). If αP-movement has spread in AmNo, we expect to find the restrictions on all adjectives, and not only the exceptional adjectives.

(6.18)   Predictions for American Norwegian

    a. *(de)   svart-e   hest-ene*
        DEF.PL black-DEF horse-DEF.PL
        'the black horses'

    b. **(de)   tre   svart-e   hest-ene*
        DEF.PL three black-DEF horse-DEF.PL
        'the three black horses'

    c. *(den)   hvit-e   hest-en*
        DEF.SG white-DEF horse-DEF.M.SG
        'the white horse'

    d. **(den)   hvit-e*
        DEF.SG white-DEF
        'the white one'

In the following, I test these predictions with two types of data: the relevant utterances during the elicited production tasks, and the results from the acceptability judgment task (AJT). During the two elicitation experiments, phrases with a cardinal number and phrases with ellipsis were not elicited on purpose, but some were uttered spontaneously by the participants. Although they are limited in number, they can be used to test the predictions in (6.18).

    The results of the two elicitation tasks contain altogether 77 definite phrases with a cardinal number (53 with a cardinal and an adjective, 24 with just a cardinal). Of these, 24 occurred with a determiner (31.17%), which is in line with the predictions and what we would expect from homeland Norwegian. An example is given in (6.19a). However, the remaining 53 phrases did not contain a determiner (68.83%), see (6.19b). In other words, a majority of the phrases with a cardinal number are not in accordance with the predictions above. Instead, it seems rather random whether a determiner is included in these phrases.

(6.19)   a. *de   tre   rød-e   bøk-ene*
          DEF.PL three red-DEF book-DEF.PL
          'the three red books'
          (iola_WI_05gm, PAET, in accordance with the predictions)

b. *to   bron-e   hund-ene*
two brown-DEF dog-DEF.PL
'the two brown dogs'
(westby_WI_06gm, PAET, contrary to the predictions)

Only 15 definite phrases with ellipsis of the noun were uttered during the elicitation experiments. Most of them (86.67%) are in accordance with the predictions: they include a determiner (6.20a), or a suffixed article on the adjective (6.20b) (like Northern Swedish in example (6.7) above). Two of the phrases with ellipsis (13.33%) did not contain a determiner (6.20c), which means that these phrases only contained the adjective.

(6.20)   a. *den   stor-e*
DEF.SG big-DEF
'the big one'
(westby_WI_11gm, PAET, in accordance with the predictions)

b. *gul-en*
yellow-DEF.M.SG
'the yellow one'
(fargo_ND_08gm, PAET, in accordance with the predictions)

c. *hvit-e*
white-DEF
'the white one'
(fargo_ND_09gm, PAET, contrary to the predictions)

In total, the results from the elicitation experiments contained 92 contexts in which the αP-to-Spec-DP hypothesis could be tested. Less than half of these utterances support the hypothesis (n=37, 40.22%). The remainder (n=55, 59.78%) did not contain a determiner, contrary to the predictions. We can conclude that the (admittedly limited) data from the elicited production experiments do not provide evidence for αP-to-Spec-DP movement in American Norwegian.[102]

In addition to the spoken language data, the contexts in which the αP-to-Spec-DP hypothesis can be tested were part of the AJT (see Section 4.3). Section 5.5 considered the results of a part of the AJT, which tested several types of modified definite phrases. The experiment also contained two conditions testing the αP-to-Spec-DP hypothesis: phrases with cardinal numbers and phrases with ellipsis of the noun. Both conditions contained two sentences with a determiner, and two sentences without a determiner. However, it should be kept in mind that most speakers only completed half of the experiment, and therefore only judged two phrases with a cardinal number (one with and one without the determiner) and two phrases with ellipsis (one with and one without the determiner). In

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[102]In modified definite phrases with only an adjective (no cardinal or ellipsis), 46.25% lacks the determiner. This means that in phrases with a cardinal number, the determiner is more often left out (54.72%) than in regular modified definite phrases, whereas in phrases with ellipsis the determiner is far less frequently left out (13.33%) than in regular phrases.

other words, the numbers per condition are low. Nevertheless, some tentative conclusions can be drawn.

The judgment data for modified definite phrases with cardinal numbers are given in Table 6.4. As can be seen in the table, phrases with and phrases without the determiner have the same acceptance rate (87.5%). One of the sentences without a determiner was judged unacceptable, but one of the sentences with a determiner was judged marginal. In other words, the two types of phrases received very similar judgments.

Phrases with a cardinal number				
	With determiner		No determiner	
	n	%	n	%
Acceptable	7	87.5%	7	87.5%
Marginal	1	12.5%	0	0%
Unacceptable	0	0%	1	12.5%
Total	8	100%	8	100%

Table 6.4: Results from the AJT with AmNo speakers on modified definite phrases with a cardinal number (number of participants = 7).

Considering the repetition data, the speakers never repeated the phrases that contained both a cardinal number and a determiner in exactly the way it was presented. Instead, they always made some modification. In three cases (60%), the participant repeated the determiner but changed the nominal to an indefinite plural noun, as in (6.21). I analyzed this as a false correction, since the sentence is changed to something that is ungrammatical in homeland Norwegian. In the two other repetitions (40%), the participants left out the determiner during repetition and also produced indefinite plural nouns. In other words, these responses contained an indefinite phrase rather than the definite one in the stimulus sentences. An example of such a changed repetition is given in (6.22).

(6.21)   a.   *Mannen ser   på de   tre   unge   gutt-ene*
             man.the looks at DEF.PL three young boy-DEF.PL
             'The man looks at the three young boys.' (stimulus)
      b.   *Mannen ser   på de   tre   unge   gutt-**er***
             man.the looks at DEF.PL three young boy-INDF.PL
             'The man looks at the three young boys.'
             (repetition, sunburg_MN_16gm)

(6.22)   a.   *Jenta   hører de   fire blåe fugl-ene*
             girl.the hears DEF.PL four blue bird-DEF.PL
             'The girl hears the three blue birds.' (stimulus)
      b.   *Jenta   har hørt   __ fire blåe fugl-**er***
             girl.the has heard __ four blue bird-INDF.PL
             'The girl has heard three blue birds.'
             (repetition, ulen_MN_01gm)

One of the conclusions from the elicitation experiments was that some speakers have difficulty distinguishing indefinite from definite plural suffixes in their language production (see Section 5.1). The same is found here in the judgment task: all speakers changed the form of the noun to indefinite when they repeated the sentences in this condition. One speaker judged a sentence with a cardinal number and a determiner to be marginal, and he mentioned he would say the sentence with the modified noun phrases as indefinite (without a determiner), see (6.23) for his repetition and comment.

(6.23) a. *Mannen ser   på de   tre   unge   gutt-ene*
            man.the looks at DEF.PL three young boy-DEF.PL
            'The man looks at the three young boys.' (stimulus)
        b. *Mannen ser   på de   tre   unge   gutt-**er***
            man.the looks at DEF.PL three young boy-INDF.PL
            'The man looks at the three young boys.'
            (repetition, flom_MN_01gm)
        c. *I would say "Mannen ser   på _ tre   unge   gutt-**er**"*
            I would say man.the   looks at _ three young boy-INDF.PL
            (comment, flom_MN_01gm)

The same preference for indefinite plurals is found in the sentences with a cardinal number without a determiner. Fifty percent of these sentences were corrected by the participants to a grammatical phrase (n=3, 50%). It is however hard to conclude from this, because these corrections were different than expected in the αP-to-Spec-DP hypothesis. Rather than adding the determiner, the noun was made indefinite by the speakers, as in (6.24). This is further evidence for the difficulty speakers have with definite plural suffixes.[103] As was described in Section 5.1, there were speakers who distinguished between indefinite and definite plurals during the elicitation experiments. Interestingly, those speakers who did so and participated in the AJT only used the indefinite plural during the AJT (these speakers are fargo_ND_01gm and ulen_MN_01gm).

(6.24) a. *Mannen ser   på tre   snille gutt-ene*
            the.man looks at three kind   boy-DEF.PL
            'The man looks at the three kind boys.' (stimulus)
        b. *Mannen ser   på tre   snille gutt-**er***
            man.the looks at three kind   boy-DEF.PL
            'The man looks at (the) three kind boys.'
            (repetition, sunburg_MN_16gm)
        c. *Mannen ser   på **de**   tre   snille gutt-ene*
            man.the looks at DEF.PL three kind   boy-DEF.PL
            'The man looks at the three kind boys.'
            (expected correction, not attested)

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[103]The preference for indefinite phrases might be pragmatic in addition to the observed difficulty with plural definite suffixes. The sentences were presented without a context ("out of the blue"), and although the participants were told not to judge the content, indefinite nouns might be preferred in such situations.

The results from the definite phrases with cardinal numbers provide further evidence for the vulnerability of the definite plural suffix, which was also observed during the elicitation experiments. However, because of this, it is difficult to conclude anything about the obligatoriness of the determiner. There does not seem to be enough evidence to assume that the determiner is obligatory in definite phrases with cardinal numbers; this is at odds with the αP-to-Spec-DP hypothesis in (6.18a-b).

The second context in which the hypothesis can be tested is definite phrases with ellipsis of the noun. In Table 6.5, the results for these phrases are presented. As can be seen in the table, phrases with a determiner and phrases without a determiner have the same acceptance rate (87.5%). In the phrases with ellipsis without a determiner, some corrections were found, but these are no more frequent than un-corrected repetitions (n=3, 42.86% for both). The corrections consisted of adding a determiner, as expected. In two cases, the prenominal determiner was added (6.25a-b), and in one case, the adjective received a suffix (6.25c). This is an alternative to spelling out D which is also found in Northern Swedish (see Section 6.1.1 above).

Phrases with ellipsis of the noun				
	With determiner		**No determiner**	
	n	%	n	%
Acceptable	7	87.5%	7	87.5%
Marginal	0	0%	1	12.5%
Unacceptable	1	12.5%	0	0%
Total	8	100%	8	100%

Table 6.5: Results of the AJT with AmNo speakers on modified definite phrases with ellipsis of the noun (number of participants = 7).

(6.25) a. stimulus: *Mannen har to biler, men bruker bare store.*
            'The man has two cars but he uses only the large one.'
        b. repetition: *Mannen har to biler men han bruker bare **den** store.*
            (fargo_ND_01gm)
        c. repetition: *Mannen har to biler men bruker bare store-**n**.*
            (flom_MN_01gm)[104]

The AJT was carried out with few participants, and as was described in Section 4.3.3, it was a difficult task for them. It can therefore be hard to draw conclusions from the results. However, with this in mind, the results provide some tentative evidence that the determiner is obligatory in the case of ellipsis. The corrections in the repetition data support that conclusion, but they are not very frequent.

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[104]This speaker has ancestors from the Norwegian region Trøndelag. In dialects from this region, adjective incorporation is very common, just like in Northern Swedish (see (6.4)). It is therefore not surprising that he also uses the definite suffix in ellipsis.

Furthermore, there was an equal amount of phrases that were not corrected during the AJT. Note that in the elicited speech, the evidence for an obligatory determiner was stronger with ellipsis than with cardinal numbers as well.

In the previous section, I suggested that homeland Norwegian exhibits αP-to-Spec-DP movement for exceptional adjectives. I also mentioned the possibility that the movement has been generalized to all adjectives in AmNo. The evidence for such a general αP-to-Spec-DP movement is, however, inconclusive at best.

As we have seen, there is a difference in homeland Norwegian between two types of adjectives; αP-movement can only occur with the exceptional adjectives (presumably because of restrictions on this movement). There is no such a distinction in AmNo. The results from the exceptional adjectives as assessed by the AmNo speakers are presented in Table 6.6.

Phrases with an exceptional adjective				
	With determiner		**No determiner**	
	n	%	n	%
Acceptable	8	100%	7	87.5%
Marginal	0	0%	0	0%
Unacceptable	0	0%	1	12.5%
Total	8	100%	8	100%

Table 6.6: Results of the AJT with AmNo speakers on modified definite phrases with an exceptional adjective (number of participants = 7).

The results in Table 6.6 show that the AmNo speakers accept modified definite phrases with exceptional adjectives both with and without the determiner. The same is true for homeland speakers, although they seem to have a preference for phrases with the determiner, which is not found in AmNo speakers. All the heritage speakers except for one repeated all instances of phrases with exceptional adjectives without a determiner. One speaker added the prenominal determiner. It is interesting to note that with regular adjectives, the AmNo speakers never added the determiner and furthermore often left it out when they repeated the sentence (see Section 5.5). However, with the low numbers of speakers and items, it is difficult to draw conclusions from this, other than that the AmNo speakers, as expected, accept modified definite phrases with exceptional adjectives both with and without the determiner.

Both exceptional adjectives and regular adjectives thus seem to be treated the same by the heritage speakers. When it comes to exceptional adjectives in contexts that test the αP-to-Spec-DP hypothesis (i.e., with cardinals and with ellipsis), the results are also very similar to those contexts with regular adjectives (Tables 6.4 and 6.5 above). Phrases with cardinal numbers were sometimes corrected or changed, and the phrases with ellipsis were corrected more often, but altogether the evidence for an obligatory determiner in these contexts is

quite weak.[105]

To summarize this section, I have discussed the hypothesis that the modified definite phrases without a determiner involve αP-to-Spec-DP movement. I have shown that there is some evidence that the determiner is obligatory with ellipsis, but less clear evidence that the determiner is obligatory in phrases with a cardinal number. In other words, the available data from elicited speech and the AJT are not conclusive.

Given the results from the elicited production task and the AJT, it seems reasonable to assume that AmNo speakers can omit the determiner in all modified definite phrases, also in contexts where the determiner should be obligatory according to the hypothesis. The movement of αP to Spec-DP is string-vacuous, and, given common assumptions about economy (in syntactic description as well as in acquisition), the null hypothesis should be that there is no movement unless we see clear evidence of it. As we have seen, this clear evidence is lacking in this case. Regular adjectives and exceptional adjectives are treated the same in AmNo, but not in such a way that αP-to-Spec-DP movement is possible with all adjectives. Rather, the determiner can be left out with both types of adjectives, also when combined with cardinal numbers and (albeit to a lesser extent) in phrases with ellipsis.

6.2.2 The role of the DP

The previous section showed that there is inconclusive evidence for αP-to-Spec-DP movement in AmNo. Combining the results from the elicited production and the AJT, it seems unlikely that αP-movement can account for the patterns found in AmNo. Assuming this movement would leave many things unexplained, even if we know that acceptability judgments from heritage speakers are often not as clear-cut as one would like.

In the following, I rather assume that the definite prenominal determiner has become optional in AmNo. This seems to be an easier way to account for all patterns observed in the data. Under this assumption, we can capture the fact that AmNo speakers omit the prenominal determiner with both exceptional and other adjectives, and that they omit the determiner in phrases that contain a cardinal number. Furthermore, this assumption does not require us to assume a string-vacuous movement, which, as we will see below, would be difficult to acquire in the heritage context.

The assumption that the determiner is optional in AmNo brings up the question of what exactly has become optional: is it the prenominal determiner itself, or is it the whole DP layer? It is sometimes assumed that functional projections such as the DP are not universal, and that languages can either be DP languages or NP languages. For Scandinavian languages, this is discussed by

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[105]It is interesting that with exceptional adjectives and cardinal numbers, the corrections consisted of addition of the determiner, whereas phrases with regular adjectives and cardinal numbers were corrected to indefinite phrases. Possibly, the inherently definite semantics of the exceptional adjectives (see Section 3.1.2.2) make the definite interpretation of these phrases more prominent than in phrases with regular adjectives.

Börjars et al. (2016) and Lander and Haegeman (2014) (among others). They argue that the Scandinavian languages have developed from an NP language to a DP language. One could then wonder whether AmNo could be considered an NP language, which has determiners but no functional projection (DP) related to them.

Börjars et al. (2016) assume that a DP projection is "motivated only when a functional feature, such as definiteness, is associated with a particular structural position" (ibid:e6). Although working in a different theoretical framework, Lander and Haegeman (2014) also assume that determiners are grammaticalized when they are obligatory and have a fixed position in the phrase. In the following, I discuss whether these criteria apply to AmNo.[106] As we will see, we can put aside the possibility that AmNo is an NP-language.

We saw in Chapter 5 that the prenominal determiner in modified definite phrases is frequently omitted. Other determiner elements, such as indefinite determiners and demonstratives, are nevertheless retained and they appear to be obligatory in AmNo. Some examples are given in (6.26), where the relevant determiners are boldfaced.

(6.26) a. *du   kan kjøpe **denne** plass-en*
             you can buy   DEM.SG place-DEF.M.SG
             'You can buy this place.'
             (coon_valley_WI_01gm, in CANS)
        b. *så vi leide   **en**   Mercedes-Benz #   **en***
             so we rent.PAST INDF.M.SG Mercedes-Benz pause INDF.M.SG
             stor bil
             large car
             'So we rented a Mercedes-Benz, a large car.'
             (coon_valley_WI_06gm, in CANS)

The prenominal determiner in modified definite phrases is the only determiner element that is optional, and other determiners are obligatory, as in the criteria for a DP presented above. The fact that some speakers produced indefinite phrases without an indefinite determiner during the picture-aided elicitation task seems to be more of a task-effect than a reflection of the optionality of determiners (see Section 5.3). When the AmNo speakers produce indefinite phrases in the context of a sentence, as in the translation task, the indefinite determiner is not omitted.

Furthermore, definite determiners are only used in definite contexts, and not over-used in indefinite contexts. In Old Norse, which has been argued to be an NP-language (Börjars et al., 2016; Lander and Haegeman, 2014), the definite suffix could appear together with the indefinite determiner, as in (6.27) below.

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[106]Lander and Haegeman argue that there are more formal properties that belong to non-grammaticalized determiners in NP-languages. These include the possibility of stacking, the use of adjectival morphology on determiners, and the distributional dependency on weak adjectives (Lander and Haegeman, 2014:287). These properties will not be discussed here, since the primary arguments to claim that a language is an NP-language can be disputed for AmNo.

As was discussed in Section 5.3, constructions like these are hardly attested in AmNo. Different definite determiners (e.g., the prenominal determiner and the demonstrative) cannot co-occur in AmNo either. Instead, the determiner-like elements are in complementary distribution. Together with their obligatoriness, this points against the idea that AmNo is an NP-language.

(6.27)　*viltu　gefa mér　einn gráfeld-inn?*
　　　　will.you give me.DAT one　gray.cloak-the
　　　　'Will you give me one of the grey cloaks?'
　　　　Old Norse (Faarlund, 2004:74)

Looking at phrase-internal word order, it is clear that the functional feature definiteness is associated with one particular position: the left edge of the nominal phrase. Definite determiners, indefinite determiners, and demonstratives all occur only in the left-most position in the DP in AmNo. This is the expected, homeland position for these elements. On the other hand, the free word order that can be observed in Old Norse indicates that there was no such fixed structural position for determiners. Some of the possible word orders in Old Norse nominal phrases are given in (6.28) (examples can be found in Börjars et al., 2016:e12-e15). All of these word orders are ungrammatical in homeland Norwegian, and none of them have been observed in AmNo. Of course, non-occurrence does not necessarily imply ungrammaticality, but if the NP-internal word order in AmNo would be as free as in Old Norse, one would expect to find at least some cases of, for example, post-nominal adjectives or post-nominal determiners. I have not found this in the data from the elicited production tasks.

(6.28)　a.　Noun - determiner - adjective
　　　　b.　Noun - demonstrative - adjective
　　　　c.　Noun - demonstrative - determiner - adjective
　　　　d.　Demonstrative - noun - determiner - adjective

The word orders in (6.28) are also absent from the *Corpus of American Nordic Speech* (CANS). A search for the strings 'noun-adjective' and 'noun-determiner' mostly gives irrelevant hits in which the juxtaposed noun and determiner or adjective do not belong to the same phrase.[107] Two constructions of post-nominal determiners or adjectives are found in the corpus: the adjective follows the noun in the phrasing *x år gammel* 'x years old' (6.29a), and the post-nominal possessive (6.29b). However, these constructions are grammatical in homeland Norwegian as well, and post-nominal possessives are even more frequent than prenominal possessives (Anderssen et al., 2018). In other words, it is not surprising that these word orders are found in AmNo. Their occurrence gives no reason to assume that AmNo lacks a DP layer, as the phrase internal word order in AmNo is no more flexible than in homeland Norwegian.

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[107]An example is the sentence *jeg var der ei uke første gangen* 'The first time, I was there one week' (blair_WI_01gm in CANS), in which the adjective *første* 'first' does not belong to the phrase *ei uke* 'one week', but modifies the noun *gangen* 'the time'.

(6.29) a. *og jeg var fjorten år gammel når de flytta til*
and I was fourteen years old when they moved to
Minnesota
Minnesota
'And I was fourteen years old when they moved to Minnesota.'
(albert_lea_MN_01gk in CANS)

b. *og kjerring-a hans hun kunne ikke snakke noe engelsk*
and wife-DEF.F.SG his she could not speak some English
'And his wife, she couldn't speak any English.'
(webster_SD_02gm in CANS)

To summarize this section, we have seen that in AmNo, determiners are obligatory, in complementary distribution with each other, and have a specific structural position in the phrase. In other words, AmNo fulfills the criteria of a DP language given by Börjars et al. (2016). I therefore conclude that AmNo nominal phrases include a DP. The fact that modified definite phrases in AmNo often occur without the determiner can therefore not be explained by the lack of a DP.

It has been suggested that nominal phrases which are not headed by a DP layer can occur even in languages with a DP. These phrases are called 'small nominals' (Pereltsvaig, 2006). Pereltsvaig (2006:494-495) argues that small nominals are not referential and have several properties related to this. Among other things, small nominals cannot have an individuated or partitive interpretation, cannot be specific, and cannot bind reflexives and reciprocals. The modified definite phrases in AmNo, however, all have a definite interpretation and are therefore by definition specific. The context in which they are produced, and the stable use of the definite suffix furthermore make clear that these phrases are used referentially and have a specific interpretation. This means that they do not behave like small nominals (according to Pereltsvaig's criteria), and I will therefore not pursue an analysis along such lines.

In this section, I have discussed whether the determiner or the whole DP layer is optional in AmNo modified definite phrases. I have argued that AmNo has a DP layer, and that modified definite phrases without a determiner cannot be analyzed as small nominals without a DP. In other words, I assume that it is the determiner —i.e., the spell-out of D —that is optional in AmNo modified definite phrases.

6.2.3 Summary: the syntax of American Norwegian

In Section 6.1, I discussed Julien's (2002, 2005) analysis of modified definite phrases without a determiner in Icelandic and Northern Swedish. In this analysis, the absence of the determiner is accounted for by movement of αP to Spec-DP. Based on judgment data, I argued that similar phrases in homeland Norwegian with an exceptional adjective and an optional determiner can be accounted for with an analysis along the same lines.

However, I argued in Section 6.2.1 that there is no clear evidence for αP-movement in American Norwegian. If the modified definite phrases involved
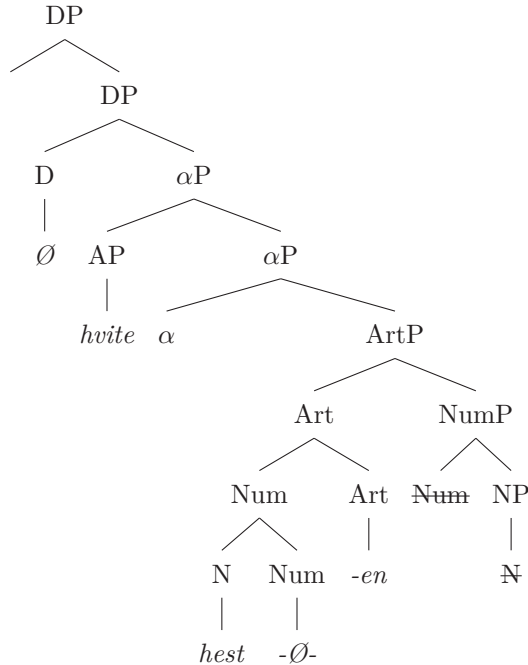
αP-to-Spec-DP movement, we would have expected: (i) that AmNo speakers use the determiner in phrases with a cardinal number or ellipsis more than they do (54.41%), and (ii) a more clear-cut rejection of phrases without a determiner in contexts where αP-movement is restricted (i.e., in contexts with a numeral or ellipsis).[108] Section 6.2.2 provided arguments that AmNo nominal syntax contains a DP layer, and furthermore that this DP layer is present in modified definite phrases.

Instead of adopting an explanation in terms of αP-movement, I suggest that the determiner in modified definite phrases is optional in AmNo. In other words, AmNo has undergone a language change that made the spell-out of a definite D optional. When D is spelled out, this results in homeland-like CD, but when D is not spelled out, the modified definite phrase lacks a determiner. This is typical in AmNo modified definite phrases, found frequently, and across all speakers and tasks, as was shown in the previous chapter. In (6.30), the typical AmNo modified definite phrase is illustrated with an example, and the proposed syntactic structure of that phrase is given in (6.31).

(6.30) *hvit-e*   *hest-en*
        white-DEF horse-DEF.M.SG
        'the white horse'

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[108]Interestingly, the evidence that the determiner is obligatory with ellipsis is stronger than for cardinal numbers. Another mechanism than αP-to-Spec-DP movement will have to explain the (near) obligatory determiner in the case of noun ellipsis.

(6.31)   The proposed structure of AmNo modified definite phrases without a
          determiner

```
                    DP
                   /  \
                     DP
                    /  \
                  D     αP
                  |    /  \
                  Ø  AP     αP
                     |     /  \
                  hvite   α    ArtP
                             /    \
                          Art      NumP
                         /   \     /   \
                      Num    Art  Num   NP
                     /  \     |    |     |
                    N   Num  -en  Num    N̶
                    |    |
                  hest  -Ø-
```

As pointed out in Chapter 5, AmNo has changed and is different from homeland
Norwegian, but at the same time not more like English. This means that transfer
cannot explain the change in AmNo. In the next section, I suggest that the
acquisitional process has caused the determiner to become optional.

6.3 Explaining the change: incomplete acquisition

So far in this chapter, I have proposed a syntactic analysis of American Norwegian
nominal phrases in which the definite D can optionally be spelled out by a
determiner, but can also remain non-lexicalized. A consequence of this analysis
is that the modified definite phrases without a determiner in AmNo are only
superficially similar to determiner-less phrases in Icelandic, Northern Swedish,
and homeland Norwegian.

In this section, I propose an explanation for the proposed syntax of AmNo.
First, we will see in Section 6.3.1 that the patterns observed in AmNo are very
similar to those in monolingual acquisition. In young children, modified definite
phrases without a determiner are frequent and they persist in their language for
a long time. In Section 6.3.2, I discuss three factors that cause the determiner
to be acquired much later than the suffixed article: prosodic saliency, frequency,
and structural complexity. In Section 6.3.3, I discuss how the heritage acquisition
context leads to a qualitatively and quantitatively different input compared to
monolingual acquisition. I will also show that input which informs the child that

the definite determiner is obligatory is particularly infrequent in the heritage language context. Finally, in Section 6.3.4, I conclude with an analysis in terms of incomplete acquisition, which means that variability found in child language is retained in the adult grammar.

6.3.1 Monolingual acquisition of compositional definiteness

Section 3.3.1 briefly described the acquisition of CD by monolingual Norwegian children and we saw that it is a long process. In this section, we will see that the patterns found in the speech of AmNo speakers are strikingly similar to those found in monolingual children. Modified definite phrases without the determiner —the typical AmNo phrase —are both frequent and persistent during acquisition.

Monolingual Norwegian children acquire the definite suffix very early: it is already in place at age 2;3 (Anderssen, 2007, 2010, 2012). However, at age 3;3, when Anderssen's data collection ends, the children in her study had not yet acquired CD in modified definite phrases, and many phrases still lacked the determiner. In Swedish, a closely related language with a very similar system of definiteness marking, the definite suffix is also acquired at a (much) younger age than the determiner (Plunkett and Strömqvist, 1990, Bohnacker, 2003).

Anderssen's study shows that the difference between acquisition of the suffixed article and of the prenominal determiner is at least a year. Unfortunately, the exact age when CD is acquired has, to the best of my knowledge, not been studied. However, studies on grammatical gender can shed light on the use of prenominal determiners and suffixed articles in modified definite phrases as well. With an experiment similar to the picture-aided elicitation I used, Busterud et al. (2019) studied the use of gender agreement by different age groups in the Norwegian city Trondheim. They elicited both modified indefinite phrases and modified definite phrases, but they did not themselves study CD. However, the authors kindly shared their data with me and I present the results concerning CD below.[109]

The study included five different age groups, ranging from preschool children to adults. The children in the youngest group have an age between 3;4 and 5;9, so they could be viewed as a natural follow up of the children in Anderssen's study (1;9-3;3). In Table 6.7, the percentage of phrases with CD is given for each age-group.

The data in the table show that preschool children already use CD in a large percentage of their modified definite phrases. They do not yet reach the point of 90% target-like, which is the score commonly used to assume a phenomenon is acquired (see e.g., Anderssen, 2006:40 and references therein). The other age groups all use CD in more than 95% of their modified definite phrases. From these data, it can be concluded that children from the age of 6-7 (grade 1-2) have completely acquired CD and that preschool children are on their way towards

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[109]Busterud et al. (2019) used a slightly adapted version of the experiment by Rodina and Westergaard (2015), which was an inspiration for my picture-aided elicitation task (see Section 4.2.2). I would like to thank Guro Busterud and Terje Lohndal for giving me access to the transcribed and organized responses on the modified definite phrases.

	Age	Mod-def phrases	number CD	% CD
Preschool children (n=15)	3;4-5;9	368	307	83.42%
Grade 1-2 children (n=14)	6;1-7;4	344	339	98.55%
Grade 7 children (n=14)	12;1-13;1	348	348	100%
High school students (n=15)	18-19	359	356	99.16%
Adults (n=13)	32-57	312	310	99.36%

Table 6.7: Use of compositional definiteness in modified definite phrases by different age groups of homeland Norwegian speakers, based on the data from Busterud et al. (2019).

full acquisition. This means that it takes several years from the acquisition of the suffix (age 2;3) in unmodified definite phrases to the use of CD including the determiner (age between 6 and 7).

The phrases without CD uttered by monolingual children typically lack the determiner, but contain the suffix. Table 6.8 shows the types of modified definite phrases produced by monolingual children in Anderssen (2012:21-22) and, as a comparison, by the AmNo speakers during my elicitation experiments. Although Anderssen's numbers do not include the categories adjective incorporation (which is a dialect feature) and overuse of demonstratives, two important points should be noticed in this comparison. First, the monolingual children use more target-like phrases with CD than the heritage speakers (36% and 19.51% respectively). Second, phrases without the determiner are the most frequent type of modified definite phrases, and are more frequent than CD in both groups. Just like monolingual children, AmNo speakers tend to omit the prenomial determiner rather than the suffix in modified definite phrases.

	L1 children		AmNo speakers	
	n	%	n	%
Compositional definiteness	50	36%	143	19.51%
Adjective incorporation			47	6.41%
Without determiner	69	49%	339	46.25%
Without suffix	7	5%	35	4.77%
Bare noun	14	10%	123	16.78%
Overuse of demonstrative			46	6.28%
Total	140	100%	733	100%

Table 6.8: Comparison of the types of modified definite phrases produced by monolingual children age 1;9-3;3 (from Anderssen, 2012:21-22) and by AmNo speakers (during the two elicited production experiments).

As observed by Anderssen (2012), some trends in the development of

monolingual children can be observed if the data are divided into two periods (1;9-2;6 and 2;7-3;4). Bare modified definite phrases are mainly found in the early period, whereas the majority of the structures with a determiner (phrases with CD or with only the determiner) are found in the later period. Phrases without the determiner occur in both periods, and they are evenly distributed across the two periods: around 50% of the phrases in each period lack the determiner (Anderssen, 2012:22). In other words, phrases without the determiner are not only very frequent, but also persistent during the acquisition of CD. Some examples of modified definite phrases without the determiner produced by monolingual children are given in (6.32).

(6.32)   a.   *Der   er lille   barn-et*
              there is little.DEF child-DEF.N.SG
              'There is the little child.'
              (Norwegian child, age 1;10) (Anderssen, 2012:24)
         b.   *Hun har gul-e   jakke-n   på*
              she   has yellow-DEF jacket-DEF.M.SG on
              'She has the yellow jacket on.'
              (Norwegian child, age 2;7) (Anderssen, 2012:16)

To summarize, the patterns found in AmNo are strikingly similar to those found in L1 acquisition: the definite suffix is acquired early, but the acquisition of the determiner in modified definite phrases takes much longer and is not fully completed until age 6-7. It is important to remember that this is the age when the AmNo speakers started school in English and their language dominance started to shift towards English. Moreover, modified definite phrases without the determiner are frequent and persistent during monolingual acquisition. The typical modified definite phrase of a monolingual child has thus the same form as the typical AmNo modified definite phrase: with only the suffix, as in (6.32).

Furthermore, it is interesting to observe that the AmNo speakers behave very similarly to monolingual children, but differently from bilingual children. As we saw in Section 3.3.1, Anderssen and Bentzen (2013) provide a case study of an English-Norwegian bilingual child, Emma, and make a comparison with monolingual Norwegian acquisition. Some interesting differences are found. In unmodified definite phrases, Emma is quite target-like, but she also produces some phrases with a determiner instead of the suffix, as in (6.33a). Phrases like that are never attested in monolingual children (Anderssen and Bentzen, 2013:88-89). Modified definite phrases are infrequent in Emma's spontaneous production, but it is clear that she often leaves out the suffix (6.33b) and only later starts to use CD. Just like monolingual children, she produces non-target-like modified definite phrases, but unlike monolingual children, the suffix is more vulnerable in her language than the determiner. Anderssen and Bentzen (2013) conclude that Emma's Norwegian language development is not only slower than that of her monolingual Norwegian peers, but also exhibits different patterns. They argue that transfer from English explains these patterns.

(6.33)   a. *den   musikk var ferdig*
             DEF.SG music   was done
             'The music was over.'
             (bilingual child, age 2;8, target: *musikk-en*)
      b. *den   stor ball var fort*
             DEF.SG big ball was fast
             'The big ball was fast.'
             (bilingual child, age 2;8, target: *den store ball-en*)
             (Anderssen and Bentzen, 2013:89)

Although the data of Anderssen and Bentzen (2013) come from only one child, the findings are very interesting. It is clear that the AmNo speakers behave much more like monolingual Norwegian children than like Emma, who is bilingual English-Norwegian. It is important to note, though, that Emma is a simultaneous bilingual who acquired both English and Norwegian from birth. The AmNo speakers, on the other hand, are sequential bilinguals: most of them were monolingual Norwegian until age 5 or 6 when they started school. By this time, they had probably already acquired the definite suffix, and as a result, English might not have been able to influence their Norwegian anymore, or at least not in the same way. The AmNo modified definite phrases without a determiner are clearly not the result of transfer, but they are similar to the patterns in monolingual acquisition.

6.3.2   Factors in the acquisition of compositional definiteness

The data from child acquisition discussed above show that monolingual children need time to acquire CD, and that the prenominal determiner is acquired particularly late. This suggests that the determiner is more difficult to acquire than the suffixed article. Three factors have been argued to play an important role in the acquisition of determiners: prosodic saliency, frequency, and complexity. In this section, I briefly discuss these three factors and point out that they might all facilitate the acquisition of the suffix, but also hinder or delay the acquisition of the determiner.

Norwegian and Swedish children acquire the suffixed article earlier than the definite prenominal determiner (see above), and also earlier than the indefinite determiner. Furthermore, Scandinavian children are faster to acquire definiteness marking (at least in unmodified phrases) than German and English children (Anderssen, 2006:258-261; Bohnacker, 2003:223), whose languages have a prenominal free-standing definite determiner (and no suffix). In other words, there seems to be a distinction between suffixed articles and free-standing determiners, both within the Scandinavian languages and across different languages.

Anderssen (2006) suggests that the early acquisition of the definite suffix is caused by its prosodic saliency. Kupisch, Anderssen, Bohnacker, and Snape (2009) also argue that the observed differences can be explained by the metrical template approach. In their theory, the prosodic pattern of the language is crucial

during early acquisition. They argue that children produce strong syllables, whereas weak syllables are only produced if they fit the metrical template of the language. In the Germanic languages, trochaic patterns (strong-weak, SW) are unmarked and iambic patterns (WS) are marked. Scandinavian unmodified definite phrases are trochaic (6.34a), but Scandinavian indefinite phrases and all German and English phrases (both definite and indefinite) are iambic (6.34b-d). In these cases, the definiteness morpheme is extra-metrical. Anderssen (2006), Bohnacker (2003), and Kupisch et al. (2009) argue that it is therefore more likely to be left out.

(6.34) a. _hest_-en: SW ('the horse', Norwegian)
        b. en _hest_: WS ('a horse', Norwegian)
        c. das _Pferd_: WS ('the horse', German)
        d. the _horse_: WS (English)

Kupisch et al. (2009) suggest that the differences in acquisition of definiteness between Scandinavian and English/German, and the difference between indefinite and definite morphemes in the Scandinavian languages, can be explained by the metrical template approach. In addition, Bohnacker (2003) proposes that this approach can explain the difference between the suffix and the prenominal definite determiner in Scandinavian: phrases with CD have an extra-metrical syllable, whereas phrases without the determiner do not, as illustrated in (6.35).

(6.35) a. _den gul-a häst-en_
            W   S-W S-W
            'the yellow horse'
        b. _gul-a häst-en_
            S-W S-W
            'the yellow horse'
            Swedish (Bohnacker, 2003:233)

However, as pointed out by both Bohnacker (2003) and Kupisch et al. (2009), the metrical template approach cannot be the whole story. There are nouns for which adding the suffix does not change the metrical template (e.g., _jente_ 'girl' versus _jenta_ 'the girl', are both SW). If prosodic saliency was the only driving force in the acquisition of the definite suffix, one would expect that the definite suffix is frequently omitted from nouns that are already trochaic. This is, however, not what has been found in child language research (Bohnacker, 2003). Moreover, there are definite nouns that do not fit the trochaic template (e.g., _album-et_ 'the album', which is SWW) and again, suffixes are not omitted more often from these nouns. The prosodic saliency of the suffix (the fact that it more easily fits in the metrical template of the language) can thus not be "an all-encompassing explanation" (Bohnacker, 2003:236). Although prosody probably plays a role in the acquisition of determiners (ibid; Kupisch et al., 2009), the child clearly also needs to analyze the phrases syntactically to acquire the relevant morphemes.

The suffix is not only prosodically more salient, it is also more frequent than

the determiner. Definite phrases modified by an adjective are quite infrequent (Dahl, 2015:121; see also Anderssen et al., 2018:751), so the amount of input from phrases with CD is low.[110] However, Kupisch et al. (2009) argue that frequency cannot be the explanation for the observed patterns (ibid:230-331). In all of the four languages in their study, definite phrases are more frequent than indefinite phrases, but only in the Scandinavian languages is the definite morpheme acquired earlier.

At the same time though, it is clear that that there is a large frequency difference between the suffix and the definite prenominal determiner within the Scandinavian languages. Anderssen et al. (2018) show that in definite phrases, the suffix is more than 6.5 times more frequent than the determiner (ibid:751).[111] A similar difference is found in Swedish, as shown in Bohnacker (2003:225, table 11). In child-directed speech, the definite suffix is 6.76 times more frequent than the determiner. This difference is even larger than the difference between definite and indefinite nominals reported in Kupisch et al. (2009). In other words, frequency might not explain why the definite suffix is acquired before the indefinite determiner, or the difference between Scandinavian and English/German, but it might very well be part of the explanation for the late acquisition of the prenominal determiner.

One important question with respect to frequency is what to count. Anderssen (2007), for example, points out that the prenominal determiner is homophonous with the third person inanimate pronoun and the demonstrative, see (6.36). She argues that the elements *den* (M/F), *det* (N), and *de* (PL) therefore occur more in the child's input than expected based on modified definite phrases alone. Anderssen assumes that the frequency of an element is not determined by the exact construction it occurs in, but rather by the frequency of the form itself. With respect to the prenominal determiner, she argues that the forms *den,det,de* are actually quite frequent because they also occur as pronouns (6.36b) and demonstratives (6.36c). She concludes that the forms are not infrequent, and that frequency therefore cannot explain the late acquisition of the prenominal determiner.

(6.36) a. ***den***   *hvit-e*   *hest-en*
            DEF.SG white-DEF horse-DEF.M.SG
            'the white horse'
            (*den* = prenominal determiner)
        b. *Hvor er bil-en?*   ***Den*** *står   der   borte.*
            where is car-DEF.M.SG it.M stands there away
            'Where is the car? It is standing over there.'
            (*den* = inanimate personal pronoun)

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[110]Based on data from a spoken Swedish corpus, Dahl (2015:121) concludes that modified definite phrases with CD occur about once in every ten minutes of spoken conversation, or once in five pages of written text.

[111]In their counts, Anderssen et al. (2018) include demonstratives, so they count demonstratives as determiners. If these are left out, they found only 10 determiners compared to 387 suffixed articles in their sample. This is an even larger difference than the one they report.

c. ***den*** *bil-en*
   DEM.SG car-DEF.M.SG
   'that car'
   (*den* = distal demonstrative)

However, it seems unlikely that children would disregard the context in which a certain form occurs, contrary to what Anderssen (2007) assumes. The third person inanimate pronoun is not combined with nouns in the way the prenominal determiner is: since it is a pronoun, it is in complementary distribution with nouns. I do not see how the pronoun could be a cue for children that modified definite phrases should contain a prenominal determiner. Rather, I assume that grammatical structure is important in the acquisition of the determiner, and it is clear that the amount of phrases with the determiner in the relevant context is low in the input. Although the demonstrative is combined with a noun which carries the definite suffix, it is not necessarily combined with an adjective (as in modified definite phrases), so it does not occur in exactly the same context as the determiner. Since the demonstrative is stressed, it is not completely homophonous with the determiner either, and it could be debated whether demonstrative phrases should be counted as input for the prenominal determiner. As shown in Anderssen et al. (2018), the demonstrative is more frequent than the prenominal determiner, but even when they are counted together, they are still much less frequent than the suffix (see footnote 111). In other words, even if demonstratives are assumed to be input for the prenominal determiner, this input is still infrequent compared to the suffix.

Both Anderssen (2007) and Kupisch et al. (2009) argue that prosodic factors are more important than frequency in the acquisition of the definite suffix. However, I agree with Bohnacker (2003:236) that both factors are likely to play a role in the difference in acquisition between the suffix and the determiner. In this context, the role of the exceptional adjectives should also be pointed out. With these adjectives, αP-movement can occur (see Section 6.1.3), after which the determiner is not spelled out. Anderssen et al. (2018) point out that in about half of the modified definite phrases, the adjective is an exceptional adjective and the determiner is absent.[112] So not only are modified definite phrases quite infrequent, but modified definite phrases with CD are even less frequent.

A third factor that has been shown to be relevant with respect to acquisition is complexity, and it is possible that complexity is also important in the acquisition of CD. In unmodified definite phrases, the noun is merged into ArtP and carries the definite suffix (see Section 3.2.1). In modified definite phrases, however, there is an extra functional projection present: either αP with an adjective in its specifier, or CardP with a numeral in its specifier. In addition, D is spelled out as the determiner in modified definite phrases, but not in unmodified phrases. As a result, modified definite phrases are more complex structures (as also pointed out by Anderssen et al., 2018:750).

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[112]Their sample contains 10 modified definite phrases with CD, and 11 modified definite phrases without the determiner (Anderssen et al., 2018:751).

Anderssen and Westergaard (2010) study the acquisition of variable word order patterns in Norwegian, and argue that monolingual children prefer less complex word orders; where 'less complex' means that there is less syntactic movement involved. They study subject placement and possessive structures. With respect to subject placement, they focus on non-subject-initial declaratives and questions with V2-order. In these sentences, the subject may either precede or follow negation or sentence adverbs, as in (6.37a). This phenomenon is sometimes called subject shift, and it is often assumed that subjects preceding negation have moved there from a lower position. In addition, Anderssen and Westergaard (2010) investigate possessive structures, where the possessive pronoun can either precede or follow the noun, see (6.37b). They assume that the noun has moved to the left of the possessives in phrases with post-nominal possessives, whereas there is no movement involved with prenominal possessives.

(6.37)   a.   *Hvorfor leste   Peter ikke/ikke Peter bok-a?*
            why   read.PAST Peter not/not Peter book-DEF.F.SG
            'Why didn't Peter read the book?'
    b.   *min bil/bil-en   min*
            my.M car/car-DEF.M.SG my.M
            'my car'
            (Anderssen and Westergaard, 2010:2570)

Anderssen and Westergaard (2010) found that that for both subject placement and possessives, children use both word order possibilities. However, young children produce the more economic structure without movement more frequently than adults. In other words, children prefer the subject after negation, and they also have a preference for prenominal possessives. This is despite the fact that the more complex variant of the construction is more frequent in the input. This finding leads Anderssen and Westergaard (2010) to conclude that economy is more important than frequency in early child acquisition.

Summarizing this section, I have discussed three factors that have been argued to play a role in child language acquisition: prosodic saliency, frequency, and syntactic complexity. Several studies argue that one of these factors is the only (or a better) explanation for the patterns in child acquisition. In the case of acquisition of CD, however, the three factors would all have the same effect. The suffixed article is prosodically more salient (or fits better in the metrical template of Norwegian), is more frequent, and unmodified definite phrases with only the suffix are less complex constructions. On the other hand, the prenominal determiner is prosodically less salient, is much less frequent, and modified definite phrases are syntactically more complex. Therefore, all three factors might play a role in the acquisition of CD. In addition, all three factors could be part of the explanation for why the definite determiner is acquired much later than the suffixed article.

How these factors exactly relate to each other is still largely an open question, which will not be pursued further here. Importantly however, all factors have the same effect: the acquisition of the determiner is hindered, or delayed, compared

to the suffix. Because of this, it would be surprising if the determiner were found to be more stable in a heritage language context. In the next section, I discuss the differences between monolingual and heritage language acquisition, and argue that these differences result in a different adult grammar.

6.3.3 Heritage acquisition versus monolingual acquisition

In the definitions of heritage languages and heritage speakers discussed in Section 2.1, I mentioned that a defining characteristic is that heritage speakers acquire the heritage language naturalistically. As pointed out by Rothman and Treffers-Daller (2014), this makes heritage speakers native speakers of their language. This is also the case for AmNo speakers, who acquired Norwegian in their childhood homes through interaction with their parents. Many of them were monolingual Norwegian until they started school (at age 6), although some had input from English before school-age, especially when they had older siblings (see Larsson and Johannessen, 2015:158).

Although heritage languages are acquired naturalistically, heritage language acquisition is not exactly the same as monolingual language acquisition. There are both quantitative and qualitative differences between these two types of acquisition (see e.g., Montrul, 2016 and Polinsky, 2018, and Section 2.2). When it comes to quantity of input, heritage bilinguals receive less input than monolingual children. While for monolingual children the input in the target-language (Norwegian in this case) is 100%, the input of bilingual children is divided over the two languages, and as a result, the input from their heritage language will be less than 100%.

Especially from the moment that the child attends school, the input from the dominant language (English) will increase while the input from the heritage language (Norwegian) will decrease drastically. As pointed out, some of the AmNo speakers had some input from English before they went to school, which means that the Norwegian input decreased already before the age of 6. Furthermore, many churches had already (partially) shifted to English as the language of service, or shifted to English during the youth of the current AmNo speakers. This means that Norwegian, their heritage language, was not used in school or in church, but only in the home environment.

In the previous section, it was noted that modified definite phrases —and modified definite phrases with CD in particular —are infrequent even in homeland Norwegian. I argued that frequency (or the lack thereof) is a factor in the acquisition of CD and the prenominal determiner in monolingual acquisition. A reduced input in heritage speakers presumably leads to even less input of phrases with CD. In addition, it has to be kept in mind that the input that the AmNo speakers received comes from speakers who are also heritage speakers of Norwegian and this probably affects their use of complex structures. It has been shown that both speakers of heritage Swedish and of heritage Norwegian use less relative clauses than non-heritage speakers of these languages (Karstadt, 2003; Taranrød, 2011). If this is also true for modified definite phrases, it means that

the AmNo speakers received (much) less input of modified definite phrases than their monolingual homeland peers.

Based on the data from Anderssen (2006, 2012) and Busterud et al. (2019), I concluded above that CD was not completely acquired by monolingual children until the age of 6-7. In preschool monolingual children, CD is not yet fully in place, and it would be unlikely that AmNo speakers would acquire something faster than their homeland peers. This means that at the moment when the input for the AmNo speakers is reduced drastically, they have not yet acquired CD. The reduced input from the moment they start attending school (and possibly even before that) might delay the acquisition of CD, and the prenominal determiner in particular, even further.

In addition to this quantitative difference, the input of heritage speakers is often also qualitatively different from that of monolingual children. The current speakers of AmNo did not receive schooling in Norwegian, and had no or only little access to written Norwegian (e.g., in children's books). The vast majority of them are illiterate in Norwegian. Montrul (2016) points out that much of the language acquisition happens after the first few years of linguistic development: "Many linguistic forms, even those that emerge at early preschool age, have a long developmental history to become acquired and mastered, i.e., entrenched" (ibid:103). She furthermore points out the importance of schooling in the language during later language development. At school, children acquire and learn more complex linguistic structures, the use of different (especially formal) registers, and different vocabulary. In addition, children are exposed to variation in their language, such as dialectal variation. Heritage speakers typically lack this type of input, and that is also the case for the AmNo speakers. As a result, they are mainly familiar with vocabulary related to the home environment and farm life, and they are not used to dialects of Norwegian other than the ones they were exposed to (Johannessen and Laake, 2015:320).

At school, children receive input of "more complex syntactic, semantic and pragmatic structures" (Montrul, 2016:105). In contrast to monolingual children, heritage speakers such as the AmNo speakers lack this type of input. This makes their input qualitatively different, and it influences their linguistic competence. Pires and Rothman (2009) find that heritage speakers of European Portuguese have full competence of so-called inflected infinitives, whereas heritage speakers of Brazilian Portuguese lack this competence. They argue that this difference is caused by the fact that in Brazilian Portuguese, inflected infinitives are only used in formal register and are only acquired by educated Brazilian Portuguese monolinguals. In a study of heritage (Egyptian and Palestinian) Arabic, Albirini, Benmamoun, and Saadah (2011) observe that the heritage speakers do not master standard Arabic. They ascribe this to the fact that standard Arabic is "learned through formal instruction and literacy" (ibid:299) and thus different from the colloquial register spoken in the heritage community.

These examples clearly illustrate that heritage speakers who do not receive schooling in the heritage language will not acquire complex and formal structures in the language. CD in Norwegian is not restricted to a formal high-register in the same way as the Portuguese inflected infinitives or standard Arabic. However,

complex noun phrases are still more frequent in written (school or book) language than in spoken (daily life) language. A complete study of the differences between written and spoken speech lies outside the scope of this thesis, but a quick corpus search for the relevant noun phrases already gives some information. I searched for modified definite phrases with and without the determiner in three different corpora.[113] These corpora are the *Norwegian Web as Corpus* (NoWaC) (Guevara, 2010) for written Norwegian, and the Norwegian part of the Nordic Dialect Corpus (NDC) (Johannessen et al., 2009) and the Norwegian Speech Corpus - the Oslo part (NoTa-Oslo) (Johannessen and Hagen, 2008) for spoken Norwegian. These three corpora differ considerably in their sizes, so the raw frequency results as number of occurrences are in themselves not informative: a certain construction will always occur more often in NoWaC than in NDC and NoTa-Oslo.[114] For a comparison between the corpora, I therefore divided the number of occurrences of a particular construction by the number of tokens in the corpus, which leads to a frequency percentage of the relevant construction. The results from this procedure are presented in Table 6.9.

Modified definite phrases with CD		
	number	percentage
NoWaC (written)	2,394,684	0.34%
NDC-Nor (spoken)	1457	0.06%
NoTa-Oslo (spoken)	644	0.07%
Modified definite phrases without the determiner		
	number	percentage
NoWaC (written)	1,209,988	0.17%
NDC-Nor (spoken)	4380	0.19%
NoTa-Oslo (spoken)	1775	0.19%

Table 6.9: Comparison of frequency of modified definite phrases in written Norwegian (NoWaC) and spoken Norwegian (Norwegian in the NDC, and NoTa-Oslo). The frequency is given as an absolute number and as a percentage of the amount of tokens in the corpus.

The results show that modified definite phrases with CD are more frequent in written language than in spoken language. In NoWaC, the frequency percentage

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[113]To search for phrases with CD, I searched for the string 'determiner - adjective - definite noun'. Because of the way the corpus is tagged, I searched for determiners that were also tagged as 'demonstrative' to exclude indefinite determiners and possessives. The results therefore include modified demonstrative phrases such as *disse små hyttene* 'these small cabins', but unmodified demonstratives (*disse hyttene* 'these cabins') are not part of the findings. To search for modified definite phrases without a determiner, I searched for the string 'adjective - definite noun' that was not preceded by a determiner.

[114]NoWaC contains ca. 700 million tokens, whereas the Norwegian part of NDC contains ca. 2.3 million tokens and NoTa-Oslo contains close to 1 million tokens. All three corpora are tagged automatically, which means that they all contain some amount of tagging errors. Because of the size of the corpora, I could not check all findings manually. However, since all corpora contain errors, I assume that this has not influenced the results to a large extent.

of phrases with CD is 0.34%, and in the two spoken corpora the frequency percentage is respectively 0.06% (NDC-Norwegian) and 0.07% (NoTa-Oslo). I pointed out several times that CD is infrequent in general (see e.g., Section 6.3.2 above), and the results in Table 6.9 show that it is even less frequent in spoken language than in written language. Interestingly, the results for modified definite phrases without the determiner (i.e., the exceptions) are different. This structure is less frequent than modified definite phrases with CD in written language (NoWaC: 0.17%), but more frequent than CD in spoken language (0.19% in both NDC-Nor and NoTa-Oslo).

The corpus data confirm that modified definite phrases are infrequent in Norwegian, particularly in spoken Norwegian. Furthermore, modified definite phrases without the determiner are more frequent in spoken Norwegian than modified definite phrases with CD, whereas the opposite is true in written language (i.e., phrases with CD are more frequent than phrases without the determiner).[115] This means that children who only receive input from spoken language, like the AmNo heritage speakers, will receive less input with modified definite phrases and, crucially, also less input from phrases with CD than children who also receive written language input or input that is close to the written language (i.e., monolingual homeland children). Note that the input to monolingual children contains an equal amount of phrases with CD and phrases without the determiner (Anderssen et al., 2018:751, and see above).

In homeland Norwegian, CD is obligatory, apart from phrases with the exceptional adjectives. For these phrases, I have assumed that αP-to-Spec-DP movement applies. To acquire this grammar, a child not only needs input from modified definite phrases with regular and exceptional adjectives, but also from the contexts in which αP-movement is impossible and the determiner is used. Without such input, the child could simply postulate that the determiner is left empty with the exceptional adjectives, rather than that there is movement from αP to Spec-DP. In order for the child to acquire this movement (which is string-vacuous, see Section 6.2 above), the input should thus also contain definite phrases with a cardinal number and modified definite phrases with ellipsis of the noun. In other words, I suggest that structures like those in (6.38) are crucial for the acquisition of αP-to-Spec-DP movement. The corpus searches indicate that definite phrases with a cardinal number, definite phrases with a cardinal number and an adjective, and definite phrases with ellipsis of the noun are all more frequent in written than in spoken language.[116]

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[115]In Section 6.1.3, we saw that homeland speakers seemed to accept exceptional adjectives without a determiner more in spoken language than in written (standardized) language.

[116]Frequency of definite phrases with a cardinal number: 0.036% (NoWaC), 0.015% (NDC-Nor), 0.013% (NoTa-Oslo). Frequency of definite phrases with both a cardinal number and an adjective: 0.009% (NoWaC), 0.003% (NDC-Nor), 0.003% (NoTa-Oslo). Frequency of modified definite phrases with ellipsis of the noun: 0.27% (NoWaC), 0.14% (NDC-Nor), 0.14% (NoTa-Oslo). Note that phrases with ellipsis are more frequent than those with cardinal numbers, which might explain why the determiner in AmNo seems to be more obligatory with ellipsis (see Section 6.2.1 above).

(6.38)　a.　*de　　fire (svart-e)　hest-ene*
　　　　　DEF.PL four black-DEF horse-DEF.PL
　　　　　'the four (black) horses'
　　　　b.　*den　　svart-e*
　　　　　DEF.SG black-DEF
　　　　　'the black one'

The (admittedly rough) comparison of written and spoken Norwegian shows that CD is less frequent in spoken Norwegian than in written Norwegian. Spoken Norwegian contains more modified definite phrases without the determiner than phrases with CD, contrary to written Norwegian. Furthermore, the phrases which can be assumed necessary to acquire αP-to-Spec-DP movement (with numerals and ellipsis) are also less frequent in spoken Norwegian. This means that children acquiring Norwegian without schooling and input from the written language, will have a different input, which contains much less of the modified definite phrases that are required to acquire the relevant nominal syntax (see the discussion in Montrul (2016:chapter 4), on the importance of schooling and access to written language to acquire complex syntactic structures).

Summarizing this section, I have pointed out that although heritage speakers acquire their heritage language naturalistically, their acquisition differs from monolingual language acquisition. Heritage speakers receive less input, and they also receive a qualitatively different input when they only have access to the spoken language and do not receive schooling in the heritage language. This is the case for AmNo speakers, and I have shown in this section that the constructions that are presumably necessary to acquire the syntactically complex structure of CD are much less frequent in spoken than in written Norwegian. It therefore seems justified to conclude that the AmNo speakers had quantitatively and qualitatively different input than monolingual children with respect to CD, and that this has affected their grammars.

6.3.4　Conclusion: a case of incomplete acquisition

I have argued that the input of the AmNo heritage speakers differs from that of monolingual children. In this section, I will propose that this different input leads to a different outcome grammar. Although monolingual and heritage children receive similar (but not identical) input during early acquisition, they receive drastically different input from approximately school-age. Since CD is not yet fully acquired at that time (see Section 6.3.1 above), this leads to a different outcome of the acquisitional process. In the end, the adult grammar of AmNo speakers is therefore different from that of monolingual homeland speakers. In other words, I argue that the observed language change in AmNo is the result of incomplete acquisition.

As pointed out in Section 2.2, Yang (1999, 2000, 2002, 2004) has proposed a model for acquisition in terms of grammar competition. The grammars can be viewed as a set of rules that are restricted by Universal Grammar. Yang proposes that during acquisition, the child will select one grammar from a set

of several competing grammars, and will match utterances in the input with these grammars. If the input is compatible with a grammar (i.e., the grammar can successfully parse the input), this grammar is "rewarded" in the learning model and will be more favored. Consequently, a competing grammar which is not compatible with the input will be "punished", i.e., become less likely to be selected. Under this variational model, language acquisition is complete when the child chooses one grammar and the competitor grammar(s) are abandoned.[117] Incomplete acquisition, on the other hand, can then be viewed as the prolonged existence of two or more grammars.

The system of adult, homeland Norwegian can be summarized as follows. Modified definite phrases obligatorily have CD with the determiner in D and the suffixed article in Art. In addition, there is a restricted set of adjectives (which I call exceptional), and I argued in Section 6.1.3 that there is movement of αP to Spec-DP with these adjectives. As a result, D is not spelled out and there is no determiner present. This system could be seen as the 'target' for children who acquire Norwegian. As I discussed in Section 6.3.2, the factors prosodic saliency, frequency, and complexity make this system quite difficult to acquire, and as a result the acquisitional process is long. With Yang's model, a long acquisitional process means a long period with competing grammars.

Note that in the acquisition of CD, children have to acquire both the syntactic structure and the semantics related to this structure. In this thesis, I mainly focus on the former. There has been much debate within acquisitional linguistics whether children start out with a full syntactic structure with all functional heads in place, or whether this structure gradually expands during acquisition (see e.g., Borer and Wexler (1987) and Poeppel and Wexler (1993) for different views). With respect to CD, this means that the child either starts out with two definiteness projections (DP and ArtP), or that the child first creates one functional projection for the suffix and only later another one for the determiner. For convenience, I will assume that child syntax is similar to adult syntax, and that the child has to acquire the exponents for the different elements in this syntactic structure. However, as far as I can see, nothing hinges on this assumption.

One of the first functional morphemes that children acquire in Norwegian is the definite suffix, and when they start using the suffix it already has a grammatical function.[118] Bohnacker (2003:218-219) convincingly argues that the unit [Noun + suffix] is not an unanalyzed chunk in child Swedish, and we will see in Section 7.1 that the same can be argued for the AmNo speakers. Indefinite determiners and pronouns are acquired in a next step not long after the acquisition of the suffix, but only by the time the child is 6-7 years old is CD acquired completely.

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[117]In acquisitional research, the selected grammar is often referred to as the 'target' grammar and assumed to be the adult grammar. However, under Yang's approach, the child can settle on any grammar, and when they settle on a different grammar than that of the adults, this constitutes a language change (Yang, 2000, 2010). I come back to this in Section 6.4.3 below.

[118]The indefinite plural might be acquired slightly earlier or simultaneously, see Bohnacker (2003).

Anderssen (2006, 2007, 2012) uses a lexical insertion approach to describe the acquisition of CD in monolingual children (see Section 3.2.2). She describes the stages the children go through in terms of the lexical insertion rules they have acquired. In the first stage, the child acquires the suffixed article and associates it with the Specificity head in the structure. The relevant lexical insertion rule is given in (6.39a).[119] In the second stage, the child acquires pronouns and these "are inserted into the grammar spanning the entire functional hierarchy of the DP" (Anderssen, 2012:20), see (6.39b). At this stage in development, however, the child has not yet started to utter modified phrases, so nouns are not yet combined with adjectives. Anderssen assumes that the child will therefore adopt a lexical insertion rule in which the Uniqueness node in the structure is spelled out as phonologically zero, as in the rule in (6.39c). At a later stage in the development, the child starts using modified definite phrases, and as we saw in Section 6.3.1, the children sometimes produce the prenominal determiner. In Anderssen's analysis, this means that the rule in (6.39c) competes with the one in (6.39d), which states that the feature uniqueness is expressed by the determiners *den, det*, and *de*.

(6.39)   a.   Definite suffix
                [Specificity] ⇔ *-en, -a, -et*
         b.   Pronoun
                [Uniqueness...Specificity] ⇔ pronominal forms
         c.   Determiner
                [Uniqueness] ⇔ phonologically zero
         d.   Determiner
                [Uniqueness] ⇔ *den, det, de*
                (based on Anderssen, 2012)

Given the analysis of the nominal phrase that I adopt here (Julien, 2002, 2005, see Section 3.2.1), the child first acquires the lexicalisation of the low definite projection (ArtP) in the suffix, and acquires the lexicalisation of the high definite projection (DP) much later. During the period when the child has not yet completely acquired CD, they use modified definite phrases with and without the prenominal determiner, as we saw in Section 6.3.1 above.

The input to children contains modified definite phrases with determiner, and modified definite phrases without the determiner. As discussed above, the latter are equally frequent to or even more frequent than phrases with CD in homeland Norwegian. There are two different grammars that could derive this input. In the first grammar, the DP layer must be lexicalized overtly, and there is αP-to-Spec-DP movement when the determiner is not present. This grammar is given in (6.40a), and I assume this to be the adult homeland Norwegian grammar. Presumably, this grammar contains the lexicalization rules proposed by Anderssen (2012) given in (6.39a,b,d). In the competing grammar, the DP

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[119]As pointed out in footnote 44, these rules are simplifications since they do not contain number and gender features. Since my focus is on the acquisition of definiteness, the simplified rules in (6.39) suffice.

layer is not lexicalized and D is not spelled out. This grammar does not contain movement, see (6.40b), and has the lexicalization rules in (6.39a,b,c). These two grammars are in competition with each other during the acquisition of CD.

(6.40) a. Grammar 1:
            Definite determiner is lexicalized
            αP-to-Spec-DP movement
        b. Grammar 2:
            Definite determiner is non-lexicalized (zero)

Grammar 1 is more complex than Grammar 2, because more functional projections are lexicalized and there is more movement involved. The movement from αP to Spec-DP is string vacuous, or 'invisible', since αP cannot move across intervening projections (contrary to Icelandic, see Section 6.1.1). As discussed above, Anderssen and Westergaard (2010) argue that economy plays an important role in acquisition, and that children will, in an early phase, start out with the most economic syntax (i.e., with less movement). In their study, it was found that children prefer structures with less syntactic movement (subject after negation, prenominal possessives, see Section 6.3.2) even when this structure is less frequent in the input. We can therefore expect that children acquiring Norwegian will favor Grammar 2 with a zero definite determiner rather than Grammar 1 with string-vacuous movement. Crucially, sentences in the input with a modified definite phrase without the determiner are compatible with both grammars.

I suggest that the acquisitional process described so far is similar for monolingual children and heritage children. Both acquire the suffix first, and in both there will be a competition between Grammar 1 (with αP-movement) and Grammar 2 (with a zero definite determiner). In Yang's model, the selection of a grammar is based on the input. In fact, the Norwegian input contains evidence for both grammars in (6.40), and a large part of the input (i.e., modified definite phrases without the determiner) is ambiguous; they are compatible with both grammars. Presumably, there are also acquisitional principles such as economy that lead to the selection of a grammar. In this case, both monolingual and heritage children will prefer Grammar 2. In order to adopt Grammar 1 and abandon Grammar 2, the child will need sufficient input which rewards Grammar 1 and at the same time makes Grammar 2 less favorable. This input should consist of modified definite phrases with the determiner: these are not compatible with the empty definite determiner in Grammar 2. Importantly, the input should also consist of phrases with a cardinal number or ellipsis that contain the determiner. Such phrases are not compatible with Grammar 2, and will therefore make it a less optimal candidate, while they are compatible with Grammar 1 and therefore make this grammar with αP-movement more likely. In addition, the child will need enough input to treat the two groups of adjectives as different: regular adjectives have an obligatory determiner, whereas exceptional adjectives can have αP-movement.

Monolingual children will receive this input, and although it takes several

years after the acquisition of the suffix, they acquire the adult system with an obligatory determiner (i.e., with CD). In addition, their end-state grammar will have the possibility of αP-movement for the exceptional adjectives, such that D can be spelled out as zero only in this context. Anderssen also notes that "the non-target-like structures attested in child language will remain possible lexicalisations in the adult language, but will be limited to special cases" (Anderssen, 2012:31). In other words, monolingual children will, after some time, settle on a modified Grammar 1, in which there is obligatory lexicalisation of the DP layer and αP-movement in some contexts. As discussed above, schooling and input written are arguably necessary for this development.

Children acquiring Norwegian in a heritage language context receive less input in Norwegian in general and only input from the spoken language. Presumably, this input does not contain enough structures that lead to the adoption of a grammar with an obligatory determiner and αP-movement with the exceptional adjectives (see Section 6.3.3 above). I propose now that as a result of this lack of input, heritage speakers will never select Grammar 1 and never abandon Grammar 2. Rather, they will maintain both competing grammars, resulting in the production of modified definite phrases both with a determiner and without a determiner. In other words, they maintain two competing grammars during their adult lives.

In my analysis, the fact that the typical AmNo modified definite phrase has no determiner is the result of incomplete acquisition. However, this does not mean that the heritage speakers are still in the process of acquisition, or that they are still evaluating input against their grammar(s). Rather, incomplete acquisition means that the speaker does not settle on one of the competing grammars, but that both of them are maintained. In other words, while monolingual speakers of homeland Norwegian go through a stage with two competing grammars (one with a non-lexicalized definite determiner, and one with αP-movement), heritage speakers of AmNo never abandon either of these grammars. I assume that given the complexity of the grammar with αP-movement, this grammar is less preferred than the one it is in competition with (i.e., a grammar with a zero definite determiner).

Incomplete acquisition is caused by the context in which heritage language acquisition takes place, in which the input is quantitatively and qualitatively different from that of monolingual children. The result is a language change. In the new system, the definite determiner is optionally spelled out, which means that there are less functional projections spelled out in AmNo modified definite phrases. Furthermore, there is less movement in AmNo, since it arguably lacks αP-movement. Finally, whereas homeland Norwegian has two types of adjectives (regular and exceptional), all adjectives are treated the same in AmNo. In all respects, the system of AmNo is less complex than that of homeland Norwegian. A simpler system is an expected outcome of a language change caused by incomplete acquisition.

6.4   Conclusion and discussion

In Chapter 5, we saw that the typical AmNo modified definite phrase consists of an adjective and a noun with the suffixed article. In the current chapter, I discussed these phrases, that lack the prenominal determiner, in more detail. In Section 6.1, it was argued that such phrases in certain other varieties of Scandinavian (Icelandic, the Northern Swedish dialects) can be analyzed syntactically as involving movement of αP —which contains the adjective, the noun, and the suffixed article —to Spec-DP (following Julien, 2002, 2005). I then suggested that the same analysis can account for the exceptional adjectives in homeland Norwegian.

I also investigated the possibility that the typical AmNo modified definite phrase is the result of αP-to-Spec-DP movement. However, I showed in Section 6.2.1 that neither elicited speech nor the results of the acceptability judgment task provide clear evidence for this hypothesis. Many phrases in AmNo lack the determiner, and these were accepted in the AJT, even in contexts where αP-movement would be prohibited. Since αP-movement is string vacuous, it would in fact be surprising if it was generalized in AmNo. Given what we know about heritage languages and assuming that economy plays a role in acquisition, we would expect less movement rather than more in the heritage language. I concluded that αP-to-Spec-DP movement cannot account for the modified definite phrases without a determiner found in AmNo. In Section 6.2.2, I argued instead that AmNo has a DP layer, and I suggested that the definite determiner has become optional in AmNo. That is to say, the spell-out of D is optional in AmNo modified definite phrases, also where it is obligatory in homeland Norwegian.

In Section 6.3, I pointed out that the patterns in AmNo are strikingly similar to those found in monolingual acquisition. In both populations, modified definite phrases without the determiner are frequent. I pointed out that the acquisition of CD (and the prenominal determiner in particular) is difficult, time consuming, and requires a specific type of input. Heritage language acquisition is different from monolingual acquisition, both quantitatively and qualitatively. In Section 6.3.3, I argued that the input necessary to acquire CD and the prenominal determiner is virtually absent from the exclusively oral input that heritage speakers receive. I suggest that, as a consequence, the heritage speakers never settled on a grammar with obligatory determiners, but rather that they have maintained two competing grammars (one where the definite determiner is non-lexicalized). This leads to the large amount of modified definite phrases without a determiner found in AmNo.

To summarize this chapter, I have suggested a syntactic analysis of the modified definite phrases in AmNo and then proposed an explanation for this grammar in terms of incomplete acquisition. I view incomplete acquisition as the maintained existence of two (or more) competing grammars, while complete acquisition is seen as settling on one of those grammars (see Yang, 1999, 2002, 2004).

In the remainder of this chapter, I briefly discuss some of the larger questions

that my analysis touches upon. First, I consider the issue of incomplete acquisition and attrition, one of the major points of discussion in heritage language research. Then, I turn to the role of cross-linguistic overcorrection, which has been argued to play a role in the AmNo modified definite phrases in previous research. Finally, I briefly discuss if it is possible to date the observed language change.

6.4.1 Incomplete acquisition versus attrition

The first issue when explaining differences between a heritage language and its baseline is the question of whether they are caused by incomplete acquisition or attrition. This is currently one of the major topics in heritage language research, as I pointed out in Section 2.2. There, I mentioned that one of the reasons that the term 'incomplete acquisition' is controversial, is the lack of a clear definition of complete acquisition. I have not given a full discussion of (incomplete) acquisition here, but point to the model by Yang (1999, 2002, 2004), where acquisition is viewed as a competitive process between several grammars. Complete acquisition can then be understood as the stage where the child has settled on one of those grammars, while incomplete acquisition means that two or more competing grammars are maintained. On the other hand, attrition is defined as the gradual loss of a language by a speaker as the result of lack of use.

I have proposed that incomplete acquisition has lead to the use of modified definite phrases without a determiner in AmNo, based on several arguments. Firstly, phrases without the determiner are frequent and used by all speakers and across the different types of tasks. In other words, they appear to be a systematic part of the grammar of AmNo speakers. In addition, the language of AmNo speakers bears a striking similarity to that of monolingual children, as they both use many modified definite phrases without the determiner.

Similar arguments are used by Larsson and Johannessen (2015) to explain word order deviations in embedded clauses in American Norwegian and American Swedish. They find that in embedded clauses, the heritage speakers use the word order 'verb-negation', which is ungrammatical in homeland Norwegian and Swedish and not used by the first-generation immigrants either. They conclude that the heritage languages have optional V-to-T movement (i.e., across negation), whereas the homeland languages have V-*in-situ* in embedded clauses. An example of the attested word order with V-to-T movement is given in (6.41a), with the homeland-like word order in (6.41b). Larsson and Johannessen (2015) point out that the heritage speakers pattern with monolingual children in Sweden and Norway and argue that this "strongly suggests that incomplete acquisition is involved" (ibid:177).

(6.41)   a.   *...dem som forstår   ikke så mye   norsk*
              them who understand not so much Norwegian
              '...them who don't understand much Norwegian.'
              (V-Neg, from Larsson and Johannessen, 2015:169)

b. *…dem som ikke forstår   så mye   norsk*
   them   who not understand so much Norwegian
   '...them who don't understand much Norwegian.'
   (Neg-V, homeland word order)

Word order in embedded clauses is thus another phenomenon where AmNo speakers pattern with monolingual children. There are similarities between embedded clause word order and compositional definiteness. Like phrases with CD, the V-*in-situ* word order in (6.41b) is scarce in the input, and Larsson and Johannessen (2015) claim that this "leads to delayed learning, and in the case of the heritage speakers, to incomplete acquisition" (ibid:183). Along the same lines, I have argued here that the acquisition of obligatory determiners in modified definite phrases is delayed in the heritage context to such an extent that it never reaches full acquisition.

As noted by Larsson and Johannessen (2015), the word order in heritage Scandinavian embedded clauses has not become more English-like. In Section 5.6, I pointed out the same with respect to CD: the modified definite phrases without a determiner do not have an English structure, and I concluded that transfer cannot be the cause of the change (see Section 6.4.2 below for more). I have argued in this chapter that it is incomplete acquisition caused by the heritage language acquisitional context that explains the AmNo modified definite phrases without a determiner. Larsson and Johannessen (2015) suggest that attrition might lead to more English-like structures, so the fact that we find the opposite of transfer could be considered an argument in favor of incomplete acquisition. Furthermore, they point out that the V-to-T movement is widespread and also used by speakers who otherwise seem fluent (ibid: 174).

Lohndal and Westergaard (2016) also use systematicity as an argument for incomplete acquisition of gender agreement in AmNo. They suggest that attrition leads to "an unsystematic breakdown of the system" (ibid:11), which is not what they find with respect to gender marking, and not what I find in modified definite phrases either. The AmNo speakers differ in systematic ways from homeland Norwegian, although there is some variation between and within the speakers; Lohndal and Westergaard (2016) suggest that this is typically the result of incomplete acquisition (ibid:12; see also Polinsky, 2018:28). In other words, arguments similar to those presented in this chapter have been used by other researchers to argue for incomplete acquisition in AmNo as well.

In studies on first language attrition, it has been proposed that those linguistic structures that are acquired late are the ones lost first under the influence of attrition. This 'last in, first out' hypothesis is known as the 'regression hypothesis' and was first formulated by Jakobson (1941). In a study on 15 morphological and syntactic features, Keijzer (2007, 2010) found parallels between first-generation Dutch immigrants in Anglophone Canada and acquisition by monolingual adolescents. However, these were mainly found in the domain of morphology, whereas syntax was influenced more by transfer from English. Keijzer therefore concludes that regression is much more subtle than previously assumed. A case study of one American Norwegian speaker also gave mixed

results with respect to the regression hypothesis, but with some support for it (Johannessen, 2015b). Could it be the case then that the determiner in CD is expected to be lost first under a process of attrition because it is acquired late? In other words, should the modified definite phrases without a determiner be explained in terms of attrition rather than incomplete acquisition?

Note first that if we assume the regression hypothesis to be true (despite the issues raised by Keijzer (2007) and Johannessen (2015b)), it would be impossible to distinguish incomplete acquisition from attrition in elderly speakers if there is no longitudinal data available. However, I do think that the arguments presented in this chapter make it much more likely that the prenominal determiner in modified definite phrases is never completely acquired than that is acquired but then lost due to attrition later in life. The discussion in Section 6.3 above shows that the determiner is acquired very late by monolingual children, and that the required input for complete acquisition is infrequent or virtually lacking in a heritage acquisition context. Therefore, I argued that the determiner-less modified definite phrases are caused by incomplete acquisition.

As far as I can see, this does however not mean that attrition cannot play a role as well. In Section 2.2, I pointed out that many definitions of attrition assume that a feature must be completely acquired before it is lost. In studies on bilingual speakers, striking differences are found between people who became bilingual later in life (after migration as adults) and those who became bilingual in childhood. Although attrition can be found in the former group, the effects are much more evident in the latter group (Montrul, 2016:113, see also Bolonyai, 2007:19). It might be that the effect of attrition on incompletely acquired phenomena is more severe than the effect on a completely acquired L1-grammar. This remains a question for further research, but it might be justified to assume that an incompletely acquired feature can become even weaker under the influence of attrition.[120] New features (i.e., innovations) are, however, not expected to arise as the result of attrition.

Following this idea, I suggest that the optionality of the determiner in AmNo is the result of incomplete acquisition and, in addition, that the amount of phrases with the determiner in individual speakers may be influenced by attrition. The group of AmNo speakers is heterogeneous, as is typical with heritage languages. Although their childhood situations are very similar (acquiring Norwegian at home and starting to learn English at school), their adult lives differ to a large extent. There are significant differences with respect to how much Norwegian they spoke as young adults and how often they speak Norwegian today. Speakers who have a spouse or family they can speak Norwegian with use the language more than speakers who have no Norwegian speakers in their environment. As a result, some speakers will be more affected by attrition than others. I propose here that this is reflected in the variation found with respect to the amount of modified definite phrases with CD.

The results presented in the previous chapter showed quite a large amount of

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[120]In their model of the competence of heritage speakers, Putnam and Sánchez (2013) incorporate this assumption.

variation. In the two elicited production tasks, the average score of baseline-like modified definite phrases is 25.17% in both tasks. The scores of individual speakers range from 0% to around 70%.[121] This variation is much larger than in the types of phrases that do not have CD (i.e., indefinite phrases and unmodified definite phrases). In other words, the determiner seems more vulnerable in some speakers, and I suggest that this is the result of attrition such that extended lack of use makes an optional element even more prone to omission. Frequent structures, such as the suffixed article (and the post-nominal possessive, see Westergaard and Anderssen, 2015) will be protected against attrition, because they will occur even in the little use of the language. Infrequent, complex, and incompletely acquired elements such as the determiner will be even more vulnerable under attrition.

If this suggestion is on the right track, we would expect to find evidence for it in the data: speakers who can be said to be attrited should be the speakers with the lowest percentages of phrases with CD. Unfortunately, there are no systematic studies to how often each speaker used Norwegian in their daily lives in the period between school-age and today. Background data can therefore not be used to determine which speakers are more attrited.[122] However, proficiency data can be informative here, since it has been shown that speakers who are more attrited speak less fluently (reflected in a lower speech-rate) and have more difficulties with lexical retrieval (which can be observed in a vocabulary test), see Section 4.4. In the next chapter, I discuss the results of the proficiency tests and point out that they seem to correlate with the amount of baseline-like modified definite phrases produced (Section 7.1.2).

The discussion here should have made clear that I propose that incomplete acquisition is the cause of the modified definite phrases without the determiner in the grammar of AmNo speakers, and that at the same time, attrition might influence how vulnerable the determiner is in individual speakers.

6.4.2 Transfer and cross-linguistic overcorrection

In Section 5.6, I pointed out that the typical AmNo modified definite phrase (where the determiner is absent) has a different syntax than in English. In English, suffixed articles do not exist and all definite phrases (modified or unmodified) have a prenominal determiner. In other words, the modified definite phrases that I discussed in this chapter are not only different from baseline Norwegian, they are also different from the dominant language of the speakers. This means that the frequent use of these phrases by the speakers cannot be caused by direct transfer from English. Transfer would have led to many phrases with only the determiner, the exact opposite of what is found in the data.

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[121]The range of scores is 0-72.73% in the translation task and 0-74.19% in the picture-aided elicitation task. Combining all responses in the two tasks together, the range is 0-69.77%. See Chapter 5 for details.

[122]Even if this information had been available, one should consider the reliability of self-reported data.

A similar development, in which the heritage language differs from the homeland variety as well as from the dominant language, has been observed by Kupisch (2014) for German-Italian bilinguals. In Kupisch's study, the adjective placement of heritage speakers of Italian was investigated. In German, the dominant language of the speakers, adjectives always occur in prenominal position. In Italian, on the other hand, adjectives typically occur in a post-nominal position, and some adjectives can be used in both prenominal and post-nominal positions. Kupisch (2014) found that the heritage speakers of Italian showed a preference for post-nominal adjectives, i.e., the word order that is not used in their dominant language. She refers to this as cross-linguistic overcorrection: "a tendency to overstress what is different rather than what is common in their two languages" (Kupisch, 2014:223).

Based on Kupisch's findings, we could argue that the dominant language can influence the heritage language in two ways. In the case of transfer (sometimes called cross-linguistic influence), the heritage language becomes more similar to the dominant language. Cross-linguistic overcorrection, on the other hand, will lead to a larger difference between the heritage language and the dominant language.

Anderssen et al. (2018) argue that some of the AmNo speakers are influenced by cross-linguistic overcorrection. They divide the speakers in CANS into two different groups: those who tend to leave out the prenominal determiner, and those who are more likely to leave out the suffixed article. In the results from my elicitation experiments discussed in Chapter 5, we saw in a similar way that all speakers omit the determiner (in at least a some of their modified definite phrases) and that a subgroup of them also omit the suffix in some phrases. Anderssen et al. (2018) furthermore show that there is a correlation between the type of modified definite phrase and the type of possessive that an AmNo speaker uses. Speakers who use more post-nominal possessives (6.42a) tend to leave out the prenominal determiner, whereas speakers who use more prenominal possessives (6.42b) are much more likely to leave out the suffixed article.

(6.42)   a.   *bil-en*   *min*
              car-DEF.M.SG my.M
              'my car'
         b.   *min*   *bil*
              my.M   car
              'my car'
              (Faarlund et al., 1997:264)

In other words, there is one relatively small group of speakers who typically use nominal phrases with a structure that is similar in English and Norwegian: prenominal possessives and prenominal determiners rather than suffixes in modified definite phrases. Anderssen et al. (2018) argue that this group is influenced by transfer from English. The other group of speakers, which is much larger, typically use structures that exist in Norwegian but not in English: post-nominal possessives and modified definite phrases with only the suffix.

This group uses post-nominal possessives at a higher frequency than homeland speakers of Norwegian, and Anderssen et al. (2018) argue that the speakers in this group are influenced by cross-linguistic overcorrection. In other words, they argue that these speakers overstress the differences between Norwegian, their heritage language, and English, their dominant language.

Cross-linguistic overcorrection could also be an explanation for the results in the present thesis, and for the fact that the typical AmNo modified definite phrase lacks the determiner. However, there are also a few difficulties with this analysis. First, it has to be noted that the speakers in Kupisch (2014) are different from the AmNo speakers: they are second-generation immigrants, bilingual from birth, and could be regarded as more balanced bilinguals than the AmNo speakers. It is not yet clear whether all heritage speakers are affected by cross-linguistic overcorrection in the same way.

Moreover, the division of AmNo speakers into two groups, one influenced by transfer and one by cross-linguistic overcorrection, makes it difficult to account for intra-speaker variation. Although there is a group who uses more prenominal possessives, most of these speakers also use post-nominal possessives (see Anderssen et al., 2018: appendix A). Similarly, I found that all speakers who sometimes omit the suffix, also omit the determiner in their modified definite phrases. In other words, it seems as if speakers who should be affected by transfer (according to Anderssen et al., 2018) also produce structures which are argued to be caused by cross-linguistic overcorrection. The analysis loses its explanatory power if both transfer and cross-linguistic overcorrection can affect one and the same speaker with respect to a particular phenomenon.

A final issue with the claims by Anderssen et al. (2018) is the role of frequency. The post-nominal possessives and the suffixed article are more frequent in Norwegian (and in the input to children, see Anderssen et al., 2018:750-751) than prenominal possessives and the determiner. In other words, the structures that are argued by them to be caused by cross-linguistic overcorrection are also the most frequent structures. This means that input frequency could be an alternative or additional explanation for the frequent use of these structures in AmNo. As I proposed in Section 6.3.2 above, the frequency of the suffix is one of the factors that contributes to the early acquisition of the suffix and the late acquisition of the determiner. Although it is possible that cross-linguistic overcorrection plays a role in the use of determiner-less modified definite phrases in AmNo, I suggest that these structures are mainly the result of incomplete acquisition. I do not think that the speakers omit the determiner in order to stress the difference between English and Norwegian. Rather, I argued in this chapter that they have never completely acquired the obligatory determiner. This seems to be the main reason that we find modified definite phrases without the determiner to be a stable part of AmNo speakers' grammars.

6.4.3 The time of the change

At the end of the previous chapter, I concluded that AmNo has undergone a language change whereby modified definite phrases without a determiner

have become a part of the language. In this chapter, I have argued that this language change is caused by incomplete acquisition: due to the heritage acquisition context, the speakers never settled on a grammar with obligatory definite determiners. Rather, competition between a grammar with obligatory determiners and a grammar without determiners is maintained.

It has to be kept in mind that the current speakers of AmNo are not the first generation of speakers, but the third or even fourth generation of Norwegian speakers in America. Their parents (and sometimes also their grandparents) were themselves heritage speakers of Norwegian. We might therefore wonder when the observed change took place. When did modified definite phrases without the determiner become the typical AmNo modified definite phrase: in this generation of speakers, or in a previous generation?

In Section 3.1.3, I discussed the language of the first generations of AmNo speakers, based on Haugen (1953). Although the available data is limited, it is clear that their Norwegian is very similar to homeland Norwegian. The immigrant speakers (speakers who moved as adults, and became bilingual later in life) in Haugen's data still use modified definite phrases with the determiner, and so do the heritage speakers in that data (those who became bilingual as children, either first- or second-generation immigrants), see (6.43a). The only modified definite phrases without a determiner that are observed in their language contain one of the exceptional adjectives, as in (6.43b). Phrases like this are found in homeland Norwegian as well. In addition, the language of the immigrant speakers and first-generation heritage speakers contains some phrases without the suffix, as in (6.43c).

(6.43)   a.   *den*   *stor-e*   *båt-en*
           DEF.SG big-DEF boat-DEF.M.SG
           'the big boat'
           (Haugen, 1953:537, 1st-generation immigrant)
     b.   *første*   *hus-et*
           first.DEF house-DEF.N.SG
           'the first house'
           (Haugen, 1953:510, 2nd-generation immigrant)
     c.   *det*   *norsk-e*   *folk*
           DEF.N.SG Norwegian-DEF people
           'the Norwegian people'
           (Haugen, 1953:485, 1st-generation immigrant)

Based on these data, I concluded in Section 3.1.3 that the speakers recorded by Haugen (1953) used CD in a homeland-like manner. This means that the language change did not happen in the second generation of immigrants, but must have happened later. This later point in time can either be the current speakers, or their parents' generation. As was mentioned in Section 2.3.2, Arnstein Hjelde made recordings of AmNo during the 1980s, which means that there are recordings of the generation between Haugen's and my data collections. However, Hjelde's recordings are currently not transcribed and this makes it very

hard to study CD and the use of the determiner in this generation of speakers. The question about the exact moment of change therefore has to be left for future research.

It has to be kept in mind, though, that the previous generations of AmNo speakers had a different sociolinguistic profile. During their lives, Norwegian was used much more in the AmNo communities than during the lives of the current speakers. Many of the current speakers recall that their parents used Norwegian more than English, and although there is no doubt that the previous generation of speakers were bilinguals, it is not unlikely that they were more balanced bilinguals. They continued to use Norwegian during their adult lives to a greater extent than the current speakers did. If they shifted language dominance, this presumably happened more gradually than for the current speakers. In addition, many speakers of the previous generation were literate in Norwegian. I argued in Section 6.3.3 above that the drastic decrease in input and lack of written input has been crucial in the process of incomplete acquisition that affected the current speakers. The previous generation of AmNo speakers might therefore still have used CD, and the language change described in this chapter might have taken place in the current generation of speakers. This hypothesis could be tested with Hjelde's recordings.

Although the exact moment of language change can not currently be established, this is less important for the analysis presented in this chapter. Nothing in this analysis hinges on the time of the change. Language change can typically be modelled as an S-curve (see e.g., Yang, 2000, 2010), and takes several generations to reach completion. In other words, if the language change happened in the previous generation, the current speakers would have had even more variable input (with even more modified definite phrases without the determiner) and they would be at a different point of the S-curve than when the change happened in the current generation. The question about the time of the change merely matters for the input frequencies of the current generation. At the same time, the principle of my argument —that modified definite phrases without the determiner are the result of incomplete acquisition in the heritage context —does not change.

6.5   Summary

In this chapter, I have discussed modified definite phrases without a determiner. The results presented in Chapter 5 revealed that these are the typical type of modified definite phrases in American Norwegian. I considered superficially similar phrases in Icelandic, Northern Swedish, and (with exceptional adjectives) homeland Norwegian. Based on both elicited production data and the results of the AJT, I argued that these phrases in Scandinavian have a different grammar than in AmNo. While they are the result of αP-to-Spec-DP movement in the Scandinavian varieties, phrases without the determiner in AmNo are, I argue, the result of an optional determiner. In AmNo, D does not have to spelled out in modified definite phrases.

As an explanation for this language change, I have pointed out that there is a striking similarity between AmNo and monolingual children's language acquisition with respect to CD. In monolingual Norwegian children, modified definite phrases without the determiner are both frequent and persistent. Because of the quantitative and qualitative differences between the input of monolingual children and that of heritage speakers, I suggested that the acquisition of CD is delayed in the latter. In the end, the AmNo speakers who acquired Norwegian in a heritage language context never leave the acquisitional stage of competing grammars: one with and one without obligatory definite determiners. Rather, the two grammars are maintained, which leads to the use of many phrases without a prenominal determiner. In other words, I propose that incomplete acquisition causes the language change that made these phrases part of American Norwegian.

Chapter 7

More inter- and intra individual variation: the suffix

The previous chapter discussed modified definite phrases without a determiner that are frequent in American Norwegian (see the results in Chapter 5). It was argued that they are the result of a change in the grammar of AmNo. The results of the elicitation experiments showed, however, that AmNo modified definite phrases differ from the baseline also in other ways. These other differences are not shared by the complete population of AmNo speakers, but they are found in the language of individual speakers. They relate to the use of the suffixed article and I discuss them in this chapter.

First, some speakers seem to have some difficulty with the use of the definite suffix. As a result, they produce modified definite phrases with only a determiner, or bare modified definite phrases. In Section 7.1, I discuss the phrases without the suffix and argue that we can still say that the suffix is a robust part of the AmNo grammar. Instead, the phrases without the suffix seem to be caused by production difficulty related to attrition. We will see that this is correlated with the proficiency of the speakers.

Second, we have observed that although the speakers in general mark definiteness in their nominal phrases, this distinction is vulnerable on plural nouns in some speakers. This observation is discussed in Section 7.2, where I provide an analysis in terms of feature neutralization. This is then explained as grammatical restructuring caused by economy principles.

7.1 Modified definite phrases without the suffix

During the two elicitation experiments, modified definite phrases without the determiner were the most frequent type of modified definite phrase. In addition, phrases without the suffix (7.1a) and bare phrases that lacked both the definite suffix and the determiner (7.1b) were also found. Although less frequent, they still constitute a part of the data that should not be ignored. Phrases without the suffix form 4.77% of the total amount of elicited modified definite phrases, and bare phrases form 16.78% of the total (both experiments combined). The percentage of phrases without the suffix and bare phrases is similar in the two elicitation tasks.[123]

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[123]In the translation task, 8.11% of the modified definite phrases lacks the suffix, and 16.89% is a bare phrase (see Table 5.3). In the picture-aided elicitation task, phrases without the suffix form 3.93% of the total and bare phrases constitute 16.75% of the modified definite phrases (see Table 5.5).

(7.1)   a.   *den   stor-e   jordbær*
             DEF.SG large-DEF strawberry
             'the large strawberry'
             (sunburg_MN_11gk, PAET, baseline: *det store jordbæret*)
        b.   *stor-e   skip*
             large-DEF ship
             'the large ship'
             context: researcher asks "what disappeared?"
             (fargo_ND_09gm, PAET, baseline: *det store skipet*)

Phrases without the suffix and bare phrases are often found with plural nouns, and they seem to be related to a general difficulty with marking plural definiteness, which extends beyond modified definite phrases. If only singular contexts are considered, phrases without the suffix form 4.72% and bare phrases make up 12.08% of the total amount of modified definite phrases. Phrases without the determiner are much more frequent; they make up 46.98% of the singular modified definite phrases. In what follows, I only take into account these two types of phrases in singular nominal phrases, as the issue of the plural is discussed in Section 7.2.

Phrases such as (7.1a-b) are not only less frequent than phrases without the determiner on the group level, but also when we consider the individual speakers. We saw in Section 5.4 (see Table 5.7 and Appendix C) that the speakers can be divided into groups based on the type of non-baseline-like modified definite phrases they used. Five of the speakers never omit the suffix, while all speakers omit the prenominal determiner in some of their phrases. The division into groups in Chapter 5 was based on the number of occurrences of the different types of phrases. However, since not all speakers produced the exact same amount of modified definite phrases during the elicited production tasks, it might be better to look at the inclusion of the suffix as a percentage of the total number of modified definite phrases produced by each speaker.

In the scores of suffix inclusion, I included all singular modified definite phrases that contain the definite suffixed article.[124] In other words, phrases without the suffix and bare phrases were excluded in this calculation. The individual scores of suffix inclusion are given in Table 7.1 below, where the speakers are also divided into two groups based on whether their frequency of suffix inclusion is above or below the median (median = 91.61%).

The speakers in group 1 in Table 7.1 have a score of suffix inclusion that lies above the median. Five of them even have a score of 100% suffix inclusion in modified definite phrases, which means that they never produced phrases like (7.1a-b) during the elicited production tasks. The other speakers in group 1 omit the suffix, but they do so only occasionally. As a result, they have a rather high score of suffix inclusion.

Group 2 in Table 7.1 consists of speakers whose score of suffix inclusion is below the median. In other words, they omit the suffix more frequently. As

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[124]In all scores discussed in this section, the modified definite phrases that contained a demonstrative instead of a prenominal determiner have been excluded.

Group 1: above median		Group 2: below median	
Speaker	Suffix inclusion	Speaker	Suffix inclusion
CV_06gm	100%	U_01gm	90.91%
CV_10gm	100%	S_12gk	88.89%
Fa_01gm	100%	S_04gk	84.62%
W_01gm	100%	S_15gm	83.33%
W_11gm	100%	S_18gk	78.26%
I_05gm	96.77%	S_11gk	70%
W_06gm	94.74%	S_06gm	62.96%
S_09gm	93.75%	Fa_08gm	52.63%
S_07gm	92.59%	Fa_09gm	35.48%
Fl_01gm	92.31%	H_07gk	29.17%

Table 7.1: Division of the participants (N=20) into two groups based on the frequency of use of singular modified definite phrases with a suffixed article in the two production tasks. The speakers in group 1 have a high frequency of suffix inclusion (above the median of 91.61%), and speakers in group 2 have a low frequency of suffix inclusion (below the median).

can be seen in the table, five speakers have a score of suffix omission that is below 75%, and two of them even score below 50%. These two speakers omit the suffix in more than half of their modified definite phrases. However, the data in the table also show that this is atypical behavior for the group of American Norwegian speakers.

The frequency of determiner inclusion could be calculated with a similar procedure. In this score, I included all singular modified definite phrases that contain the determiner. As expected given the results in Chapter 5, the determiner is (much) less frequently included than the suffixed article. For all except two speakers, the score of suffix inclusion is higher than the score of determiner inclusion.[125] In other words, omission of the definite determiner is more common than omission of the suffixed article, and this is the case both on group level and for individual speakers.

In Section 7.1.2, I explain the behavior of the speakers in terms of attrition. First, however, I discuss the syntactic analysis of phrases without the suffixed article.

7.1.1 Analysis: no change in the underlying syntax

Above, I briefly summarized the results of the elicited production experiments with respect to the use of phrases without the suffix. These phrases are quite infrequent, both across speakers and within most of the individual speakers. As noted, this is in stark contrast with the phrases without a determiner; the

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[125]These two speakers are hendricks_MN_07gk (29.17% suffix inclusion, 33.33% determiner inclusion) and sunburg_MN_11gk (70% suffix inclusion, 90% determiner inclusion).

determiner was omitted frequently by all speakers. In the study by Anderssen et al. (2018), which was based on corpus data, omission of the suffix was also much less frequent and only found in a subgroup of the speakers.

The results from the AJT provide further evidence for the stability of the suffix. As I described in Section 5.5, the suffix was almost always repeated when it occurred in the stimulus sentence of the AJT. Moreover, the speakers even added the suffix to stimuli that did not have the suffix, as in (7.2). It is important to note that the prenominal determiner was never added to the stimuli.[126]

(7.2)   a.   stimulus: *Jeg ser den svarte fugl.*
              'I see the black bird.'
        b.   response: *Jeg ser den svarte fugl-**en***
              (flom_MN_01gm, fargo_ND_01gm during AJT)

Based on the different types of data (elicited production and AJT), I conclude that the suffix-less phrases are not a stable part of AmNo language in the same way as the determiner-less phrases are. The language change that was described in the previous chapter, where the definite determiner is not completely acquired, is found in all speakers and in all types of data. I have analyzed this as a change in the underlying syntax of AmNo. Omission of the suffix, on the other hand, is found much less frequent, and is furthermore only found in a subgroup of the speakers. Therefore, I assume that it is a more superficial phenomenon that does not result from a different syntax.

When unmodified definite phrases are considered, it also becomes clear that the definite suffixed article is a stable part of the grammar. Most speakers rarely omit the suffixed article in singular definite phrases that are not modified by an adjective —i.e., phrases that do not contain CD. For all except three speakers, the score of suffix inclusion is higher in unmodified than in modified definite phrases.[127] It is important to point out that even for these three speakers, the rate of suffix inclusion is very high in both types of phrases. In other words, it seems to be the case that the speakers have more difficulty with the suffix when the phrase is more complex. This suggests that the suffix is left out as the result of production difficulty, rather than as the result of a grammar that permits definite phrases without the suffixed article.

If we were to assume that AmNo had undergone a change in the underlying syntax in this respect, we should expect to find a lot more occurrences of suffix-less phrases in the data than we actually do, and the AmNo grammar would look more like Danish. Danish uses the suffixed article in unmodified definite phrases, and only the determiner in modified definite phrases. Danish modified definite phrases thus resemble (1a). Both Julien (2002, 2005) and Anderssen

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[126]At least, the determiner was never added to regular modified definite phrases. The speakers sometimes added the determiner when the stimulus contained ellipsis of the noun, see Section 6.2.1.

[127]These three speakers are coon_valley_WI_10gm (suffix inclusion 97.5% in unmodified phrases, 100% in modified phrases), fargo_ND_01gm (suffix inclusion 91.67% in unmodified phrases, 100% in modified phrases), and iola_WI_05gm (suffix inclusion 95.74% in unmodified phrases, 96.77% in modified phrases).

(2012) account for the Danish nominal syntax in terms of the lexicalization rules of Danish, although in slightly different ways. According to Julien (2002, 2005), Danish has no lexical items that spell out the Art-head. In her account, the suffix in unmodified phrases and the determiner in modified phrases are both lexicalizations of D, and therefore in complementary distribution. According to Anderssen (2012), the Danish suffix spells out the span of the two features uniqueness and specificity, while the feature specificity in isolation is spelled out as zero. These spell out rules are given below in (7.3).

(7.3)   a.   Suffix1: [Uniqueness ... Specificity] ⇔ *-en, -et*
        b.   Suffix2: [Specificity] ⇔ *zero*
             (Anderssen, 2012:14)

Both accounts can account for the Danish system. However, AmNo is not like Danish, as suffix-less modified definite phrases are only found occasionally in AmNo (disregarding two speakers, see Table 7.1), while they are obligatory in Danish. It is hard to see how the accounts of Julien and Anderssen could derive a language like AmNo, in which Danish-like phrases are combined with phrases that contain the suffix but lack the determiner. If we assumed that the Art-head (or Specificity) was not lexicalized in AmNo, it would be difficult if not impossible to account for the presence of phrases that contain the suffix such as those in (7.4). It should be kept in mind that the speakers who produce suffix-less phrases also produce phrases with the suffix. The examples in (7.1a) and (7.4a) are produced by the same speaker, and so are the examples in (7.1b) and (7.4b). In other words, phrases without the suffix and phrases with the suffix co-occur within one and the same speaker.[128]

(7.4)   a.   *den   grønn-e   fugl-en*
             DEF.SG green-DEF bird-DEF.M.SG
             'the green bird'
             (sunburg_MN_11gk, PAET)
        b.   *hvit-e   geit-a*
             white-DEF goat-DEF.F.SG
             'the white goat'
             (fargo_ND_09gm, PAET, baseline: *den hvite geita*)

We have observed variation also with respect to the use of the determiner, but in the case of the suffix it is hard to see its omission as the consequence of incomplete acquisition. In fact, it would be hard to explain how the lexicalization rules proposed by Julien and Anderssen for Danish would have entered the grammar of AmNo speakers. As was shown in Section 6.3.1, the suffixed article is acquired very early by monolingual children, and this early acquisition is facilitated by

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[128]The analysis of Julien (2005) faces additional problems when combined with my analysis in the previous chapter. If, as she assumes, the suffix in unmodified phrases is the lexicalization of D and, as I argued for, the lexicalization of D is optional, then we could expect that many unmodified definite phrases lack the suffix. This is, however, not found in the elicitation experiments, where the definite suffix turns out to be very stable (with the exception of plural contexts, as noted in Section 5.1).

the fact that the suffix is both very frequent and prosodically salient. During acquisition, children receive input which contains much more evidence for the suffix than for the determiner, especially in the exclusively spoken input in a heritage acquisition context (see Section 6.3.3). So, in addition to the fact that lexicalization rules such as those proposed by Julien and Anderssen cannot account for the whole system of AmNo, it seems implausible that these rules would actually be acquired by the heritage speakers.

Modified definite phrases without the suffix (i.e., Danish-like phrases) are found in young monolingual children. They are infrequent (5% of the modified definite phrases, Anderssen (2012:22)), but they seem to become more frequent during the second part of the time frame studied by Anderssen (2012) (age 2;7-3;3). An example of such a phrase is given in (7.5).

(7.5)   *det   andre   bil*
        DEF.N.SG other.DEF car
        'the other car'
        (Norwegian child, age 2;7) (Anderssen, 2012:30)

Anderssen relates the existence of suffix-less phrases to the acquisition of adjectival inflection, more particularly to the acquisition of the schwa on adjectives in definite phrases. In her analysis, the adjectival inflection spells out the α-head in the adjectival structure, which occurs in between the nodes Specificity and Uniqueness (7.6a).[129] She argues that during a particular stage of acquisition, there is confusion with respect to how much of the structure is spelled out by the α-head. Children might adopt an alternative rule for a while, in which the schwa also spells out the feature specificity (7.6b). As a result, the suffixed article is absent, because the feature specificity is already spelled out. When this rule is combined with a zero spell-out of the uniqueness feature (i.e., of the definite determiner), the result is a bare modified definite phrase.

(7.6)   a.   [Uniqueness] > [Adjectival projection [α]] > [Specificity] > [NP]
             (Anderssen, 2012:11)
        b.   Adjectival inflection: [α ... (Specificity)] $\leftrightarrow$ *-e*
             (Anderssen, 2012:29)

Just like the analyses of Danish discussed above, the analysis of suffix-less phrases in children's language acquisition cannot account for AmNo. If the speakers of AmNo had a similar rule for adjectival inflection as children, we would predict that all utterances without the suffix contain the weak inflection (i.e., the schwa) on the adjective. However, this prediction is not borne out in the elicited production experiments, as can be seen in Table 7.2.

The elicited production data contain 156 suffix-less modified definite phrases (either with or without a determiner), see Table 7.2. Of these 156 phrases, 81

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[129]Although Julien (2002, 2005) also places αP (which contains the adjective) between the two definiteness projections in her analysis, she claims that the adjectival inflection is not the spell-out of α. Rather, she argues, the adjectival inflection happens internally in the AP (Julien, 2002:268,275; 2005:48-54).

Weak adjectival inflection		
	n	**%**
Present	81	51.92%
Absent	52	33.33%
Neutral	23	14.74%
Total	156	100%

Table 7.2: Analysis of the weak adjectival inflection. The table indicates how many of the phrases without the suffix (produced during the elicitation tasks) contain or lack the weak adjectival inflection (*-e)*. The category 'neutral' means that the adjective ends in a vowel and does not require inflection in homeland Norwegian.

(51.92%) contain the weak adjectival inflection (7.7a), which is in line with the prediction. However, the adjectival inflection is missing in a third of the phrases without the suffix (7.7b). The remaining 23 phrases (14.74%) cannot be used to test the prediction, since they contain adjectives that end in a vowel (7.7c), and thus have optional adjectival inflection in homeland Norwegian. In the table, these are analyzed as 'neutral'.

(7.7) a. *gul-e   konvolutt*
           yellow-DEF envelope
           'the yellow envelope'
           (flom_MN_01gm, PAET)
       b. *det   bron   dør*
           DEF.N.SG brown door
           'the brown door'
           (hendricks_MN_07gk, PAET)[130]
       c. *den   små jente*
           DEF.SG little girl
           'the little girl'
           English sentence: [The little girl] turns out to be Emma, their little sister.
           (sunburg_MN_11gk, TT)[131]

Based on the data in Table 7.2, it seems implausible that the speakers who use modified definite phrases without a suffix have adopted a different rule of adjective inflection, at least one that can account for the distribution of the suffix. Although the rule in (7.6b) might explain the presence of such phrases in monolingual children (Anderssen, 2012), it cannot account for AmNo, where phrases with neither suffix or adjective inflection are found. It seems more likely that the speakers who produce phrases without the suffix have some difficulty

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[130]Note that the gender agreement of the determiner is non-baseline-like here: *dør* is feminine, and the determiner would be *den* in homeland Norwegian.

[131]The adjective *små* 'little' is typically only used in plural contexts, see footnote 79.

with functional material in general, which is also reflected in non-inflected adjectives.

According to Anderssen (2012), monolingual children start using modified definite phrases without the suffix at a later stage of acquisition, after they have assumed a zero determiner. The spell out rule in (7.6b) that children apply thus comes in later. If her analysis of child language could be extended to AmNo, it would suggest that speakers who produce phrases without the suffix have progressed more in their Norwegian acquisition than speakers who only produce determiner-less phrases. However, this suggestion is not corroborated by the findings. As we will see below, speakers who frequently omit the suffix are less proficient than speakers who do so less frequently.

I suggest that the suffix-less modified definite phrases in AmNo should not be accounted for by assuming an underlying syntax that differs from homeland Norwegian. First, we saw that suffix-less phrases are infrequent (in the group as well as in most speakers), and only used by a subset of the speakers. Even these speakers more frequently omit the determiner than the suffix (see above). Moreover, the suffix turns out to be more prone to omission in modified phrases than in unmodified ones, which suggests that the omission is related to the complexity of the phrase rather than to the underlying grammar. I argued above that the existing analyses for similar phrases in Danish and child language cannot account for suffix-less phrases in AmNo. These analyses either over-generate, meaning that they cannot explain why omission of the suffix is infrequent, or they lead to predictions that turn out not to be supported by the data. Another reason to conclude that the suffix is part of the underlying AmNo syntax is that it is used productively. By this, I mean that the speakers use it in obligatory contexts and only in these contexts.

In Chapter 5, I argued that the definite suffix is in general stable in AmNo. The stability of the definite suffixed article in AmNo has previously been observed in the studies on grammatical gender. Both Johannessen and Larsson (2015) and Lohndal and Westergaard (2016) find that the speakers use more baseline-like gender on the suffix than on free morphemes (e.g., indefinite determiners and possessives). Lohndal and Westergaard (2016) suggest that chunking could be an explanation for this: nouns might be "stored in memory as units together with the suffix" (ibid: 11) as an unanalyzed chunk. However, this analysis does not take into account that the definite nouns are found in definite contexts only. In a chunk, there is presumably no productive process of gender agreement or definiteness marking applied; rather, the form (e.g., *hesten*) is memorized as a whole. If the noun and the suffix were to form a chunk, we would then expect these chunks to be found in indefinite contexts, or even combined with indefinite determiners.[132] In the results of the elicited production tasks, the amount of such findings is negligible.[133] For the very few speakers who occasionally

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[132]The same arguments are used to argue that the combination noun and suffix is not an unanalyzed chunk for monolingual children acquiring nominal morphology (Bohnacker, 2003:218-219).

[133]During the translation task, there were no definite forms outside of definite contexts. In the results from the picture-aided elicitation task, 34 definite forms in an indefinite context

produced 'chunks', two explanations come to mind. These speakers could have been using the so-called citation form when they mention what they see in the picture-aided elicitation (see Section 5.3). Or, the lack of a context in the form of a sentence in the picture-aided elicitation task could have induced some amount of non-baseline-like use of the definite suffix. At the same time, it is clear that for the majority of the speakers and in the majority of the utterances, the noun and suffix do not form a chunk. Rather, the suffix is used productively as a marker of definiteness.

To summarize this section, I conclude that the suffixed article, unlike the prenominal determiner, is part of the grammar of AmNo. Differences between AmNo and the baseline are in other words not caused by a language change that has made the suffix optional. Instead, the omission of the suffix appears to be a more superficial phenomenon. In the next section, I propose an explanation in terms of production difficulty related to attrition.

7.1.2 Attrition as an explanation

Although the suffixed article is overall still an obligatory element in AmNo modified definite phrases, it turns out to be less stable in some of the speakers than in others. Given the very early acquisition of the definite suffix (Anderssen, 2006, see also Section 6.3.1), it seems unlikely that phrases without the suffix are the result of incomplete acquisition. In addition, incomplete acquisition typically leads to systematic deviations from the baseline, while the result of attrition is less systematic (Polinsky, 2018:28; see also Section 6.4.1). This is what we find with respect to omission of the suffix, as this happens occasionally and is only found more frequently in a few speakers. In this section, I argue that the modified definite phrases without a suffix are the result of attrition.

As was pointed out in Section 6.4.1, there is more variation in the group of AmNo speakers with respect to how much Norwegian they use as adults than in their acquisitional development during childhood. Therefore, we expect that attrition, unlike incomplete acquisition, does not affect all speakers, at least not to the same extent. The effects of attrition are expected to be larger in some speakers than in others. In other words, while the omission of the determiner is caused by a different underlying syntax in all speakers, I argue that the omission of the suffix is the result of production difficulty caused by attrition in some of the speakers.

In the data presented in Chapter 5 and summarized in Section 7.1, two groups of speakers can be distinguished based on how stable the suffix is in their speech (see Table 7.1). The speakers in group 1 score higher than the median frequency of suffix inclusion. Five of the speakers in this group never omit the suffixed article in modified definite phrases (at least with singular nouns), i.e., they score 100% suffix inclusion. The other speakers in this group produce phrases without the suffixed article, but they do so with a low frequency. I suggest that the

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were found (produced by 8 of the speakers), while the task elicits 96 indefinite phrases per speaker.

effects of attrition on the speakers in group 1 in Table 7.1 are small, and that the suffix is still stable and only occasionally left out as the result of production difficulty.

It has been argued that attrition is related to production and processing difficulty (e.g., Larsson and Johannessen, 2015:174; Polinsky, 2018:36). One example of this is the use of V2-word order in AmNo; it has been found that difficulties with V2 are particularly prevalent with heavy or complex topics (Eide and Hjelde, 2015). When we apply this logic to the nominal phrase, we can expect that modified definite phrases (which are considered complex, see Section 6.3.2) are a context where attrition effects are likely to occur in speakers with small signs of attrition. As we have seen above, this prediction is borne out. The AmNo speakers omit the suffixed article more often in modified (complex) phrases than in unmodified (simple) phrases.

The second group in Table 7.1 consists of speakers who score below the median of suffix inclusion. These speakers omit the suffix more frequently, and some of them actually omit the suffix in most of their modified definite phrases. I suggest that the speakers in this group are affected by attrition in a more severe way. As a result, the suffix has become relatively weak in their language and is more often omitted. It is important to note, however, that even these speakers use the definite suffix to some extent. There are no speakers who omit the suffix in all their definite phrases.

It has been argued that speakers who are attrited show more signs of transfer from their dominant language. For example, Putnam and Sánchez (2013) and Larsson and Johannessen (2015) suggest that there is a link between attrition and transfer. The idea behind this link would be that speakers who have more difficulty using their heritage language, rely more on the grammar of their dominant language when they speak. If this is on the right track, we would expect that the suffix is omitted by speakers who are affected by attrition, since English does not have suffixed definite articles. However, to the best of my knowledge there are no systematic studies that investigate the suggestion that attrition leads to more transfer. Without these studies, it is impossible to make strong claims about the connection between attrition and transfer.

Above, I suggested that omission of the definite suffix (i.e., the use of phrases with only a determiner or bare phrases) is the result of attrition. This hypothesis would predict first of all that omission of the suffix is unsystematic and not shared by all speakers. We have seen above and in Chapter 5 that this prediction is borne out. At the same time, we would also predict that attrition does not only affect the suffix in modified definite phrases. If speakers have difficulty with speaking Norwegian as the result of attrition, we predict that this consequences of attrition can also be noted in other components of the speakers' language. Specifically, we would predict that speakers with attrition have a lower overall language proficiency.[134] Below, we will see that this prediction is borne out. In

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[134]In addition, it might be the case that the speakers who are attrited also show other types of non-baseline like behavior in Norwegian in addition to omission of the definite suffixed article. I leave the investigation of correlations between suffix omission and grammatical accuracy

other words, I propose that the omission of the suffix is caused by production difficulty which is the result of attrition.

Currently, we know very little about the proficiency of the AmNo speakers, because their proficiency has never been tested before. Researchers on AmNo have made impressionistic claims about the proficiency or fluency of individual speakers. Johannessen (2015b), for example, compares the speech of one speaker with other fluent speakers of AmNo and argues that the speaker in question shows signs of attrition. In a similar way, Larsson and Johannessen (2015) point out how the use of non-baseline-like word order in embedded clauses is found in "fluent speakers that do not otherwise show any clear signs of attrition" (ibid:174). These impressions are based on the fieldwork of the authors, but they are not based on proficiency measurements.

In this study, I used two measures of proficiency: speech rate and a vocabulary task (see Section 4.4 for details). As noted, I conducted both these measures during fieldwork in 2018. Not all speakers who participated in the elicited production experiments participated in the proficiency measurements. There is speech rate data for 14 of the speakers, and 11 speakers also participated in the vocabulary test.[135] Speech rate is measured as words per minute (wpm) during a semi-spontaneous conversation with a researcher. The vocabulary task measured active knowledge of nouns with a task that elicited a total of 32 lexical items.

The results of the two proficiency measurements are presented in Table 7.3 and Figure 7.1 below. As we can see, there is quite some variation in the speech rates of the speakers. Whereas some speak very fast in Norwegian, others are slower. Part of this might be a personal characteristic, but in general lower speech rates in the heritage language tend to correlate with attrition and lower grammatical proficiency (see Section 4.4). There is also some variation between the speakers in the scores on the vocabulary test, although less than with respect to speech rate.

Since both measures have been used in previous research as proficiency measures, and have been shown to correlate with grammatical competence, we might expect that there is a correlation between these two measures. The Pearson's correlation test gives a medium strength correlation coefficient ($r \approx 0.575$), but no significant correlation ($t(9) \approx 2.11$, $p \approx 0.064$, n.s.).[136] The p-value is close to statistical significance, and the result might partially be due to the relatively small group of speakers involved (only 11 speakers participated in both tasks) and the quite small dispersion in the results of the vocabulary task. It should also be noted that the vocabulary test only measured whether

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to future research, since the current study only provides data of the speakers' definiteness marking and not of other grammatical phenomena.

[135]In addition, there were a few speakers who participated in the proficiency tests but not in the elicitation experiments. Their results are not taken into account here, since I did not collect data on their use of CD.

[136]The Shapiro-Wilk normality test shows that the scores on both measurements are not significantly different from the normal distribution ($W \approx 0.970$, $p \approx 0.88$ for speech rate, $W \approx 0.902$, $p \approx 0.20$ for the vocabulary task). I therefore used Pearson's correlation.

	Speech rate	Vocabulary test	
	wpm	n	%
S_18gk	71.82	18	56.25%
Fa_08gm	99	13	40.63%
W_11gm	108.38	21	65.63%
S_06gm	110.4	19	59.38%
S_12gk	115.14	19	59.38%
Fa_09gm	118.76	13	40.63%
S_09gm	122.52		
U_01gm	126.82	18	56.25%
Fl_01gm	131.54	21	65.63%
S_04gk	135.65		
Fa_01gm	135.87	22	68.75%
W_06gm	141.85	22	68.75%
W_01gm	153.66	24	75%
CV_06gm	184.84		
Mean score	123.59	19.09	59.66%
Stan. dev.	22.594	3.534	11.043

Table 7.3: Results of the proficiency measurements. The speakers are sorted according to speech rate. The speech rate (n=14) is measured in words-per-minute (wpm). For the vocabulary test (n=11), the number and percentage of correct responses (number of items=32) is given. See Section 4.4 for details on the experiments.

the speaker could produce the target noun, but not reaction time. The speakers could think long before they answered, and indeed some did. It might be that speech rate is more correlated to reaction time in a vocabulary test than to accuracy, but this remains an open question. At the same time, Petersen et al. (2018) argue that language proficiency is multi-faceted. I therefore discuss the two measures as separate measures of proficiency, assuming that they reflect different aspects of the speaker's proficiency.

For the 14 speakers that are included in the speech rate analysis, there seems to be a medium strength positive correlation between speech rate and their scores on baseline-like modified definite phrases (Pearson's r≈0.664 with CI 0.207-0.884; Spearman's rho≈0.653).[137] The correlation between speech rate and the scores on the control conditions (i.e., the phrases that do not contain CD), on the other hand, is much weaker (Pearson's r≈0.275 with CI —0.299-0.703, Spearman's rho≈0.218). The same is found for the vocabulary task (11 speakers): the scores on this task correlate relatively strongly with the scores on modified definite phrases (Pearson's r≈0.746 with CI 0.264-0.930; Spearman's rho ≈0.733), but with somewhat less strength with the scores on the control condition (Pearson's r≈0.757 with CI 0.287-0.933, Spearman's rho≈0.552). This rather exploratory

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[137]CI is the 95% confidence interval.
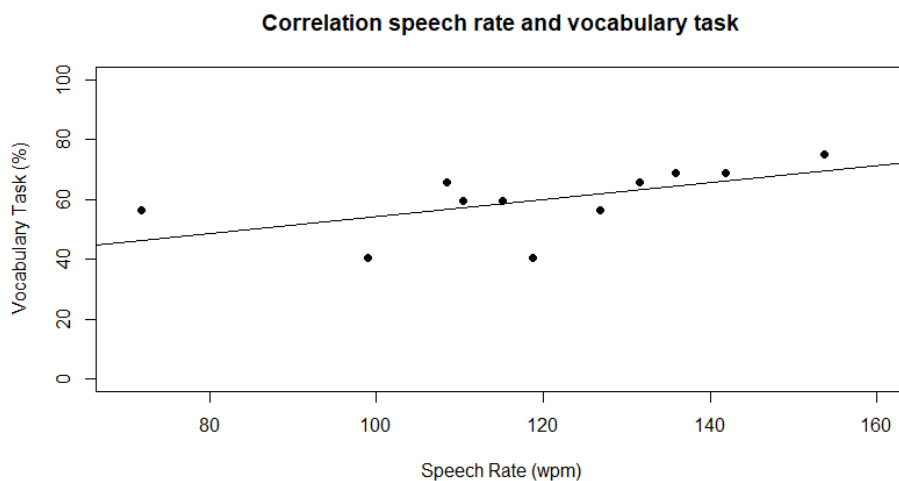
Correlation speech rate and vocabulary task

Figure 7.1: Correlation between speech rate and score on the vocabulary task, with regression line. Number of speakers = 11.

investigation suggests that while the proficiency of the speaker correlates with the behavior on modified definite phrases, the behavior in the control conditions is less related to proficiency.

The results seem to reflect the observation in Chapter 5 that most speakers have difficulty with CD in modified definite phrases, while they have much less or no difficulty with marking definiteness in general. In addition, the data seem to suggest that the amount of determiners used in CD is related to proficiency, as proposed in Section 6.4.1. Specifically, the data suggest that speakers with a higher proficiency, which is reflected in a higher speech rate and a higher vocabulary score, more often use CD. Although more research on this correlation is needed, it is in line with my suggestion that the vulnerability of the determiner is caused by incomplete acquisition, but that the frequency with which the determiner is used is related to proficiency and possibly to attrition.

Let us now return to the question whether speakers who frequently omit the suffix are less proficient than speakers who do so less often. The scores of suffix inclusion (see Table 7.1) are not normally distributed, and I therefore used Spearman's rank correlation.[138] There is a strong correlation between the percentage of suffix inclusion and the vocabulary score of the speaker (Spearman's rho$\approx$0.891) and this correlation is statistically significant (S=23.99, p<0.001). There is a medium strength correlation between suffix inclusion and speech rate (Spearman's rho$\approx$0.631), and this is also statistically significant (S=167.83, p=0.0155). The two correlations are visualized in Figure 7.2.

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[138]The Shapiro-Wilk normality test reveals that the data are significantly different from the normal distribution (W$\approx$0.792, p<0.001).
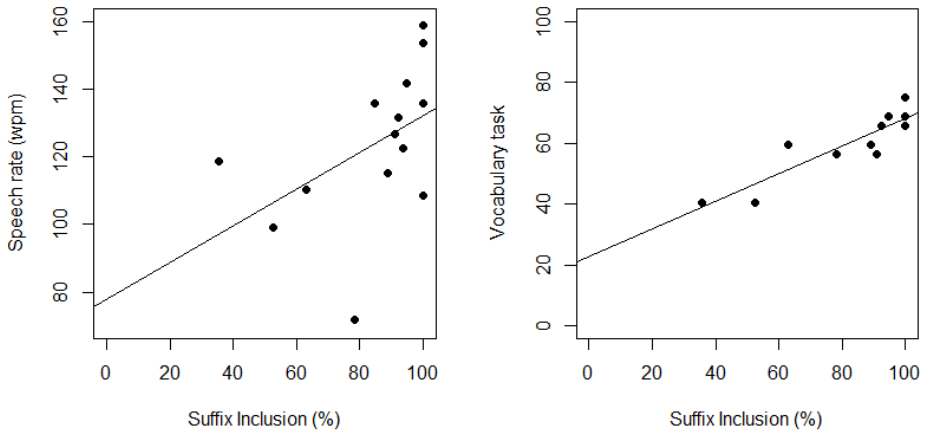
Figure 7.2: Correlation between suffix omission and the two proficiency measurements: speech rate in words per minute (left, n=14) and score on the vocabulary task (right, n=11), with the regression lines.

To summarize, the two correlations show that the higher the suffix inclusion rate, the higher the vocabulary score or speech rate of that speaker. In other words, speakers who frequently omit the suffix are typically less proficient speakers in terms of speech rate and lexical proficiency; this is in line with the hypothesis. I suggested above that the omission of the suffix in modified definite phrases is caused by production difficulty when speaking Norwegian, the non-dominant language. In other words, I propose that a phrase without the suffix is not the result of a grammar which is different from homeland Norwegian, but rather of production difficulty in Norwegian, and that this type of non-baseline-like behavior is different from omission of the determiner. In the previous chapter, I argued that phrases without the determiner are caused by a different underlying grammar, which is shaped by incomplete acquisition. The suffix, on the other hand, is generally stable, but speakers who are less proficient have more difficulty with it and, as a result, produce phrases without the suffix.

7.1.3 Conclusion: the suffix and attrition

In Section 7.1.1, I argued that modified definite phrases without the suffix (either with or without the determiner) should not be accounted for in terms of a change in the underlying grammar of AmNo. We saw that the suffix is only omitted by some speakers, and that the speakers who do (occasionally) omit it still tend

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to use it in most of their phrases.[139] I therefore conclude that the suffix is still obligatory in American Norwegian, and that individual speakers have occasional, or in a few cases substantial, difficulty using it in modified definite phrases.

I argued that this difficulty with the suffix can best be explained in terms of attrition, which is defined as the gradual loss of a language as the result of a lack of use. In this thesis, I make a distinction between non-baseline-like language that is caused by a different underlying syntax, and non-baseline-like language that is the result of a more superficial process of production difficulty (see Section 2.2). In the previous chapter, I argued that the determiner-less phrases are an example of the former, while I proposed in Section 7.1.2 that the suffix-less phrases are a case of the latter. As suggested by several researchers (see Section 6.4.1), attrition leads to less systematic use of non-baseline-like patterns. This was found with respect to the suffixed article: it is not omitted systematically or by all speakers. Moreover, the suffixed article was found to be particularly difficult in modified phrases; it is included more frequently in unmodified phrases. This supports my suggestion that suffix omission is related to production difficulty.

If omission of the suffix is the result of attrition, we expect that this process has not only affected the suffixed article, but also causes a lower overall proficiency. In Section 7.1.2, I presented the results of the two proficiency measurements, speech rate and vocabulary knowledge. The correlation tests indicate that there might be a correlation between speech rate and the percentage of suffix inclusion in modified definite phrases, and between lexical proficiency and suffix inclusion. Speakers who more frequently omit the suffixed article were found to speak slower and score lower on the vocabulary task. I therefore conclude that the use of phrases without the suffix is correlated with proficiency: speakers who frequently omit the suffix are less proficient in Norwegian. I argue that this is a sign of attrition: as the result of attrition, speakers typically speak slower and have more difficulty with lexical retrieval.

It has been suggested that speakers who are attrited rely more on the grammar of their dominant language, although the precise relation between attrition and transfer needs to be studied more (see above). If attrition indeed leads to more transfer, we would expect that attrited speakers are more likely to omit the suffix, the element which is not found in English. Anderssen et al. (2018) also suggest that the less proficient speakers are more affected by transfer.

7.2 Loss of the definiteness distinction in the plural

We saw in Chapter 5 that some AmNo speakers have a particular difficulty with definiteness marking in the plural. They do not always make a consistent distinction between the plural indefinite suffix and the plural definite suffix. An example is given in (7.8) below; (7.8a) illustrates homeland-like use of the indefinite plural context, while (7.8b) illustrates the use of the same form in a

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[139]As can be seen in Table 7.1, only speakers fargo_ND_09gm and hendricks_MN_07gk omit the suffix in more than 50% of their modified definite phrases.

definite context.[140] In this context, the plural definite would be expected, and it is indeed attested, as in (7.8c). The lack of a definite plural suffix in definite context is discussed in the remainder of this chapter.

(7.8)   a.   *tre rød-e ku-er*
             tree red-PL cow-INDF.PL
             'three red cows'
             context: researcher asks "what do you see on this picture?"
        b.   *tre svart-e ku-er*
             tree black-DEF cow-INDF.PL
             'the three black cows'
             context: researcher asks "what disappeared?"
             (flom_MN_01gm, PAET)
        c.   *svart-e ku-ene*
             black-DEF cow-DEF.PL
             'the black cows'
             (sunburg_MN_12gk, PAET)

This phenomenon can be observed in unmodified phrases as well as in modified phrases (see the examples in (7.9) below), which suggests that it is not an issue with compositional definiteness itself, but rather with the definiteness distinction in the plural. In addition, not all speakers showed the same difficulties with the plural: some speakers consistently mark definiteness in the plural (as in (7.8c), see Table 5.1). This suggests that difficulty with the plural definite suffix is less wide-spread in AmNo than the use of determiner-less phrases. It should also be noted that even speakers who have difficulty with the plural definite suffix occasionally use it, so the definiteness distinction has not completely disappeared from their language.

(7.9)   a.   *hest-er*
             horse-INDF.PL
             'the horses'
             context: the researcher asks "what disappeared?"
             (fargo_ND_08gm, PAET)
        b.   *blomst-er*
             flower-INDF.PL
             'the flowers'
             context: the researcher asks "what disappeared?"
             (sunburg_MN_07gm, PAET)

In the acceptability judgment task, plural nouns were used in the conditions that contained a numeral. As was described in Section 6.2.1, the results from these conditions gave further evidence for the vulnerability of the definite plural suffix. In many instances, the speakers changed the definite plural suffix to an indefinite plural suffix, also if they repeated the prenominal determiner that

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[140]Note that in (7.8b-c) the prenominal determiner is missing. The lack of the determiner in modified definite phrases was discussed in Chapter 6.

was present in the stimulus sentence, as in (7.10). Even speakers who produced definite plural suffixes during the elicitation experiments, often repeated them as indefinite during the AJT. So, both the elicited production data and the AJT show the tendency for a uniform plural which is used in both definite and indefinite contexts.

(7.10)   a.   *Mannen ser   på de   tre   unge gutt-ene*
              man.the looks at DEF.PL three young boy-DEF.PL
              'The man looks at the three young boys.' (stimulus)
         b.   *Mannen ser   på de   tre   unge gutt-**er***
              man.the looks at DEF.PL three young boy-INDF.PL
              'The man looks at the three young boys.'
              (repetition, sunburg_MN_16gm, AJT)

7.2.1   Syntactic analysis: morphological impoverishment

In this section, I give an analysis of the loss of the definiteness distinction in the plural, using the framework of Distributed Morphology (DM, see e.g., Halle and Marantz, 1993, 1994; Harley and Noyer, 1999). I do not intend to give a full overview of DM here, but briefly introduce two of its core concepts: late insertion and underspecification.

In DM, it is not lexical items, but rather morphological features (such as PL, PAST, etc.) that are taken to be the main components of syntax. Syntax generates a structure by combining these features through Merge and Move, and only after this process are phonological forms inserted at spell-out. In other words, insertion is late, as it takes place after syntax. At spell-out, vocabulary items are inserted. Vocabulary items consist of a combination of morphosyntactic and semantic features on the one hand, and a phonological form on the other hand. At spell-out, vocabulary items are matched with the terminal nodes generated by syntax. The vocabulary items might be 'underspecified': they do not necessarily contain all the features that the syntactic terminal node contains. The Subset Principle (Halle and Marantz, 1993; Harley and Noyer, 1999:5) assures that only vocabulary items that match all or a subset of the features in the morpheme are inserted. Crucially, the Subset Principle states that a vocabulary item that contains more features than the terminal node does, cannot spell out that terminal node. When two or more vocabulary items could potentially match the terminal node, the most specific one will be selected.

As an illustration, consider the hypothetical vocabulary items in (7.11). If the terminal node that has to be spelled out contains only the feature [X], the phonological form *A* will be inserted. The phonological form *B* cannot be inserted, because it contains a feature that is absent from the terminal node. At the same time, if the terminal node contains the feature bundle [X,Y,Z], the phonological form *B* will be selected. Although this vocabulary item is underspecified (it does not contain [Z]), it is the most specified form, and it is not overspecified.

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(7.11) a. [X] ⇔ *A*
        b. [X,Y] ⇔ *B*

Spell-out regulated by the Subset Principle ensures that the most specific
vocabulary item is inserted, and at the same time, that this vocabulary item
only contains features that are present in the syntax. However, morphological
processes may apply to the structure generated by syntax before vocabulary
items are inserted. These processes may alter the features in the syntactic
terminal nodes before they are spelled out. Two of those processes are Fusion,
which combines features from two terminal nodes into one feature bundle, and
Impoverishment, which deletes a feature from a feature bundle. In the following,
I suggest that Impoverishment can account for the observed instability of the
definiteness distinction in the plural in AmNo.

For the Norwegian plural, we can assume the two vocabulary items in (7.12).
The indefinite plural is spelled out by the vocabulary item in (7.12a), and the
definite plural is spelled out by the item in (7.12b).[141] Julien (2002, 2005)
assumes that the number feature and definiteness feature are located in two
syntactic heads: Num and Art respectively (see Section 3.2.1). Following Julien,
I assume that the morphological process Fusion has bundled them together into
one terminal node, so that they can be spelled out together, by the item in
(7.12b). Note that this item is more specified than the item in (7.12a), so when
the syntactic structure contains both features, the vocabulary item in (7.12b) is
inserted based on the Subset Principle.

(7.12) a. [+PL] ⇔ *-er*
        b. [+PL, +DEF] ⇔ *-ene*

During the morphological operations, an impoverishment rule might apply.
Impoverishment was first proposed in Bonet (1991) and in DM it involves
the "deletion of morphosyntactic features from morphemes in certain contexts"
(Harley and Noyer, 1999:6). For example, there could be an impoverishment rule
stating that the feature [Y] is deleted in the context of the feature [X]. It is clear
that "the deletion of such features in a morpheme affects the set of Vocabulary
items that might compete for the phonological realization of that morpheme"
(Halle and Marantz, 1993:158).

In the case of AmNo, I would like to propose that an introduced
impoverishment rule can account for the observed use of indefinite plural suffixes
in definite contexts. The impoverishment rule is given in (7.13) below and states
that the feature 'definite' is deleted (i.e., becomes zero) when it occurs in a
feature bundle together with the plural feature. If the features plural and definite
are combined in syntax, and the proposed morphological impoverishment rule
applies before spell-out, the terminal node that is going to be spelled out only

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[141]Note that these vocabulary items are simplifications. First of all, they do not take into
account that the gender of the noun might influence the phonological form of the item. Also,
these are the rules for standard (Bokmål) Norwegian. In the dialects, and in AmNo, the
phonological form of the items might be different, but I assume the feature bundles to be the
same.

contains the plural feature. As a result, only the vocabulary item in (7.12a) above can be inserted. For speakers who have such an impoverishment rule, the indefinite and the definite plural are both spelled out by the same form, since the terminal nodes are identical after Impoverishment. This system was illustrated for the speaker flom_MN_01gm in (7.8a-b) at the start of this section.

(7.13) $[+\textsc{def}] \rightarrow \varnothing \;/\; [\_\_ +\textsc{pl}]$

If we assume the impoverishment rule in (7.13), the use of indefinite plural suffixes in definite context is accounted for. However, within the model, two alternative analyses could be proposed. The first is that in the syntax of these speakers, the feature $[+\textsc{def}]$ is not generated. That would mean that the feature bundle $[+\textsc{pl}, +\textsc{def}]$ is never generated and Impoverishment cannot (or does not need to) apply. However, it is clear that all speakers of AmNo that are part of this study still use the features indefinite and definite, as we saw in Chapter 5. Even speakers who have severe difficulty with the definiteness morphemes, still use definite suffixes and indefinite determiners to some extent. This means that the relevant features must be part of their syntax. Rather, the absence of the definite plural suffix is purely morphological.

Another alternative analysis would be that the vocabulary item in (7.12b), which matches the phonological form *-ene* (or dialectal equivalents) onto the feature bundle $[+\textsc{pl}, +\textsc{def}]$, is missing for some of the AmNo speakers. However, the fact that most of the speakers alternate between indefinite and definite plural suffixes in definite contexts seems to indicate that they have the relevant vocabulary item. They might have difficulty accessing it when speaking Norwegian, which is their heritage and non-dominant language. In the same way as heritage speakers often have difficulty accessing lexical items (see Section 2.2), they could have difficulty accessing vocabulary items that spell out functional morphemes.

It seems difficult, if not impossible, to separate the two accounts discussed here: Impoverishment of the definite feature (as in (7.13)), and difficulty accessing the vocabulary item in (7.12b). Both would capture the fact that the definiteness distinction is lost in the plural in some AmNo speakers. However, we will see below that impoverishment rules are often found to be induced by marked features such as plural, which makes the introduction of the impoverishment rule in (7.13) in AmNo less surprising. Furthermore, Nevins (2011) points out that syncretism resulting from a morphological impoverishment rule is "more pervasive and systematic" than syncretism resulting from underspecification in vocabulary items (ibid:436). In other words, the impoverishment analysis outlined above for the observed syncretism of indefinite and definite plural is a stronger hypothesis than accounting for it by the formulation of vocabulary items. I therefore propose the impoverishment rule in (7.13) to account for the observed difficulty with plural definite suffixes in AmNo.

There is one problem with assuming this impoverishment rule in AmNo, and that is the intra-speaker variation that is found. Typically, morphological operations such as Impoverishment apply categorically, and in that case we would

expect that speakers who have the rule in (7.13) would never use the definite plural suffix. As pointed out above and in Chapter 5, this is not the case. In fact, most of the AmNo speakers use both indefinite and definite plural suffixes in definite contexts. To account for such intra-speaker variation, Nevins and Parrott (2010) propose that impoverishment rules might be variable. This means that they do not apply in all instances, but instead with a certain probability. They add the factor p_a to the variable impoverishment rule: the 'probability of application', which lies between zero and one. However, Nevins and Parrott (2010) do not discuss what the actual value of this factor is, and they do not discuss exactly which factors determine this value either.

Another solution to the variation within a single speaker is the assumption of multiple grammars. In Section 6.3, I argued that multiple grammars can account for the vulnerability of the prenominal determiner. Along similar lines, I suggest that AmNo speakers have two competing grammars. One grammar contains the two vocabulary items for indefinite and definite plural (7.14) and the other grammar contains these two rules, plus the impoverishment rule that deletes the definite feature in the context of plural (7.15).

(7.14) Grammar 1
    a. $[+\text{PL}] \Leftrightarrow$ *-er*
    b. $[+\text{PL}, +\text{DEF}] \Leftrightarrow$ *-ene*

(7.15) Grammar 2
    a. $[+\text{PL}] \Leftrightarrow$ *-er*
    b. $[+\text{PL}, +\text{DEF}] \Leftrightarrow$ *-ene*
    c. $[+\text{DEF}] \rightarrow \emptyset \; / \; [\_\_ +\text{PL}]$

To summarize this section, I have proposed an account for the instability of the definite plural suffix in the form of an impoverishment rule. This rule deletes the definite feature from feature bundles that contain the plural feature, and as a result, the vocabulary item that is also used for indefinite plurals is spelled out. Speakers who have this impoverishment rule therefore use one and the same plural suffix in indefinite and definite contexts. I also assumed that the speakers have multiple grammars, one with and one without the impoverishment rule, in order to account for the intra-speaker variation.

7.2.2   Restructuring towards simplification

Above, I proposed an analysis of the lack of a definiteness distinction in the plural in terms of an impoverishment rule which deletes the $[+\text{DEF}]$ feature in the context of a plural feature. In explaining the introduction of this impoverishment rule into the grammar of the AmNo speakers, two observations are relevant. In the following, I discuss the relevance of the plural feature in impoverishment rules cross-linguistically and also in agreement difficulties in other heritage languages. I then continue to suggest that the grammar of AmNo speakers might be restructured in such a way that the feature bundle $[+\text{PL}, +\text{DEF}]$ becomes

more vulnerable. We will see that economy principles play an important role in this process.

First, it is important to note that impoverishment rules in the context of the plural feature are not uncommon cross-linguistically. Languages often exhibit fewer grammatical distinctions in the plural than in the singular. When it comes to gender, for example, the typological claim that languages never have more gender distinctions in the plural than in the singular turns out to hold in "the overwhelming majority of cases" (Corbett, 2000:272).[142] This so-called 'inflectional potential' is taken as a key feature in determining morphosyntactic markedness: there will be more or an equal number of morphological distinctions in an unmarked category than in a marked category (Croft, 2003:95-99). In the grammatical category number, the singular is the unmarked feature and the plural is the marked feature (ibid:89), so we could state that [+PL] is marked.[143]

It has been observed that impoverishment rules are related to the markedness of the involved features. Nevins and Parrott (2010) and Nevins (2011) argue that impoverishment rules will target a marked feature, or are induced by a marked feature. In other words, either a marked feature can be impoverished (also observed by Noyer, 1998), or the presence of a marked feature can cause Impoverishment of another feature in the feature bundle. The latter situation, when Impoverishment happens in the context of a marked feature, has been called 'markedness triggered impoverishment'. Nevins and Parrott (2010) argue for several markedness triggered impoverishment rules in dialects of English, and Nevins (2011) shows that both markedness targeted and markedness triggered impoverishment can be found in relation to the dual number. He therefore argues that the dual is more marked than the plural (which itself is more marked than the singular, see above).

Considering the American Norwegian case at hand, the proposed impoverishment rule can be seen as a case of markedness triggered impoverishment: the presence of the marked feature [+PL] triggers or induces the impoverishment of the definite feature. In addition, we might assume that the category definite is marked in relation to the indefinite, such that the feature [+DEF] itself is marked. That would mean that the suggested impoverishment rule is also an instance of markedness targeted impoverishment, where the marked feature is impoverished. It remains to be established whether definite is indeed the marked feature, but its deletion in the context of the marked plural feature is an expected impoverishment rule.[144]

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[142]Greenberg's universal 37 states that "A language never has more gender categories in nonsingular numbers than in the singular" (Greenberg, 1963:95).

[143]Note that Nevins (2011) formulates the relevant feature as [±singular], and states that [-SG] is the marked feature (ibid:421). I will not discuss this difference in formulation, as the outcome of the statements is the same: the category plural is more marked than the category singular, which is what is relevant here.

[144]Whether a feature is considered to be marked depends partially on the definition of markedness. It has been suggested that the feature definite is marked in work on heritage Hungarian, where heritage speakers (both children and adults) are found to mix the indefinite and definite object-verb inflection (Fenyvesi, 1995; Bolonyai, 2007).

A second observation relevant to the observed vulnerability of definite plural suffixes in AmNo is that non-baseline-like behavior with plural inflection or agreement can be found in other heritage languages as well. In a study on second-generation Arabic speakers in the US, Albirini et al. (2011) found deviations from monolingual native speakers in subject-verb agreement, participle inflection, and adjective-noun agreement. Some of the observed deviations were related to the plural, such as singular verbal inflection while the subject was plural. In fact, the authors observed that while agreement was often like homeland Arabic, non-baseline-like behavior was found "particularly when plural and feminine nouns were involved" (Albirini et al., 2011:285).

In addition to difficulty with inflection related to the plural, Arabic heritage speakers also deviate from monolingual speakers in the formation of plural nouns. Arabic has relatively complicated plural formation, with both concatenative and non-concatenative processes. Benmamoun et al. (2014) found that heritage speakers have difficulties with the use of correct plural forms and that they overuse concatenative forms on nouns that take a non-concatenative plural form in the baseline.[145] These difficulties with plural formation correlate with the lexical proficiency of the speakers, and the patterns found in the heritage speakers are similar to those in monolingual acquisition of Arabic. Both for children and heritage speakers, complexity seems to play a role in the formation of the plural.

In a study on child heritage speakers of Hungarian, Bolonyai (2007) found only few subject-verb agreement errors. When these were observed, however, they were related to the plural feature. Specifically, they were related to quantifier-noun agreement. In Hungarian, a noun that is combined with a plural quantifier (such as 'many') receives singular inflection and causes singular agreement on the verb. The heritage children were found to have difficulties with this: possibly under the influence of English (their dominant language), they combined plural quantifiers with plural nouns, which lead to plural agreement on the verb (Bolonyai, 2007:13). This is another example of inflectional difficulty in heritage language speakers with respect to the plural feature, though in a different way.

The brief discussion of heritage Arabic and heritage Hungarian illustrates that inflection related to the plural feature is found to be difficult for heritage speakers. In addition, specific difficulties with definite plural suffixes are found in Håkansson (1995), who studies five heritage speakers of Swedish, a language generally very similar to Norwegian.[146] Four of these speakers showed difficulties with plural inflection in predicative constructions, as in (7.16a). Moreover, all speakers had some difficulties with the plural definite suffix, which resulted in the use of the singular indefinite form or, more frequently, the use of the plural indefinite form in definite contexts, as in (7.16b). This pattern is equivalent to

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[145]An example is the overuse of the default plural suffix -*aat* to create the ungrammatical plural form *xazgaat* 'holes' instead of the grammatical non-concatenative form *xzuug* 'holes' (Benmamoun et al., 2014:99).

[146]Note that these heritage speakers are not speakers of American Swedish (as in e.g., Larsson and Johannessen (2015)), but rather young adults who grew up speaking Swedish outside of Sweden (in France and the US) and returned to Sweden to study at university there (Håkansson, 1995:157-159, see Chapter 1).

the findings in AmNo (see (7.8b) above), where the indefinite plural suffix was overused in definite contexts by some speakers. Unlike Norwegian, which has a fusional plural definite suffix, Swedish uses separate morphemes to express the features plural and definite. This syntactic difference between Swedish and Norwegian does not seem to matter, though, since heritage speakers of both languages show the same deviations from the baseline. This results in a neutralized plural suffix, used in both definite and indefinite contexts.

(7.16)   a.   *de   är obligatorisk*
                they are obligatory
                'they are obligatory' (baseline: *de är obligatorisk-**e***)
                (Swedish heritage speaker, Håkansson, 1995:171)
    b.   *de   sydlig-a   städ-er*
                DEF.PL southern-DEF state-PL
                'the southern countries' (baseline: *de sydliga städ-er-**na***)
                (Swedish heritage speaker, Håkansson, 1995:170)

The studies discussed above all found some non-baseline-like behavior in heritage speakers with respect to plural inflection or agreement. It is important to keep in mind that this is not restricted to the plural: it has been observed that heritage speakers typically have difficulty with inflection in general (see Section 2.2 and references there). Montrul (2016) even states that "inflectional morphology is the linguistic domain most noticeably affected in heritage language grammars" (ibid:54). An important question in heritage linguistics is what causes this difficulty with inflection. Scontras et al. (2018) discuss this question and propose an explanation which might be relevant for AmNo as well.

Scontras et al. (2018) argue that the underlying syntactic representation of heritage speakers can be different from that of monolingual speakers. In a comparison of monolingual Spanish and heritage Spanish in the US, they find differences in how the features gender and number are represented in the grammars of these groups. In monolingual Spanish, there is evidence for a split representation: both gender and number are represented individually, i.e., in their own functional projection in the nominal syntactic structure. In heritage Spanish, on the other hand, the evidence points to a bundled representation: the two features are represented in a bundle, i.e., in a single projection.

In other words, there has been restructuring in the grammar of the heritage speakers, and Scontras et al. (2018) argue that this is caused by pressure for representational economy. The heritage speakers are argued to favor a more economic syntactic structure, and they "prune their structure so that it includes fewer nodes" (ibid:22). In addition, they argue that the content of bundled features (i.e., which features are contained in the bundle) is more opaque, which can lead to interpretive instability: "A speaker no longer recognizes number and gender, but rather a hazy amalgamation of the two" (Scontras et al., 2018:21). When this happens, it is suggested that the feature bundle might be interpreted as only one feature, such that the other is lost, or that the feature bundle might become completely empty. A bundled representation of features might thus lead

to a "general decline in morphological richness" (ibid:21), and eventually to a loss of agreement.

Following this line of argumentation, we could assume that representational economy, i.e., a desire for a more economic grammatical structure, has lead to a bundling of the number and definiteness features in AmNo. As a result, they might have become one functional projection rather than the two (Art and Num) in homeland Norwegian. In fact, Riksem (2017, 2018) argues for such a structure in AmNo, assuming only one functional projection on top of NP. I adopt this analysis here, and suggest that this grammar results in interpretative instability. In turn, this has then led to the application of an impoverishment rule, in which the definite feature is deleted in the context of a plural feature. As a result, the definiteness feature is no longer expressed on plural nouns. This is in line with the suggestion from Scontras et al. (2018), that one of the two features in the bundled representation might be lost.

In this section, I have pointed out two factors that could have played a role in the introduction of the impoverishment rule that I suggested in Section 7.2.1 to account for the (partial) loss of the definiteness distinction in the plural. First, there is the morphosyntactic markedness of the plural which causes feature bundles containing the feature $[+\textsc{pl}]$ to be a natural context for markedness triggered impoverishment rules. It is therefore not coincidental that the proposed impoverishment rule occurs in exactly this context. Importantly, the reanalysis or grammatical restructuring that I suggested here is not a random process, and not chaotic or unpredictable either, but rather follows clear structural paths. So, the result is a coherent grammar, as is also stressed by Scontras et al. (2018). Although there is variation between and within speakers of AmNo, their linguistic behavior is not unconstrained, but can be accounted for with the same principles as variation in non-heritage languages.

Second, there is a (universal) pressure for representational economy, and I assume that under such a pressure the heritage speakers can reanalyze or simplify their grammatical structure. I propose that as a result, the AmNo nominal phrase contains one functional projection on top of NP, with both definiteness features and number features. This bundled representation of the features already makes them more vulnerable to loss of inflection. The fact that the definite plural suffix in Norwegian is a fusional morpheme might give even more rise to the bundled representation. However, even when the two features could be seen as concatenative such as gender and number in Spanish, heritage speakers can have a bundled representation (Scontras et al., 2018) and difficulty with the inflection (see heritage Swedish in Håkansson (1995), discussed above).

The question can be raised however, why we do not find the loss of the definite plural suffix in all speakers. Similarly, the question is why some speakers vary between the definite and the indefinite plural suffix in definite contexts. Has the grammatical restructuring not taken place in all speakers? Or is it the case that not all speakers have introduced the relevant impoverishment rule? The latter seems more probable, since the pressure of representational economy is assumed to affect all heritage speakers. Some of the participants in Scontras et al. (2018) have a high proficiency level, and they still showed evidence for the

bundled representation of the categories gender and number.[147] This suggests that all heritage speakers are subject to this pressure, and restructure their grammar accordingly. Scontras et al. (2018) suggest that this happens to "ease the load on their working memory as they carry out the costly task of using a less dominant language" (ibid:19).

That the factor representational economy plays a role in restructuring the grammar in presumably all heritage speakers does not mean, however, that morphological inflection is lost in all heritage speakers. Some heritage speakers of Spanish with a high proficiency have been shown to behave baseline-like with respect to gender marking and agreement, but Scontras et al. (2018) argue that even these speakers have a restructured (i.e., bundled) representation of number and gender. In other words: it is likely that representational economy leads to restructuring in all heritage speakers, and that this might lead to loss of (or difficulty with) inflection in some of them. The latter can be explained by the bundled representation, but is not a necessary consequence of it.

To summarize, I suggest that the impoverishment rule that deletes the definite feature in the context of the plural feature is a rule in the grammar of some of the heritage speakers. I propose that all speakers have a bundled representation of these two categories, but that only in some speakers this has lead to difficulties with agreement. These speakers might be more attrited speakers who have difficulties with the use of functional morphemes in general. Some of the speakers who showed difficulty with expressing the definite plural suffix were also found to produce modified definite phrases without the suffix. I argued that such phrases were the result of attrition.

In addition, transfer from the dominant language might play a role. The English plural suffix *-s* is used in both indefinite and definite contexts. We could assume that the relevant English vocabulary item only contains the feature [+PL] and no definiteness feature. The grammatical features involved in English and (baseline) Norwegian plural marking are thus different. Bolonyai (2007) suggests that such differences in underlying features might effect errors in the weaker (i.e., heritage) language, and even lead to loss of the morphological inflection (ibid: 12). In the aforementioned study on heritage Arabic, Albirini et al. (2011) also suggest that many of the deviations in agreement are caused by transfer from English. As pointed out in Section 7.1, it is yet unclear what the exact relation is between attrition and transfer. The introduction of an impoverishment rule makes the surface structure of (American) Norwegian more like English, as both languages then have only one suffix for plural nouns. However, when English, a language with a relatively simple morphological system, is the dominant language of heritage speakers, it remains hard to distinguish transfer from general simplification of the inflectional system.

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[147]The experiment did not include an independent proficiency measure, but all participants were asked to rate their own proficiency level. The majority judged their proficiency as 'native' and another large group classified themselves as 'fluent' (Scontras et al., 2018:Appendix A). Although self-report might not be completely reliable, it can be assumed that the participants were quite proficient in Spanish.

7.3 Conclusion

In this chapter, I discussed two findings related to the definite suffix: the use of modified definite phrases without the suffix, and the loss of the definiteness distinction in the plural. Both phenomena were only found in a subgroup of the AmNo speakers, and this makes them different from the modified definite phrases without the determiner discussed in the previous chapter.

In Section 7.1, I argued that the suffixed article is still part of the underlying grammar of AmNo, and that the observed suffix-less phrases are the result of a more superficial production difficulty of some speakers. We have seen that omission of the suffix correlates with the proficiency of the speakers, in terms of speech rate and lexical proficiency. I therefore proposed that suffix omission is the result of attrition, and that some speakers are more affected by attrition than others. In other words, I claim that the phrases without the suffix are fundamentally different from the phrases without the determiner: I argue that the former are caused by attrition, whereas I argued in Chapter 6 that the latter are caused by incomplete acquisition.

In Section 7.2, the issues with definite plural suffixes were discussed. The use of indefinite plural suffixes in definite contexts is found outside of modified definite phrases, and seems to be related to a difficulty with the definiteness distinction in the plural rather than to difficulty with CD. I argued that the neutralized plural suffix can be accounted for in terms of an impoverishment rule. I suggested that this difficulty with inflection can be explained by pressure for representational economy (i.e., pressure towards a simple syntactic structure) that has lead to a bundled representation of the two features involved. In such a bundled representation, loss of one of the features through impoverishment is a natural (although not necessary) consequence. In other words, I argued that the variation found in the AmNo speakers is not unpredictable or random, but rather fits with general models of linguistic variation.

In this and the previous chapter, I have discussed three separate findings in definiteness marking in AmNo and argued that they each have their own cause or explanation. We saw that incomplete acquisition and attrition both influence the use of CD in modified definite phrases, but with different effects. Whereas incomplete acquisition results in the frequent use of phrases without the determiner across the whole population of speakers, attrition results in the use of phrases without the suffix by a subgroup of speakers. This conclusion is much like that of Larsson and Johannessen (2015) in the domain of word order. They argue that the use of deviant word order in embedded clauses is caused by incomplete acquisition (see Section 6.4.1), and that the use of non-V2 word order in main clauses is caused by attrition. Moreover, Larsson and Johannessen (2015) also find that one change (V-to-T movement in embedded clauses) is shared by all heritage speakers, while the other change (non-V2) is only observed in the language of some individuals. This observation plays an important role in their argumentation that the two patterns have different causes. In the current study, I have used similar arguments to claim that the different non-baseline-like patterns in AmNo have different causes.

Chapter 8

Conclusion

The central topic of this thesis is compositional definiteness in American heritage Norwegian. I have investigated whether the modified definite phrases of American Norwegian (AmNo) speakers have compositional definiteness (CD), in other words, whether they include both the prenominal determiner and the suffixed article. For this investigation, I used a combination of experimental techniques: elicited production, acceptability judgments, and proficiency measures. Some of these methods have never before been used with this population of AmNo speakers. In addition, CD has previously only been studied with corpus data.

In this study, I have engaged with the long-standing debate in heritage linguistics concerning the causes for deviations from the baseline observed in heritage languages. By using specific elicitation tasks, I could elicit many modified definite phrases for a group of speakers. This has allowed me to look both at patterns that are shared by all speakers and at individual patterns of deviation from the baseline. As a result, I was able to scrutinize the use of CD and definiteness marking, and find different changes that each have their own explanation. This shows the usefulness of elicitation experiments. Furthermore, it shows that the distinctions between incomplete acquisition, attrition, transfer, and grammatical restructuring (or simplification) are not clear-cut. Rather, these factors interact in intricate ways, which results in the larger picture described in this thesis with different findings in one linguistic phenomenon.

8.1 Compositional definiteness in American Norwegian: main findings

In the previous chapters, we have first of all seen that several generations after the large migration wave from Norway to the US, the heritage speakers still speak Norwegian. In many respects, the nominal phrases they produced were very similar to homeland Norwegian. For example, the word order within the phrase was as expected and they have no difficulties with marking definiteness. In fact, the nominal phrases that do not have CD (i.e., the control conditions) were very baseline-like.[148] In these phrases, I found clear evidence for a DP layer. Typically, the speakers used the indefinite determiner and the suffixed definite article in a stable, baseline-like manner.

At the same time, we have seen in this thesis that the results for modified definite phrases are different. Compositional definiteness was found to be more vulnerable to restructuring than other types of definiteness marking. With respect to CD, I found three main patterns. First of all, the prenominal determiner was

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[148]Recall that the control conditions were unmodified indefinite phrases, unmodified definite phrases, and modified indefinite phrases.

found to be the most vulnerable to omission. In the two elicitation tasks, all speakers were found to omit the determiner in a proportion of their modified definite phrases. Moreover, for most speakers this was the most frequent type of non-baseline-like modified definite phrase. Phrases without the determiner were much more frequent than phrases with compositional definiteness. In the acceptability judgment task, the speakers accepted phrases without the determiner and they did not correct them during the elicited imitation part of the task. I have therefore concluded that while the typical homeland modified definite phrase contains CD (8.1), the typical AmNo modified definite phrase lacks the determiner (8.2).

(8.1) *den   stor-e   bil-en*
       DEF.SG large-DEF car-DEF.M.SG
       'the large car'
       Homeland Norwegian

(8.2) *stor-e   bil-en*
       large-DEF car-DEF.M.SG
       'the large car'
       American heritage Norwegian

In Chapter 6, I presented my analysis of the typical AmNo modified definite phrase without the determiner. We saw that the AmNo phrases like (8.2) are superficially similar to Icelandic and Northern Swedish, but have a different underlying syntax. I proposed that in AmNo, the prenominal determiner, i.e., the spell-out of D, has become optional. We also saw that the American Norwegian speakers are strikingly similar to monolingual Norwegian children with respect to the use of the determiner in modified definite phrases. Monolingual children acquire the determiner much later than the suffix, and produce many phrases without the determiner during their acquisitional development. I have therefore suggested that the typical AmNo modified definite phrase is the result of incomplete acquisition, which I have phrased in terms of maintained existence of competing grammars. While monolingual children go through a stage with competing grammars, one with an obligatory determiner and one without a lexicalized definite determiner, the heritage speakers never receive enough input to abandon the grammar without the determiner. As a result, modified definite phrases without the determiner remain frequent in their language.

The other two main patterns that were observed are both related to the suffixed article, and both were only found within a subgroup of speakers and with more intra-speaker variation. Although the suffixed article is in general stable, some AmNo speakers occasionally omit it, and a few do so more frequently. As a result, they produce modified definite phrases with only the determiner (8.3a), or bare phrases (8.3b). I pointed out that the omission of the suffix is much less common in unmodified definite phrases. In Section 7.1, I argued that the omission of the suffix is not caused by an underlying grammar that differs from homeland Norwegian. Rather, I suggested that it is the result of production difficulty caused by attrition, which I assume to be a more superficial process. I

furthermore proposed that this production difficulty is also reflected in a lower general proficiency. We have seen that the speakers who frequently omit the suffix indeed had a lower proficiency —measured in speech rate and vocabulary knowledge —than speakers who never or only occasionally omitted the suffix.

(8.3)   American Norwegian phrases without the suffix

    a. *det   rød-e   hus*
       DEF.N.SG red-DEF house
       'the red house'

    b. *rød-e   hus*
       red-DEF house
       'the red house'

The final observation is that in some speakers, the definiteness distinction in the plural is disappearing. We have seen that plural nouns in a definite context sometimes receive the indefinite plural suffix, rather than the definite plural suffix, compare (8.4a) with (8.4b). Since the phrases were all elicited in contexts that were clearly either indefinite or definite, it was possible to observe this difficulty with the plural definite suffix that would often go unnoticed in corpus data.

(8.4)   a. *svart-e hest-er*
       black-PL horse-INDF.PL
       'black horses'
       Indefinite context

    b. *(de)   svart-e   hest-er*
       (DEF.PL) black-DEF horse-INDF.PL
       'the black horses'
       Definite context

The use of an indefinite plural suffix in a definite context was not only found in modified definite phrases, but also in unmodified ones, which means that this is not a difficulty with compositional definiteness itself. In Section 7.2, I argued that we can account for this observation with an impoverishment rule that deletes the feature [+DEF] in the context of the plural feature. It was pointed out that such impoverishment rules in the context of the marked plural feature are quite common cross-linguistically, also outside of heritage languages. I suggested further that the difficulty with the plural definite suffix can be explained by pressure for representational economy, i.e., pressure towards a simpler syntactic structure, which has led to a bundled representation of the two features involved. In such a bundled representation, loss of one of the features through Impoverishment is a natural (although not necessary) consequence (see Scontras et al., 2018).

Overall, the results discussed in this dissertation show that the linguistic behavior of AmNo speakers has different sources. One thing that is particular to heritage languages is the context of acquisition, with less and often different input than in monolingual acquisition. A consequence of the particular

acquisitional context is the incomplete acquisition of the prenominal determiner in compositional definiteness. Another aspect of heritage languages is that the speakers are bilingual throughout their lives, and experience a shift in language dominance. We have also seen the consequence of this, in the form of attrition which affects the use of the suffixed article. In other words, both the acquisitional context and bilingualism through the lifespan have consequences for the language of the heritage speakers, albeit in different ways.

8.2 Variation in homeland Norwegian

In this dissertation, I have focused on American heritage Norwegian. At the same time, it has been necessary to study some aspects of homeland Norwegian in order to establish a baseline as a point of comparison. In Chapter 3, I used the Nordic Dialect Corpus (NDC) to investigate dialectal variation and possible exceptions to CD in homeland Norwegian. Consequently, this thesis also contributes to our knowledge of homeland Norwegian.

It has previously been observed that with some adjectives, the prenominal determiner in modified definite phrases is optional and can be omitted (Julien, 2005; Anderssen et al., 2018), but without a systematic study of which adjectives belong to this group of exceptions. In the Norwegian part of the NDC, I investigated the adjectives that are listed by Dahl (2015) as exceptions in Swedish. The results showed that there is a group of what I have called 'exceptional adjectives', which do not require a prenominal determiner. These exceptions are: superlatives, ordinal numbers, the words *første* 'first', *siste* 'last', *eneste* 'only', *andre* 'other, second', and directional terms.[149] Although this is a restricted set of adjectives, they are quite frequent, especially in spoken language, which is the input of these heritage speakers (see Section 6.3.3).

The results from the corpus study showed that these exceptions do not all behave in the same way. There is variation as to how frequently the individual exceptions are combined with a determiner. Superlatives and *siste* 'last' are combined with a determiner in the majority of the occurrences, whereas the other exceptional adjectives tend to lack the determiner. Ordinal numbers and the words *venstre, høyre* 'left', 'right' are only rarely combined with a determiner. In the results from the acceptability judgment task with homeland speakers (Section 6.1.3), we also saw that the speakers' preference for the use of the determiner varies between the different exceptional adjectives.

In addition, the results from the acceptability judgment task with homeland speakers revealed a difference between spoken and written language. The speakers who listened to the sentences in spoken form judged omission of the determiner with an exceptional adjective as more acceptable than the speakers who read the written sentences. This suggests that the omission of the determiner with these adjectives is primarily present in spoken language (the input to young children and heritage language speakers), whereas CD is more preferred in

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[149]The notion directional terms is an umbrella term for the lexical items *venstre* 'left', *høyre* 'right', *øvre* 'upper', *nedre* 'lower', *neste* 'next', and *forrige* 'previous'.

written language. An investigation of the frequency of these phrases in spoken and written corpora of Norwegian (Section 6.3.3) also shows exactly this.

It would be possible to use the results from my searches in the NDC to study the variation in more detail. I pointed out in Section 3.1.2.2 that the examples of determiner omission can be found in many different places in Norway. Furthermore, these phrases were found in the different types of speakers in the corpus: young speakers, older speakers, and speakers in the old recordings. However, I did not study the details of dialectal and generational variation. This question is left for future research.

In Section 6.1, I provided a syntactic analysis of the phrases with exceptional adjectives, building on a proposal from Julien (2016). I suggested that they are the result of αP-movement to Spec-DP, so that D does not have to be spelled out. The same analysis is proposed for the determiner-less phrases in Icelandic and Northern Swedish (Julien, 2002, 2005). Based on the results of the acceptability judgments of homeland speakers, I concluded that omission of the determiner with an exceptional adjective is restricted to contexts where αP-movement is possible. This shows that the phrases with exceptional adjectives are syntactically complex, as they are the result of string vacuous movement.

To summarize, it was necessary to study some aspects of homeland Norwegian in the process of establishing a baseline. In the case of compositional definiteness, this is important for two reasons. First, this knowledge of homeland Norwegian provided us with information about the relative frequency of phrases with CD and phrases without the determiner (with an exceptional adjective). This is important in terms of the input of young children and heritage speakers. In addition, we have seen the distribution of these patterns in spoken and written language, which again is important information for our knowledge of the input of heritage speakers. The role of the input is crucial in my analysis in terms of incomplete acquisition (Chapter 6), and this shows that a proper establishment of the baseline is vital in heritage linguistics. In addition, the establishment of the baseline can contribute to our knowledge of the homeland variety.

8.3   Investigating American Norwegian

Much research on heritage speakers is concerned with young speakers, who are second-generation immigrants and sometimes even literate in their heritage language (Polinsky, 2018). As was pointed out in Section 2.3, the American Norwegians represent a different kind of speakers. They are all elderly, third- to fourth-generation immigrants that are illiterate in Norwegian. Research on this population of speakers has its own particular challenges (Putnam et al., 2018). In Section 4.1, I discussed these methodological challenges and how they restrict the use of experimental methods. In short, linguistic experiments should be spoken rather than written, adapted to the dialects of the speakers, not too long, and have easy instructions.

The two elicited production experiments that I used, a translation task and a picture-aided elicitation task, worked well. They elicited a large number of

modified definite phrases from each speaker and had simple instructions. As a result, all speakers were able to participate in these tasks. The use of a story and pictures as support during the elicitation worked well, and will probably also be useful in future research. In a comparison of the results of the two tasks, we saw that the control conditions had a higher percentage of non-baseline-like phrases in the picture-aided elicitation task. I suggested that the context of a sentence, as in the translation task, was helpful for the participants as this created a clearer (in)definite context. In future research, it could therefore be beneficial to elicit sentences rather than phrases in isolation. The translation task could in theory lead to transfer from the dominant language, i.e., English. However, we saw in the results in Chapter 5 that this was not the case with respect to compositional definiteness: the speakers did not produce more English-like modified definite phrases in the translation task than in the picture-aided elicitation task. In fact, the amount of phrases with only the determiner was low in both tasks.

This also illustrates that it is important to combine different methods. By comparing the results of the two elicitation experiments, I could investigate whether some of the findings were related to the specific design of the task. In addition, I showed that the elicitation experiments are a good complement to the corpus data that consists of (semi-)spontaneous speech. They allowed me to elicit many modified definite phrases per speaker. In addition, the clear control of the (in)definite context in which a phrase is uttered made it possible to observe the use of bare phrases (like the example in (3b) above) by some speakers. In a previous study on CD in the corpus data, no such phrases were found (see Section 5.6).

In addition to the elicitation tasks, I conducted an acceptability judgment task (AJT), which has never been done before with this group of speakers. In Section 4.3.1, I reviewed the ongoing discussions in the field regarding how to use AJTs with heritage speakers. When the question is whether a certain structure is acceptable to a speaker, an AJT is one of very few possible methods. The AJT I designed proved difficult and demanding for the participants, and took quite some time to complete. As a result, only a few speakers participated in the task. We saw in Section 5.5 that, as expected, there is a certain degree of yes-bias in these speakers: they tend to accept more than homeland speakers. At the same time, it became clear in the results from the filler conditions (which tested word order rather than CD) that the AmNo speakers actually rejected (some) sentences that were ungrammatical to them. In addition, the elicited imitation element, i.e., the fact that the speakers were asked to repeat the sentence before they judged it, turned out to be very useful. This combination of techniques in one task provided both explicit and implicit reactions to different types of modified definite phrases.

In summary, the results from the AJT show that it is possible to use an AJT with this group of speakers, at least to some extent. The results suggest that the speakers reject certain ungrammaticalities (in particular those related to word order), while they implicitly correct other types of ungrammaticalities (related to CD). Future research is necessary to study which phenomena are best studied with an AJT and which with elicited imitation. From the present thesis, however,

we can conclude that a combination of acceptability data and repetition data is useful. Together, the data corroborate the findings from elicited production data and I concluded that the data lend support to my analysis that the definite determiner is affected by grammatical change in AmNo.

Although I conclude that there is no reason to exclude AJTs from research on heritage speakers categorically, there are some caveats. As pointed out, a combination with repetition data was necessary. In addition, the researcher needs to take some precautions in the design; AJTs are difficult tasks for heritage speakers, not least when they are elderly speakers who are not used to dialectal variation. It was important that the participants could listen to the sentences several times if they needed to, and that the sentences were not too complex. Furthermore, I recommend that the task does not include too many items or too many conditions. In fact, the AJT used in this study was too long and most participants therefore only completed half of the task. Future AJTs should be shorter and clearer. If this can be achieved, they can be a valuable source of data, particularly when combined with other types of data.

Finally, I have conducted proficiency measures with the AmNo speakers. It has been previously suggested that the omission of the suffix in modified definite phrases is correlated with a lower proficiency (Anderssen et al., 2018), but until now, the proficiency of the speakers had not been measured independently. As described in Section 4.4, I used speech rate during a conversation with a researcher, and lexical proficiency in a vocabulary task. Both measurements are relatively easy to collect. They could be used in the future with more AmNo speakers, and also with other heritage speaker populations. We saw in Section 7.1.2 that both speech rate and vocabulary score correlated with inclusion of the suffix. In other words, speakers who tend to omit the suffixed article in modified definite phrases have a lower speech rate and a lower vocabulary score than speakers who use the suffix in a more stable manner. Future work is necessary to investigate whether these proficiency measures also correlate with other grammatical variables, such as baseline-like gender agreement, baseline-like use of the definite plural, and word order.

8.4   The complexity of the results

In Chapters 5, 6, and 7, we saw evidence of the complexity of American heritage Norwegian. Not least is there a lot to be observed in the results of the elicited production tasks. Even with respect to a single linguistic phenomenon, compositional definiteness, we can note a complex pattern of findings: the regular and systematic occurrence of phrases without the determiner; the occasional omission of the suffixed article in a subgroup of the speakers; and the lack of a definiteness distinction in the plural in some of the speakers.

The benefit of studying heritage speakers is that they make the complexity of human language visible. At the same time, this study allows us to notice which factors shape a speaker's linguistic behavior. As pointed out by Montrul (2016), these factors often play a role "in tandem" in monolingual speakers, while we can

distinguish them in heritage speakers (ibid:128). In this thesis, I have pointed out the importance of the factors acquisition and bilingualism across the lifespan. With regard to acquisition, I emphasized the role of frequency in the input and the differences between spoken and written languages. Here, heritage speakers differ from monolingual speakers, and we have seen in the previous chapters that this has consequences for the language of the speakers.

In addition, the study does not only stress the importance of the acquisitional context for a speaker's language competence, but can also to some extent point out which factors are important in acquisition. In Chapter 6, I discussed how the input to heritage speakers is both quantitatively and qualitatively different from that of monolingual children. In the phenomenon at hand, this means that the heritage speakers received less input of Norwegian in general, but also significantly less input of complex structures such as modified definite phrases. Input of phrases with the prenominal determiner was shown to be particularly limited. I argued that input beyond the first years of life is crucial, together with input from written and formal language, in which CD is more frequent.

8.5 Variation and systematicity

In addition to the observed complexity discussed above, we have seen quite an amount of variation in the results. There is variation within and across speakers. Although all speakers omit the definite prenominal determiner, the extent to which they do this differs from person to person. In a similar way, there is variation as to whether and how frequently speakers omit the suffixed article. There was no shortage of individual variation either, as all speakers produced modified definite phrases with different structures.

In this thesis, I have assumed that there are two sources of this variation. The first source is an underlying grammar which differs from homeland Norwegian, and I argued in Chapter 6 that AmNo speakers have a different grammar that allows modified definite phrases without a determiner. On the other hand, there is also variation that is more superficial as it results from production difficulty in the heritage language (see Polinsky, 2018:35-36, 52). I argued in Chapter 7 that attrition leads to this more superficial variation, and that this causes the occasional omission of the suffix in the less proficient speakers. This type of variation seems to be less systematic than variation caused by a change in the grammar (Lohndal and Westergaard, 2016; Polinsky, 2018:28, see Section 6.4.1).

It is important to notice that the variation in heritage languages is complex, but not unconstrained. There are clear patterns that can be distinguished, for instance that definiteness marking is stable in AmNo while CD is affected more. Within modified definite phrases, we have observed that the determiner is vulnerable in all speakers while the suffix is generally stable. Furthermore, there are groups of speakers who show more or less similar linguistic behavior. In Section 7.1.2, for example, I showed that the group of speakers who frequently omit the suffix have a lower speech rate and less vocabulary knowledge than speakers who never or rarely omit the suffix. In Section 5.1, we also saw that the

speakers can be divided into groups based on whether they mark definiteness consistently.

In some of the observed patterns, transfer might play a role: the omission of the definite suffix and a neutralized plural suffix could be consequences of contact with English. However, as was pointed out in Section 2.2, it is often difficult to separate simplification of the heritage language from transfer from English. In addition, it is clear that not all findings are the result of transfer. This is especially evident with the typical American Norwegian modified definite phrase, which cannot be the result of transfer since it is the prenominal determiner rather than the suffixed article that is lacking. In other words, transfer can not be the main reason for variation.

We have observed several changes in AmNo as compared to the baseline, but there are also changes that we do not find. In Chapter 5, for example, I pointed out that the word order within the nominal phrase is the same as in the baseline. We have also seen that American Norwegian modified definite phrases are not like Danish or English, as pointed out above. American Norwegian is not like Icelandic or Northern Swedish either, which means that the determiner-less phrases are not the result of αP-movement. Rather, I argued, they are the result of competition between two grammars, one with a definite determiner and one without a definite determiner. This means that the language has not adopted more syntactic movement. In other words, AmNo has not become more complex than homeland Norwegian.

Another important observation is that the AmNo speakers behave like monolingual Norwegian children in some respects. This similarity between heritage speakers and young children has often been observed in the field of heritage linguistics (Montrul, 2008, 2016; Polinsky, 2018). This informs us about the importance of the acquisitional context for a speaker's competence, and that both quantity and quality of input are crucial for complete acquisition. In addition, we saw in Section 6.3.1 that compositional definiteness is not acquired by monolingual children until they are 6 or 7 years old. This shows that the right type and amount of input are necessary for a longer period of time. There is no reason to assume that this only holds with respect to compositional definiteness. In other words, language acquisition is not completed after the early years of life.

This finding is not only of interest for linguistics, but has implications for example for language teachers who have heritage speakers in their classroom (see also Polinsky and Kagan, 2007; Montrul, 2016: sections 8.4 and 9.2). In Section 6.3.3, I argued that input from written language and schooling in Norwegian is crucial for complete acquisition of compositional definiteness. A better overview of phenomena that are acquired late or under the influence of schooling can be of use in heritage speaker teaching. In addition, this could lead to a better understanding and appreciation of heritage speakers. As pointed out by Polinsky (2018:79), heritage speakers are often criticized for everything they do "wrong", while second language learners are praised for everything they do right.

Although the acquisitional context of heritage speakers and monolinguals is different, the result is not very different. Instead, the investigation of AmNo corroborates the findings from studies on monolingual children that

the acquisition of the determiner is complex and needs time. Moreover, the acquisition in a heritage context is arguably slower than in a monolingual context, and might even be delayed to the point of incomplete acquisition, but I argue that it is the same type of process. There does not seem to be a principled difference between these two types of acquisition, even though the resulting adult grammars are different.

8.6   Acquisition and bilingualism

At the start of this chapter, I summarized the result of this thesis. The main finding is that the differences between heritage speakers and homeland speakers have different sources, even within one linguistic phenomenon (CD). In this thesis, I have discussed the importance of the factors acquisition and bilingualism throughout the lifespan in shaping the heritage speakers' language. At the same time, these factors (acquisition and usage) are not unique to heritage linguistics, but apply to other groups of speakers as well. The complex and variable behavior of heritage speakers allows us to observe these factors and the ways in which they interact.

With respect to acquisition and bilingualism, my study raises some questions for future research. One of them concerns linguistic proficiency, especially with this group of elderly heritage speakers. I have shown that the collection of speech rate data and vocabulary knowledge does not have to be complicated (see above). More research is needed for a better understanding of the relation between proficiency and grammar, as it is not yet clear how proficiency and grammatical accuracy are related.

Another area for future research is language acquisition studies that include a longer time span or later in childhood. This would give a clearer picture of the phenomena that are acquired slowly or after the first few years, and in turn this would lead to clear predictions for heritage linguistics. As noted, although the studies on the acquisition of CD (Anderssen, 2006, 2012) investigate a period of 1.5 years in the lives of the participating children, the point of complete acquisition could not be observed in the data. To establish that CD is acquired at age 6 to 7, I used data from another study (Busterud et al., 2019) that was originally intended to study gender marking in different age groups.

Finally, there is a need for longitudinal studies with bilingual speakers. Investigations of the development from a bilingual child to a bilingual adult and eventually to a bilingual elderly person would make it possible to track changes in the speaker's development as a bilingual. This would also make it easier to separate incomplete acquisition and attrition from each other, as data from different moments in the speakers' lives would become available. When it comes to a moribund heritage language like American Norwegian, which only has elderly speakers left, such a longitudinal study is not possible. However, it is still possible to study language change between different generations of speakers. As pointed out in Section 2.3.2, there are historical sources and recordings from earlier generations of AmNo speakers by Einar Haugen (1930s-1940s) and

Arnstein Hjelde (1980s-1990s). If this material were transcribed and searchable, it would be possible to track language changes in a heritage language with a long migration history.

The suggested directions for future research would all contribute to our knowledge of language acquisition, bilingualism throughout the lifespan, and different types of speakers, adding to the results in the present thesis on compositional definiteness in American Norwegian. Here, I have shown that AmNo modified definite phrases typically lack the determiner, and I have argued that this is the result of incomplete acquisition. At the same time, the suffixed article is vulnerable for omission in some of the speakers, and I proposed that this is the result of production difficulty caused by attrition. The results of proficiency measures suggest that suffix omission is related with proficiency. Finally, the definiteness distinction in the plural is (on the way of being) lost in some speakers, and I suggested that this is the result of grammatical restructuring under the influence of economy principles. Taken together, the results show that the behavior of American Norwegian speakers is complex, but not unconstrained, and that factors of incomplete acquisition, bilingualism throughout the lifespan, and syntactic economy principles all contribute to a speaker's linguistic behavior in intricate ways.

Appendix A

The text of the translation task

Training phase
    Ollie is a boy living on a farm.
    He has a brother called Peter and a sister called Emma.
    They live in a red, cozy house with their parents.

Test sentences
    The nominal phrases that were items in the present study are in bold.
1. One morning, Ollie is playing together with Peter.
2. It is Saturday, and school is closed.
3. The boys' mother comes out of **the kitchen** to talk to them.
4. She says to Ollie: "Have you talked to dad?"
5. "No", **the two boys** answer at the same time.
6. "Dad wants you to go look for **the white horse**", Mom says.
7. Ollie and Peter do not want to go.
8. Today the sun is shining, and they want to play more.
9. They do not think that they have played enough.
10. When mom gets a little angry, **the boys** go anyway.
11. They leave while talking about their game.
12. They start walking away from **the farm**, and come to the cornfield.
13. There, they see all **the yellow corn**, but not **the horse**.
14. Therefore, they go somewhere else to look.
15. They walk past **the house** of Anderson and his wife.
16. Anderson was a teacher when he was younger.
17. Now he is old, much older than the wife is.
18. The wife is a kind woman.
19. She plays the piano well.
20. But **the boys** don't have time to visit.
21. Down **the road**, they see **a little girl**.
22. **The little girl** turns out to be Emma, their little sister.
23. Ollie and Peter ask her if she wants to come with them.
24. Emma is picking **flowers**, and doesn't answer right away.
25. "Can you answer whether you want to come, please?", Peter says.
26. Emma then answers: "Can I pick some more **flowers** first?"
27. **The boys** wait and Emma picks all **the blue flowers**.
28. After a while, they don't want to wait anymore.
29. "You have picked enough **flowers** now, Emma. Let's go!", they say.
30. Suddenly, **the kids** hear a sound from the other side of **the barn**.
31. It sounds a bit like **a horse**.
32. **The children** go in the direction of the sound they heard.

33. When they come to the other side of **the barn**, they see **a brown cow**.
34. **The cow** swings it's tail.
35. It has not heard them.
36. It is not always easy to hear **small children**.
37. "This is not **the horse** mom talked about", Ollie says.
38. **The kids** go somewhere else to look.
39. Finally, they see **the white horse** in a field.
40. **The kids** shout out.
41. Because of all the noise **the kids** make, **the horse** runs away.
42. "Oh no!", Ollie says.
43. "It's going to jump over **the fence!**"
44. And just as Ollie said, **the horse** jumps over **the high fence**.
45. "What do we do now?", Peter asks.
46. "I know!", Emma answers.
47. "Let's feed it **apples**.
48. I think it will like that."
49. "But where do we get **apples**?", Peter asks.
50. "Should we buy some?"
51. "No, of course we don't buy **the apples**", Ollie says.
52. "We have lots of them here."
53. At once, Emma runs to pick **apples**.
54. After a while, she comes back with lots of **apples**.
55. Ollie says: "I think it likes **green apples** the best.
56. I do not think you should give **red apples** to a horse.
57. Let's give it all **the green apples** you have gathered."
58. "That's a good idea", Emma says and puts **the red apples** in a bucket.
59. **The three kids** take **the apples** to **the horse**.
60. Emma lets **the horse** eat from her hand.
61. **The horse** likes the food very much and eats it all.
62. Then, **the horse** starts looking for **the apples the kids** put in the bucket.
63. "I think we can take him back to the farm now", Ollie says.
64. Together, they lead **the horse** back to **the barn**.
65. After **the kids** have brought back **the horse**, they go to **the house**.
66. The kids walk in the door and into **the warm kitchen**.
67. "Where have you guys been?", Dad asks.
68. Ollie answers: "We found **the white horse**, just as you asked."
69. "But we have waited for a long time", Mom says.
70. "We had to wait for Emma while she picked **flowers!**", **the boys** say together.
71. "And we also had to gather **apples** to get **the horse** to come with us", Emma adds.

Ending phase

Mom and dad understand.

Everything is fine now that both the horse and the kids are back.

Appendix B

The items of the picture-aided elicitation task

Below, the items used in the picture-aided elicitation task are listed. The table first lists the test items of version A of the experiment, followed by the test items of version B of the experiment. The versions only differ with respect to the order of items, and which nouns were elicited in modified phrases or unmodified phrases. Each participant completed only one of the versions. For each computer screen that the participants saw, the baseline-like Norwegian responses are given, together with their English translation. For each screen, it is indicated whether the elicited nouns are masculine, feminine, neuter, or in the plural.

Table B.1: Items of the picture-aided elicitation task

Version A - Part 1, unmodified nouns		
1 (M)	*en hest*	a horse
	en bil	a car
	hest-en	the horse
	bil-en	the car
2 (N)	*et tog*	a train
	et tre	a tree
	tre-et	the tree
	tog-et	the train
3 (F)	*ei skje*	a spoon
	ei pil	an arrow
	pil-a	the arrow
	skje-a	the spoon
4 (N)	*et hjerte*	a heart
	et hus	a house
	hjerte-t	the heart
	hus-et	the house
5 (M)	*en fisk*	a fish
	en gris	a pig
	gris-en	the pig
	fisk-en	the fish
6 (F)	*ei skjorte*	a shirt
	ei hånd	a hand
	skjort-a	the shirt
	hånd-a	the hand
7 (F)	*ei dør*	a door
	ei bok	a book
	dør-a	the door

	bok-a	the book
8 (N)	*et hjul*	a wheel
	et bord	a table
	bord-et	the table
	hjul-et	the wheel
9 (M)	*en slede*	a sled
	en fugl	a bird
	fugl-en	the bird
	slede-n	the sled
10 (F)	*ei høne*	a chicken
	ei bru	a bridge
	høn-a	the chicken
	bru-a	the bridge
11 (N)	*et piano*	a piano
	et glass	a glass
	glass-et	the glass
	piano-et	the piano
12 (M/N)	*en sau*	a sheep
	et jordbær	a strawberry
	sau-en	the sheep
	jordbær-et	the strawberry
13 (PL)	*bøk-er*	books
	hend-er	hands
	bøk-ene	the books
	hend-ene	the hands
14 (PL)	*hest-er*	horses
	blomst-er	flowers
	hest-ene	the horses
	blomst-ene	the flowers
15 (PL)	*hus*	houses
	høne-r	chickens
	hus-a	the houses
	høne-ne	the chickens
16 (PL)	*sau-er*	sheep
	hund-er	dogs
	sau-ene	the sheep
	hund-ene	the dogs
Version A - Part 2 , modified nouns		
1 (N)	*et brun-t hus*	a brown house
	et gul-t hus	a yellow house
	et hvit-t fly	a white airplane
	et blå-tt fly	a blue airplane
	det blå-e fly-et	the blue airplane
	det brun-e hus-et	the brown house
2 (F)	*ei blå jakke*	a blue jacket

	ei rød jakke	a red jacket
	ei hvit mus	a white mouse
	ei grå mus	a grey mouse
	den rød-e jakk-a	the red jacket
	den grå-e mus-a	the grey mouse
3 (M)	*en liten fot*	a small foot
	en stor fot	a large foot
	en rød buss	a red buss
	en blå buss	a blue buss
	den rød-e buss-en	the red buss
	den stor-e fot-en	the small foot
4 (M)	*en grønn telefon*	a green telephone
	en rød telefon	a red telephone
	en brun hest	a brown horse
	en hvit hest	a white horse
	den grønn-e telefon-en	the green telephone
	den hvit-e hest-en	the white horse
5 (N)	*et amerikansk flagg*	an American flag
	et norsk flagg	a Norwegian flag
	et lite øre	a small ear
	et stor-t øre	a large ear
	det norsk-e flagg-et	the Norwegian flagg
	det stor-e øre-t	the large ear
6 (F)	*ei gul klokke*	a yellow clock
	ei hvit klokke	a white clock
	ei blå seng	a blue bed
	ei gul seng	a yellow bed
	den gul-e klokk-a	the yellow clock
	den gul-e seng-a	the yellow bed
7 (F)	*ei hvit geit*	a white goat
	ei svart geit	a black goat
	ei blå bok	a blue book
	ei grønn bok	a green book
	den grønn-e bok-a	the green book
	den hvit-e geit-a	the white goat
8 (M)	*en rød blomst*	a red flower
	en gul blomst	a yellow flower
	en rød gave	a red present
	en blå gave	a blue present
	den rød-e blomst-en	the red flower
	den blå-e gave-n	the blue present
9 (N)	*et hvit-t brev*	a white letter
	et gul-t brev	a yellow letter
	et lite brød	a small bread
	et stor-t brød	a large bread

	det lille brød-et	the small bread
	det gul-e brev-et	the yellow letter
10 (F)	*ei grønn flaske*	a green bottle
	ei brun flaske	a brown bottle
	ei svart bukse	a black trousers
	ei blå bukse	a blue trousers
	den svart-e buks-a	the black trousers
	den brun-e flask-a	the brown bottle
11 (N)	*et lite skip*	a small ship
	et stor-t skip	a large ship
	et rød-t eple	a red apple
	et grøn-t eple	a green apple
	det grønn-e eple-t	the green apple
	det lille skip-et	the small ship
12 (M)	*en brun hund*	a brown dog
	en hvit hund	a white dog
	en svart ball	a black ball
	en rød ball	a red ball
	den brun-e hund-en	the brown dog
	den svart-e ball-en	the black ball
13 (PL)	*hvit-e bord*	white tables
	brun-e bord	brown tables
	grønn-e øyne	green eyes
	blå-e øyne	blue eyes
	de hvit-e bord-ene	the white tables
	de blå-e øyne-ne	the blue eyes
14 (PL)	*små gulrøtt-er*	small carrots
	stor-e gulrøtt-er	large carrots
	svart-e ku-er	black cows
	brun-e ku-er	brown cows
	de små gulrøtt-ene	the small carrots
	de svart-e ku-ene	the black cows
15 (PL)	*stor-e føtt-er*	large feet
	små føtt-er	small feet
	rød-e hus	red houses
	gul-e hus	yellow houses
	de gul-e hus-a	the yellow houses
	de små føtt-ne	the small feet
16 (PL)	*rød-e eple-r*	red apples
	grønn-e eple-r	green apples
	blå-e fly	blue airplanes
	hvit-e fly	white airplanes
	de blå-e fly-ene	the blue airplanes
	de rød-e eple-ne	the red apples
Version B - Part 1, unmodified nouns		

1 (M)	*en fot*	a foot	
	en buss	a buss	
	fot-en	the foot	
	buss-en	the buss	
2 (N)	*et hus*	a house	
	et fly	an airplane	
	fly-et	the airplane	
	hus-et	the house	
3 (F)	*ei geit*	a goat	
	ei bok	a book	
	bok-a	the book	
	geit-a	the goat	
4 (N)	*et skip*	a ship	
	et eple	an apple	
	skip-et	the ship	
	eple-t	the apple	
5 (M)	*en hund*	a dog	
	en ball	a ball	
	ball-en	the ball	
	hund-en	the dog	
6 (F)	*ei jakke*	a jacket	
	ei mus	a mouse	
	jakk-a	the jacket	
	mus-a	the mouse	
7 (F)	*ei klokke*	a clock	
	ei seng	a bed	
	klokk-a	the clock	
	seng-a	the bed	
8 (N)	*et brev*	a letter	
	et brød	a bread	
	brød-et	the bread	
	brev-et	the letter	
9 (M)	*en blomst*	a flower	
	en gave	a present	
	gave-n	the present	
	blomst-en	the flower	
10 (F)	*ei flaske*	a bottle	
	ei bukse	a trousers	
	flask-a	the bottle	
	buks-a	the trousers	
11 (N)	*et flagg*	a flag	
	et øre	an ear	
	øre-t	the ear	
	flagg-et	the flag	

12 (M)	*en telefon*	a telephone
	en hest	a horse
	telefon-en	the telephone
	hest-en	the horse
13 (PL)	*bord*	tables
	øyne	eyes
	bord-ene	the tables
	øyne-ene	the eyes
14 (PL)	*gulrøtt-er*	carrots
	ku-er	cows
	ku-ene	the cows
	gulrøtt-ene	the carrots
15 (PL)	*føtt-er*	feet
	hus	houses
	hus-a	the houses
	føtt-ene	the feet
16 (PL)	*eple-r*	apples
	hund-er	dogs
	sau-ene	the sheep
	hund-ene	the dogs
Version B - Part 2 , modified nouns		
1 (N)	*et rød-t tog*	a red train
	et blå-tt tog	a blue train
	et lite tre	a small tree
	et stor-t tre	a large tree
	det stor-e tre-et	the large tree
	det rød-e tog-et	the red train
2 (F)	*ei blå skjorte*	a blue shirt
	ei rød skjorte	a red shirt
	ei stor hånd	a large hand
	ei lita hånd	a small hand
	den rød-e skjort-a	the red shirt
	den lille hånd-a	the small hand
3 (M)	*en brun hest*	a brown horse
	en hvit hest	a white horse
	en grønn bil	a green car
	en blå bil	a blue car
	den grønn-e bil-en	the green car
	den hvit-e hest-en	the white horse
4 (M/N)	*en hvit sau*	a white sheep
	en svart sau	a black sheep
	et stor-t jordbær	a large strawberry
	et lite jordbær	a small strawberry
	den hvit-e sau-en	the white sheep

	det stor-e jordbær-et	the large strawberry
5 (N)	*et stor-t piano*	a large piano
	et lite piano	a little piano
	et blå-tt glass	a blue glass
	et svart glass	a black glass
	det lille piano-et	the little piano
	det svart-e glass-et	the black glass
6 (F)	*ei brun dør*	a brown door
	ei hvit dør	a white door
	ei grønn bok	a green book
	ei blå bok	a blue book
	den brun-e dør-a	the brown door
	den blå-e bok-a	the blue book
7 (F)	*ei stor skje*	a large spoon
	ei lita skje	a small spoon
	ei grønn pil	a green arrow
	ei rød pil	a red arrow
	den rød-e pil-a	the red arrow
	den stor-e skje-a	the large spoon
8 (M)	*en brun slede*	a brown sled
	en hvit slede	a white sled
	en grønn fugl	a green bird
	en gul fugl	a yellow bird
	den brun-e slede-n	the brown sled
	den grønn-e fugl-en	the green bird
9 (N)	*et lite hjul*	a small wheel
	et stor-t hjul	a large wheel
	et brun-t bord	a brown table
	et hvit-t bord	a white table
	det brun-e bord-et	the brown table
	det stor-e hjul-et	the large wheel
10 (F)	*ei hvit høne*	a white chicken
	ei brun høne	a brown chicken
	ei grå bru	a grey bridge
	ei brun bru	a brown bridge
	den grå-e bru-a	the grey bridge
	den brun-e høn-a	the brown chicken
11 (N)	*et rød-t hjerte*	a red heart
	et gul-t hjerte	a yellow heart
	et gul-t hus	a yellow house
	et brun-t hus	a brown house
	det brun-e hus-et	the brown house
	det gul-e hjerte-t	the yellow heart
12 (M)	*en blå fisk*	a blue fish
	en gul fisk	a yellow fish

	en rosa gris	a pink pig
	en hvit gris	a white pig
	den blå-e fisk-en	the blue fish
	den rosa gris-en	the pink pig
13 (PL)	*rød-e bøk-er*	red books
	hvit-e bøk-er	white books
	små hend-er	small hands
	stor-e hend-er	large hands
	de rød-e bøk-ene	the red books
	de stor-e hend-ene	the large hands
14 (PL)	*svart-e hest-er*	black horses
	brun-e hest-er	brown horses
	rød-e blomst-er	red flowers
	blå-e blomst-er	blue flowers
	de brun-e hest-ene	the brown horses
	de rød-e blomst-ene	the red flowers
15 (PL)	*rød-e hus*	red houses
	gul-e hus	yellow houses
	grå-e høne-r	grey chickens
	brun-e høne-r	brown chickens
	de brun-e høne-ne	the brown chickens
	de gul-e hus-a	the yellow houses
16 (PL)	*hvit-e sau-er*	white sheep
	svart-e sau-er	black sheep
	brun-e hund-er	brown dogs
	hvit-e hund-er	white dogs
	de brun-e hund-ene	the brown dogs
	de hvit-e sau-ene	the white sheep

Appendix C

Results of the individual participants

The table below shows the numbers of the different types of modified definite phrases produced by the individual speakers during the two elicitation tasks. Note that I added the numbers from the translation task and the picture-aided elicitation task together. These counts are only based on the singular phrases in the tasks. The categories 'with CD' and 'adjective incorporation' are baseline-like, the categories 'without determiner', 'without suffix', and 'bare definite phrase' are non-baseline-like. The amount of overused demonstratives is not included in this table. Within the groups, the speakers are sorted alphabetically.

	Baseline-like		Non-baseline-like		
	with CD	Adj. Inc.	No det	No suf.	Bare phrase
Group 1					
CV_06gm	15	0	11	0	0
CV_10gm	3	11	11	0	0
Fa_01gm	5	5	9	0	0
We_01gm	15	2	8	0	0
We_11gm	4	1	15	0	0
Group 2					
Io_05gm	20	0	10	1	0
Su_12gk	6	0	10	2	0
Group 3					
Fa_08gm	0	0	10	0	9
Fl_01gm	2	10	12	0	2
Su_04gk	0	1	21	0	4
Su_09gm	8	2	20	0	2
Ul_01gm	10	0	10	0	2
We_06gm	0	4	14	0	1
Group 4					
Fa_09gm	0	0	11	2	18
He_07gk	3	0	4	5	12
Su_06gm	0	1	16	3	7
Su_07gm	2	4	19	1	1
Su_11gk	19	0	2	8	1
Su_15gm	6	0	9	2	1
Su_18gk	0	1	17	1	4
Total SG	118	42	239	25	64

Appendix D

Results AJT - control groups

	with CD		no det.		no suf.		bare phrase	
	n	%	n	%	n	%	n	%
Acceptable	54	96.43%	0	0%	2	7.14%	0	0%
Marginal	2	3.57%	1	3.57%	6	21.43%	4	14.29%
Unacceptable	0	0%	27	96.43%	20	71.43%	23	82.14%
Question mark	0	0%	0	0%	0	0%	1	3.57%
Total	56	100%	28	100%	28	100%	28	100%

Table D.1: Results from the acceptability judgment task (AJT) of the four types of modified definite phrases. These are the results from the homeland speaker control group who judged the written sentences (number of participants = 7).

	with CD		no det.		no suf.		bare phrase	
	n	%	n	%	n	%	n	%
Acceptable	56	100%	1	3.57%	3	10.71%	1	3.57%
Marginal	0	0%	14	50%	12	42.86%	13	46.43%
Unacceptable	0	0%	13	46.43%	13	46.43%	14	50%
Total	56	100%	28	100%	28	100%	28	100%

Table D.2: Results from the acceptability judgment task (AJT) of the four types of modified definite phrases. These are the results from the homeland speaker control group who judged the spoken sentences (number of participants = 7, age-matched with the American Norwegian speakers).

| | Written | | | | Spoken | | | |
| | **SVO** | | **SOV** | | **SVO** | | **SOV** | |
	n	%	n	%	n	%	n	%
Acceptable	68	97.14%	0	0%	68	97.14%	1	1.43%
Marginal	2	2.86%	1	1.43%	1	1.43%	20	28.57%
Unacceptable	0	0%	69	98.57%	1	1.43%	49	70%
Total	70	100%	70	100%	70	100%	70	100%

Table D.3: Results from the acceptability judgment task (AJT) of the filler sentences with either SVO or SOV word order. The results of the homeland speakers who judged the written sentences (n=7) and those who judged the spoken sentences (n=7, age-matched with AmNo) are presented together.

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