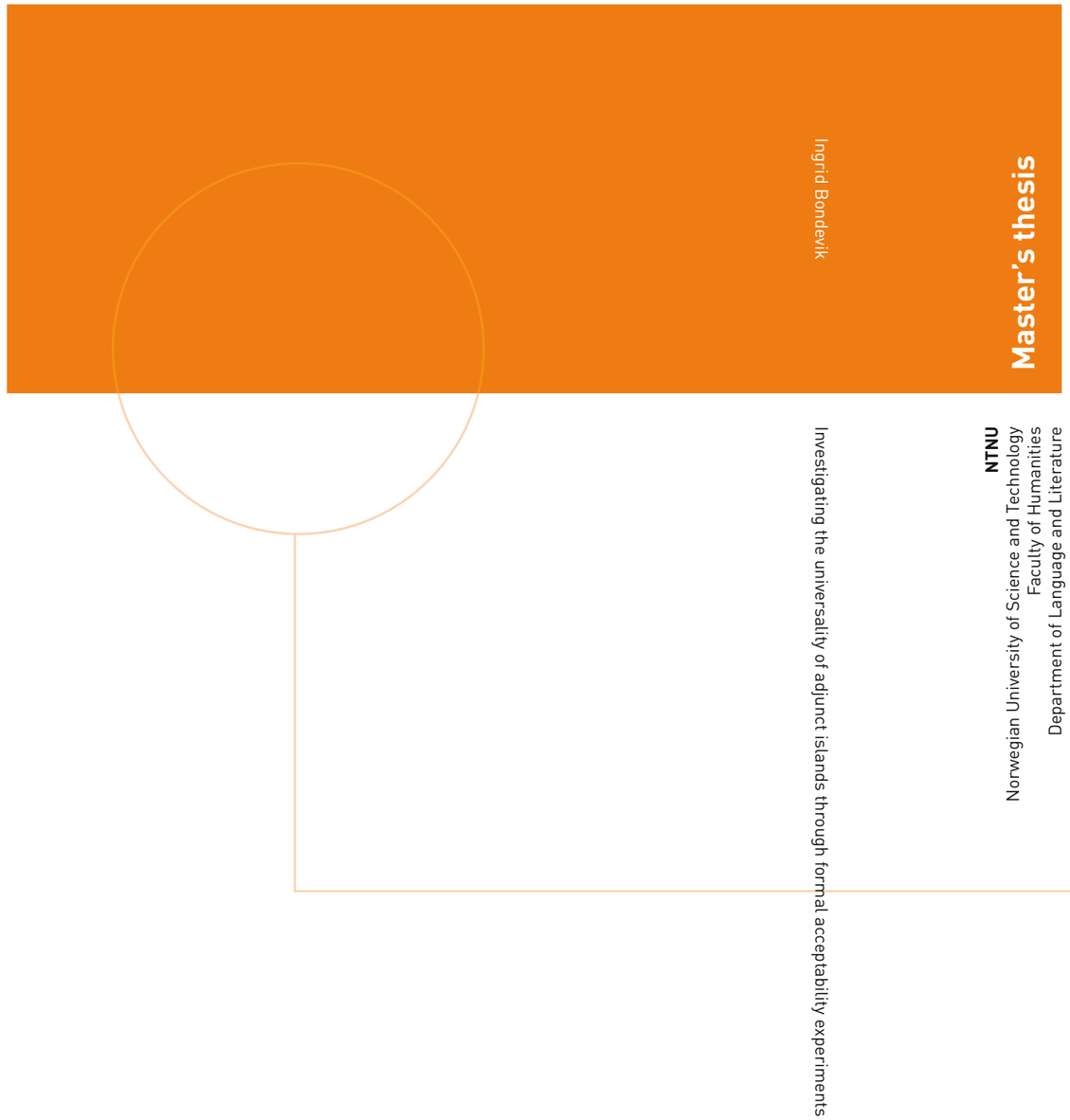

Ingrid Bondevik

Investigating the universality of adjunct islands through formal acceptability experiments

A comparative study of English and Norwegian

Master's thesis in English Linguistics

Trondheim, May 2018

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Abstract

Adjunct islands (i.e., extraction from adjoined clauses) are considered to be islands for movement across languages, and data from English generally serve as good examples of this constraint. Norwegian might provide an interesting point of comparison with English, since preliminary data on Norwegian, gathered both informally and formally, suggest that adjunct clauses in topicalization-dependencies may not be islands (e.g., Engdahl, 1982; Maling and Zaenen, 1982; Faarlund, 1992, Kush et al., in preparation). Considering this difference between languages, investigating patterns of extraction from adjuncts in Norwegian can provide insights into the universal status of adjunct islands.

This thesis investigates whether adjunct clauses are islands in Norwegian. This was experimentally tested with three different complementizer types: *om* 'if', *når* 'when' and *fordi* 'because'. Applying the factorial definition of an island effect as seen in e.g., Sprouse et al., (2012a), five different island types were tested in acceptability experiments: subject-island, *whether*-island, *om*, *når* and *fordi*.

The acceptability experiments provided two main findings: (1) Acceptability of topicalization from an adjunct clause in Norwegian is dependent on the complementizer type heading the adjunct island, providing statistically significant different ratings. Thus, it does not make sense to answer whether "adjunct islands" are islands in Norwegian, as the results suggest that, in relation to island constraints, "adjunct" might not pattern as a natural class. As none of the accounts proposed to explain English "adjunct islands" (and by extension, adjunct islands cross-linguistically) are readily able to explain the effect of complementizer, the findings suggest that that these accounts must be adjusted. (2) There is considerable variation at the participant level *within* each of the complementizers tested, this is indicative of inconsistent judgements, which none of the current accounts of island constraints are fully able to explain.

Acknowledgments

First, I owe a huge thank-you to everyone out there who participated in the acceptability tests, this work could not have been completed without their participation. Also, I am very grateful to my family and friends who shared the experiment with their family and friends.

Writing this thesis has been one wonderfully steep learning curve, and I'm so grateful that I've had this opportunity to play with this exiting mix of syntax and statistics over the past year. I do not think writing this thesis would have been as much fun without the invaluable advice and help from my supervisors Terje Lohndal and Dave Kush. They have been encouraging and supportive from the get go and have helped me to learn more than I thought possible about syntactic islands, experimental design and academic writing. I am also very grateful to Dave Kush for helping me to set up the experiments and for sending me some R-scripts.

For always encouraging me and believing in me, I want to direct a huge thank-you to Magnus. I also greatly appreciate every discussion, long and short, we've had about this project, especially about the experimental side of things. I also want to shout out to *døljengen* for all the good times and late hours at Dragvoll.

Gaining statistical insight is not easy on your own, so I want to thank the Department of Education and Lifelong Learning at NTNU for letting me enroll in their statistics master's course.

Contents

Figures and tables

1 Introduction

1.1 Topic for the thesis and theoretical background

A cross-linguistic trait of natural languages is that they allow filler-gap-dependencies to be formed (O'Grady, 2010: 2709; Sprouse, Caponigro, Greco and Cecchetto, 2016: 309). In other words, all natural languages allow some element (*filler*) to move from its base generated position and leave a trace (*gap*) in its place. An example of such an operation is question formation:

(1) a. [$_{CP}$ *Who* [TP _ asked the question]? *Short distance dependency*

b. [$_{CP}$ *What* did [$_{TP}$ Luke think [$_{CP}$ that Emma said [$_{CP}$ that she no longer wanted to buy _]]]? *Long distance dependency*

In (1), the *wh*-fillers (*who, what*) are fronted, leaving a trace (indicated by _) in its original position. As (1) illustrates, filler-gap dependencies can be both short and long, and there is no constraint on how far apart the filler and the gap can be. As the sentences in (2) illustrate, however, there are some filler-gap dependencies that seem to be constrained. Importantly, these constraints do not exclude every kind of question formation, the sentences in (1) are perfectly acceptable. What then, is happening in (2)?

(2) a. *[$_{CP}$ *About which topic* did [$_{TP}$ John ask [$_{CP}$ who [$_{TP}$ was talking _]? *(Szabolcsi and Lohndal, 2017: 4)*

b. **Who* did Mary cry [$_{XP}$ after John hit _]? *(Huang, 1982: 503)*

It is clear that movement of the fillers *about which topic* and *who* in (2) is not allowed. It is assumed that the constraints that prohibit the formation of long distance dependencies in (2) are related to the structures, or the *domains*, within which the fillers are base-generated. Ross (1967) named domains that do not allow filler-gap-dependencies to be formed across their boundary "islands". These domains are like islands – without bridges or ferries to escape them – they are simply inescapable. In (2), the embedded clauses (CP, XP) are to both *about which topic* and *who,* inescapable without causing unacceptability. As such, the notion "island constraint" concerns the formation of filler-gap-dependencies in domains that will not permit

such a relationship to form. The topic for this thesis is the constraints that make sentences such as (2) unacceptable.

A universal principle governing syntactic structures is that all operations must be *local.*

(3) ***Locality as a property of syntactic dependencies***

Syntactic dependencies of all types are confined to a limited portion of structure.

(den Dikken and Lahne, 2013: 655)

This means that in (1b), the filler does not move directly from the base-generated position to the matrix clause, instead, it is assumed that there are local syntactic dependencies that the filler first must enter into. Under this assumption, syntactic structures are built in steps of local dependencies. One specific implementation of this universal principle is the theory of *phases* within the Minimalist Framework (e.g., Radford, 2004). Here the local steps in syntactic structures are called *phases*.

A phase is the domain within which syntactic operations occur before the information is transferred to grammatical interfaces at spell-out (e.g., to *logical form* (LF) or *phonological form* (PF)) (Radford, 2004: 381). Thus, when all syntactic operations below the phase head are completed, this phase, with the exception of the phase head, will be inaccessible to further operations. For the purpose of the discussion of island constraints in this thesis, it is sufficient to know that CP (*Complementizer Phrase*) is a phase. Thus, in (1b) there are three phases.

Moved *wh*-words target non-argument positions, such as SpecCP (*Specifier of CP*), as their landing sites. Movement targeting non-argument positions is called A'-movement. Implementing locality and the theory of phases, it is clear that *wh*-words can actually escape the phase as elements in SpecCP are still visible for further derivations after the transfer of the phase. Accordingly, the *wh*-word in (1b) have moved across several phases, as there are 3 CPs. Furthermore, (1) indicates that there is no restriction as to how many SpecCPs an A'-moving element can cross when moving to the matrix SpecCP. In (2a), however, SpecCP is already filled by another *wh*-word, accordingly, the lowest *wh*-word cannot escape the phase, making (2a) unacceptable.

There are different *types* of domains that behave like islands, and even though they are all conditioned by the same constraints there are some interesting differences between them. The primary concern of this thesis is concentrated to the investigation of *adjunct islands.* "Adjunct island" is the term for all embedded clauses that are *adjoined* to the matrix

clause. Simply put, clauses that neither act as subjects *nor* complements are adjunct islands, e.g., the sentence in (2b) contains an adjunct island. The scope was additionally narrowed by focusing the investigation only on adjunct clauses that are introduced by PP-complementizers such as the phase headed by *after* in (2b) above.

1.2 Universality and innateness

Logically, in a grammatical approach to island phenomena[1], all constraints that govern language must either be learned from the received input or inherently provided by some mechanism in the mind of the speaker.

If we assume that island constraints are learned from the input, we would expect to find evidence in the input that would tell the language-learner (child) that such sentences are unacceptable. How can a language-learner learn a *negative* constraint from the input? There is no direct negative evidence, i.e., correction or instruction from another speaker. Thus, children must learn the island constraints from indirect negative evidence, i.e., evidence relating to the absence of such structures (Radford, 2004: 24). It is, however, unclear how children can learn language on the basis of indirect negative input. In fact, the *No-Negative-Evidence Hypothesis* claims that children only learn from positive evidence (Radford, 2004: 25).

Within grammatical approaches to islands, it is generally assumed that islands cannot be learned from the input as there have been no accounts of how islands can be learned from the limited data available to children (Phillips, 2013a: 107). This is a *Poverty of the Stimulus* problem, namely that the input does not provide the learner with enough data to learn the island constraints (see Phillips, 2013b and Pearl and Sprouse, 2013 for a recent discussion of this issue).

If island constraints are not learned from the input, they must be innate grammatical constraints (Phillips, 2013a: 64). That is, island constraints must belong to *Universal Grammar* (UG). Formally, UG, theorized to be innate to humans, is the maximally

[1] There are also Reductionist approaches to island constraints, which view island phenomena as the symptoms of processing difficulty (Phillips, 2013a: 80). Under these views, sentences that violate island constraints are considered to be grammatical, but the cost of processing is too great, therefore, the sentences appear as unacceptable. Within these approaches, island constraints need neither be universal nor learned from the input as they are only the bi-product of the constraints of other mental language capacities. Following the discussion in Phillips (2013a) and in Sprouse, Wagers and Phillips (2012a; 2012b), this thesis adopts a grammatical approach to island constraints.

constrained theory of human languages needed to generalize over every I-language (i.e., internalized language) (Radford, 2004: 8). Thus, any rule or constraint in natural languages that cannot be learned from the input has to be part of UG. As such, the island constraints that make the sentences in (2) unacceptable reflect knowledge about language that is inborn. Accordingly, the grammatical approaches maintain that island constraints must be universal and shared by all human languages.

Furthermore, as all island constraints are thought to be *universal* it suggests that the constraints that prohibit the formation of the sentences in (2) in English are equally active in Norwegian. For that reason, a comprehensive theory of island effects must be able to account for cross-linguistic patterns (Sprouse and Hornstein, 2013: 3). Thus, investigations of cross-linguistic island variation are vital for accounts of island constraints, both in order to determine the universal nature of island phenomenon, but more so, for the accounts to be flexible enough to be able to account for variation. Therefore, investigation of adjunct islands in Norwegian can provide valuable understanding of English adjunct islands.

1.3 Overview of the thesis

In this thesis, data on Norwegian adjunct island extraction have been collected using formal acceptability experiments. However, before going into detail about the experiments that have been conducted, an overview of the different accounts of English data on island violations is given in chapter 2. This overview provides a point of departure for the rest of the thesis. It illustrates that more knowledge of islands is necessary for a comprehensive account of island constraints that originally have been motivated on the basis of evidence from English. Grounding the argument in the universality of island constraints, I show the importance of cross-linguistic research, and particularly the possibly advantageous role Norwegian adjunct extraction patterns may have in providing new insight into adjunct islands.

Chapter 3 initiates the second part of the thesis with a discussion of the theoretical justification of the experimental design used in the investigation of Norwegian adjunct islands, e.g., methodological issues such as the theoretical foundation of acceptability judgements. Chapter 3 also provides a description and explanation of the experiments; the materials, procedure and statistical analyses used to analyze the data. Chapter 4 describes the results from the experiments that were conducted. The results are then discussed in chapter 5, attention being paid to how the results align with data on island constraints in English and other languages. Here an attempt is also made to reconcile the findings in Norwegian with the

accounts of English data, and as such to place the findings in a theoretical account of island constraints. Chapter 6 concludes the thesis.

2 Theoretical background

First, this chapter provides theoretical background on islands and the accounts that explain English island phenomena. Second, the chapter discusses cross-linguistic evidence, before going into more detail about Norwegian island extractions. Here the discussion of the accounts of English will serve as a baseline for comparison with Norwegian data. Lastly, the chapter provides a statement of the research question and the aims of the thesis.

2.1 Islands

A list of the most commonly discussed constraints on the formation of filler-gap-dependencies is given in (4) below. The list is modelled on Ross' (1967) discussion of island domains. The adjunct island and the *wh*-island, which were not discussed in Ross (1967), are included to provide a comprehensive list of commonly discussed island domains:

(4) a. *Wh-Islands (embedded questions)*

John asked [who was talking about which topic]

**About which topic* did John ask [who was talking _]?

(Szabolcsi and Lohndal, 2017: 4)

b. *Complex Noun Phrases*

Relative clause:

I spoke to [the man who kissed Mary]

**Who* did you speak to [the man who kissed _]?

(den Dikken and Lahne, 2013: 660)

Complement clause:

You heard [the rumor that my dog bit which man]

*Which *man* did you hear [the rumor that my dog bit _]?

(Szabolcsi and Lohndal, 2017: 6)

c. *Coordinate structure constraint*

I kissed [Mary and Sue]

**Who* did you kiss [Mary and _]?

(den Dikken and Lahne, 2013: 660)

d. *Sentential subjects*

[That he kissed Mary] was surprising

**Who* was [that he kissed _] surprising?

(den Dikken and Lahne, 2013: 660)

e. *Adjunct constraint*

**Which topic* did you leave [because Mary talked about _]?

(Szabolcsi and Lohndal, 2017: 7)

As is evident, *wh*-movement out of the domains listed in (4) results in clear unacceptability in English.

2.1.1 Underlying assumptions

Grammatical theories of islandhood assume that the origin of island effects is related to constraints on syntactic movement. The underlying assumptions for such accounts of island phenomenon are (1) that filler-gap dependencies are created by way of movement – the "moved element" is not directly merged in SpecCP – and (2) that the moved element leaves behind a gap, modelled as a trace or a copy of the moved element.

Word order differences between declaratives and A'-constructions like *wh*-questions is explained by syntactic movement. In (5), *Mary/Who* function as the internal arguments of the transitive verb *admire*, but the words differ in their linear placement. *Mary* comes after *admire*, but *who* precedes *admire*.

(5) a. Emma admired Mary. *Declarative*

b. *Who* did Emma admire _ ? *Wh-question*

At first it might simply seem as though *admire* has a complement in (5a), but not in (5b). However, (6) below illustrates that *admire* actually requires a complement:

(6) *Emma admired.

As it is evident that *admire* requires a complement, it cannot be the case that *admire* is simply missing the complement in (5b) as (5b) is perfectly acceptable. Instead, it is assumed that w*ho* acts as the complement of *admire*, which requires that *who* is first merged with *admire*.

Merging *who* with the predicate (*admire),* is also required for interpreting *who* as the internal argument of the verb by the *Predicate-Internal Theta-Marking Hypothesis* (Radford, 2004a: 192). The word order, however, suggests that *who* later moves from its base position to its surface position.

Furthermore, it is assumed that the moved element leaves a gap where it was base-generated, which creates a filler-gap-dependency[2]. In (5b) the complement of admire has moved, but this does not make space for a second complement to merge with *admire*, as is illustrated in (7)*:*

(7) *Who* did Emma admire _ Mary?

The fronting of elements forming long-distance dependencies is typically exemplified with *wh*-movement, however topicalization, relativization, adjective-though constructions and various clefts are also instances of long-distance dependencies (Sprouse and Hornstein, 2013: 1; Phillips, 2013a: 68):

(8)	a.	I like most of these cars, but *that car*, I love _ .	*Topicalization*
	b.	I like *the car* that John bought _ .	*Relativization*
	c.	*Fast* though the sports car is _ . I prefer the hybrid.	*Adjective-though*
	d.	This is *the car* that John bought _ .	*Clefting*

(Sprouse and Hornstein, 2013: 1)

These instances of long-distance dependencies have several characteristics in common with *wh*-movement: (a) movement targets the left periphery of the clause; (b) the moved constituent leaves a gap in its base-generated position; (c) there is, in principle, no restriction on how long the filler-gap-dependency can be. There are, however, island domains where the formation of a filler-gap-dependency is constrained and all types of long-distance dependencies seem to be sensitive to the same constraints.

[2] It is important to note that an empty position in the embedded clause does not automatically entail that there is a gap, i.e., an empty position governed by a moved antecedent, as it is also assumed that an empty position can be filled by an invisible proform (i.e., an empty resumptive pronoun (see Section 2.2.3)) (Szabolcsi and Lohndal, 2017: 3). This is an important distinction which emphasizes that an empty position is not necessarily a gap entering into a filler-gap-dependency (though both are commonly referred to as gaps).

2.2 Universal accounts of islands

In this section, I provide an overview of accounts of island violations and how these account for core English data on island extraction. The overview will be presented chronologically as there have been numerous accounts within the syntactic approach to islandhood and the later accounts build on the insights achieved by the earlier accounts. At the end of the section, I will consider slightly contradictory evidence to the accounts discussed. Importantly, this section will serve as an extensive overview of English island violations, preparing the ground for a cross-linguistic comparison in section 2.3.

2.2.2 Accounts of English

A-over-A Principle

The first account relevant to island phenomenon is presented in Chomsky (1964) and was later termed the *A-over-A Principle*. This account is based on relations that elements of the same category have with one another in a syntactic structure. The A-over-A Principle restricts movement by dictating which nodes rules[3] can apply to in certain structures; "[…] if the phrase X of category A is embedded within a larger phrase ZXW which is also of category A, then no rule applying to the category A applies to X but only to ZXW, […]" (den Dikken and Lahne, 2013: 657-658). This account is able to account for the following pattern of extraction:

(9) a. [PP1 *From* [PP2 *under which bed*]] [did John retrieve the book _]?

b. *[PP2 *Under which bed*] [did John retrieve the book [PP1 from [_]]]?

(Boeckx, 2008: 1)

(9a) is grammatical because the entire PP has moved, the question-formation rule (fronting) has only applied to the dominating phrase (PP1). In (9b), however, the dominated PP2 has moved, which is illicit since rules only can apply to the dominating phrase of the same category. For instance, from a constituent [NP[PP[PP]]], only the first PP can move.

Although this account correctly predicts the unextractability from some *wh*-islands and Complex NPs, the Principle is both too strong and too weak (den Dikken and Lahne, 2013: 658). (10a) illustrates that the Principle is too weak as it is unable to rule out an unacceptable sentence – there is no mechanism that can stop the PP from moving to Spec-CP. (10b) shows that the A-over-A Principle is too strong, as it postulates that movement of the NP *who* from

[3] *Rules* refers to grammatical operations such as topicalization, relativization, question formation etc.

the container NP *my seeing who* will be illicit, however (10b) is a perfectly acceptable sentence.

(10) a. *[PP *About which topic*] did John ask [CP who was talking [_]]?

(Szabolcsi and Lohndal, 2017: 4)

b. [NP *Who*] would you approve of [NP my seeing [_]]?

(den Dikken and Lahne, 2013: 658)

The A-over-A Principle was quickly abandoned for Ross' (1967) list of construction-specific constraints.

Ross' (1967) islands

Ross (1967) provides a list of domains that do not allow extraction (e.g., Complex NP, Coordinate Structure Constraint), and this list exceeds the examples of illicit extractions provided by the A-over-A Principle. Ross' work does not provide an account of the extraction patterns, but rather a list of proposed "linguistic universals", i.e., constraints that prohibit extractions from certain domains (Ross, 1967: 158). In principle, it is possible to assume that each speaker possesses a list of separate island conditions in the mental grammar. In this way, Ross' list of island constraints would suffice as explanation of the constraints. However, as Phillips (2013a: 68) writes, there has been broad agreement in the linguistic field that this is unsatisfactory and, subsequently, there have been attempts to build a more general account of islands.

The Subjacency Condition

The *Subjacency Condition*, as introduced by Chomsky (1973), provides an abstract, general account of *why* island extractions are perceived as ungrammatical. The Subjacency Condition constrains how many nodes of certain categories (*bounding nodes*)[4] a moving element can cross on its way to the matrix SpecCP, thus constraining movement in such a way that extraction out of the domains identified as "islands" is excluded. The Subjacency Condition was created to account for the complex NP, relative-clause and *wh*-island constraints. While the A-over-A Principle constrains movement by dictating which nodes rules can apply to in certain structures, the Subjacency Condition restricts *how* movement occurs:

[4] Older accounts of the Subjacency condition use the term "cyclic node" for what has here been termed "bounding node" (Boeckx, 2008: 2).

(11) *Subjacency Condition*: "No rule can move an item from position *Y* to position *X* in the structure:

*...[$_{\beta}$…[$_{\alpha}$...*Y*...]...] …X… where $Y \neq \alpha$ and, α and β are cyclic categories […]"

(Chomsky, 1973: 271)

To explain, a grammatical rule can only move *Y* across one bounding node. The bounding nodes were initially described as a list; NP and S (modern TP). This means that a single filler-gap dependency cannot cross two TPs, a TP and a DP, or two bounding DPs. Instead, long-distance movement that appears to cross more than one bounding node must be broken into a successive series of short movements (Lasnik, 2006: 206). Accordingly *what* in (12) moves in several short steps to avoid crossing more than one bounding node in one and the same move:

(12) [$_{CP1}$ *What* did [$_{TP}$ Luke think [$_{CP2}$ _ that [$_{TP}$ Emma said

Step 3 ← *Step 2* ←

[$_{CP3}$ _ that [$_{TP}$ she no longer wanted to buy _]]?

Step 1 ←

The *wh*-word in (12) moves in a successive-cyclic manner from SpecCP3 to SpecCP2 to SpecCP1, only crossing one bounding node at the time. As such, by dictating which nodes are relevant for movement, the Subjacency Condition indirectly enforces that movement applies in local domains, one domain at a time, i.e., the *wh*-word moves to the closest SpecCP, then, to the next, and so forth. This is called *successive cyclic movement*[5]. If SpecCP is already

[5] Successive cyclic movement illustrates that a sentence is built up of smaller local dependencies, and that movement occurs within one dependency at a time. Within the Subjacency Condition, successive cyclic movement is, as Szabolcsi and Lohndal (2017) point out, used to calculate what kind of movement is allowed. There is cross-linguistic evidence that movement occurs in a successive cyclic manner, and it has been shown that the short steps in an A'-derivation can be overtly marked in certain languages (McCloskey 2000; Lasnik, 2006: 206):

(i) Evidence of quantifier float (in a dialect in the Northwest of Ireland):

a. *What all* did he say (that) he wanted _ ?

b. *What* did he say (that) he wanted _ all?

c. *What* did he say *all* (that) he wanted _ ? *(McCloskey, 2000: 61)*

filled, however, the moved element would be forced to cross more than one bounding node at once in a sentence such as (12), which would result in a Subjacency violation.

The Subjacency Condition correctly rules out violations of the *Wh*-Island and Complex NP constraints.

(13) *a.* *Wh-Islands (embedded questions)*

*[$_{CP}$ *About which topic* did [$_{TP}$ John ask [$_{CP}$ who [$_{TP}$ was talking _]]]]?

(Szabolcsi and Lohndal, 2017: 4)

b. *Complex Noun Phrases:*

b' *[$_{CP}$ *Who* did [$_{TP}$ you speak to [$_{DP}$ the man who [$_{TP}$ kissed _]]]]?

(den Dikken and Lahne, 2013: 660)

b'' *[$_{CP}$ *Which man* did [$_{TP}$ you hear [$_{DP}$ the rumor that my dog bit _]]]?

(Szabolcsi and Lohndal, 2017: 6)

The explanation is as follows: In (13a), in order for the PP *about which topic* to get to the matrix CP it must cross two TPs in one step, which the Subjacency Condition prohibits. Moreover, the PP cannot first move to the embedded SpecCP and then to the matrix SpecCP as the *wh*-word does in (12) above, because the embedded SpecCP is already filled by another *wh*-word (*who*). In (13b') in order to leave the relative clause, the moved element must cross two TPs and one NP, and in (13b''), the moved element must cross one TP and one NP. Neither is allowed by the Subjacency Condition.

The Subjacency Condition provides a general grammatical constraint on how constituents move and are able to form dependencies. However, the Subjacency Condition is seemingly unable to explain why A'-movement out of a sentential subject is bad (Roberts, 1997: 195):

(14) *[$_{CP}$ *Which rock star* was [$_{TP}$ [$_{CP}$ _ that [$_{TP}$ the police would arrest _]] expected]]?

(Roberts, 1997: 195)

McCloskey (2000: 61) argues that *wh*-quantifier float overtly shows that the *wh*-word has moved through all of the local domains that the quantifier can be found in: *all* may mark the intermediate positions posited by the theory of successive-cyclic movement.

It could be argued that non-DP subjects have a DP shell dominating the sentential subject, as it has been proposed that categories occupying SpecTP are always DPs (Davies and Dubinsky, 1998: 7; Roberts, 1997: 195). This would yield the following analysis of sentential subjects:

(15) *[$_{CP}$ *Which rock star* was [$_{TP}$ [$_{DP}$ [$_{CP}$ _ that [$_{TP}$ the police would arrest _]]] expected]]?

Effectively, extraction from a sentential subject will be excluded on the same grounds that the Complex NP Constraint is derived.

The Condition on Extraction Domain (CED)

Huang (1982) identifies a new type of island that is not constrained by the Subjacency Condition; namely the Adjunct Island:

(16) **Who* did Mary cry [$_{XP}$ after John hit _]? *(Huang, 1982: 503)*

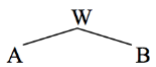
Huang (1982) posites the *Condition on Extraction Domain*s (CED), which unifies the fact that both Subjects and Adjuncts are islands:

(17) *Condition on Extraction Domain:*
A phrase A may be extracted out of a domain B only if B is properly governed[6]

---

[6] For the purpose of this thesis, it will suffice to provide a simplified definition of government as is given in Haegeman (1994: 135):

(ii)



(iii) In a structure (ii) A governs B if and only if:

a. A is a governor; and
b. A c-commands B and B c-commands A

Again, for our purposes it will be enough to define governors as heads, as Haegeman (1994: 135) does. There are, as noted in all accounts of government, more to the notion of government than what is included in the above

(Huang, 1982: 505)

Subjects and adjuncts are not, unlike complements, properly governed. The CED thus states that extraction from a subject or adjunct domain is not allowed. The CED differs from the Subjacency Condition in that it does not rely on specific categories to function as blocking categories, but rather specific configurations (Roberts, 1997: 218). This means that any non-complement configuration, irrespective of its category, is by the CED-definition, an island[7]. The CED was thought to have universal validity. Roberts (1997: 218-219) suggests that the CED drove forth further development of the Subjacency Condition as the Subjacency Condition is unable to account for adjunct island constraints, and that the CED was important in developing the *Barriers* system of Chomsky (1986), discussed below.

The Barriers Framework

In the Barriers Framework, introduced in Chomsky (1986), movement is still subject to Subjacency by prohibiting a moving element from crossing more than one bounding node, but the notion of bounding nodes, however, is refined. Barrier nodes (the bounding nodes' successor) are not defined by their category, but rather in terms of the relations that nodes bear to other heads in a particular structure. The blocking element in the *Barriers* system is a list of defining properties, as opposed to a category:

(18) in the configuration [. . . α . . . [γ . . . β . . .]], γ is a barrier (a) inherently; (b) by inheritance; (c) by the *Minimality Condition*:

(a) γ is a barrier inherently if it is a blocking category (BC)

(b) γ is a barrier by inheritance if the X^{max} it most closely dominates is a BC

---

definition. However, the important intuition that government impart is that of agree relations between nodes, e.g., prepositions govern case. Proper government, is further embedded and is essentially two different types of government: *θ-government*, i.e., a constituent both governs *and* θ-marks the constituent, and *antecedent government* (Haegeman, 1994: 442).

[7] Roberts (1997: 218) illustrates this point with the following sentence pair:

(iv) a. **Who* did you meet John [$_{AP}$ angry at _] ?

b. *Who* did you make John [$_{AP}$ angry at _] ?

in which, arguably, (iv a) is an adjunct (secondary predicate) whereas the grammatical (iv b) is a complement selected by *make*.

(c) γ is a barrier for β if it is the immediate projection (alternatively a projection) of a zero-level category *(Chomsky, 1986: 88)*

γ is a Blocking Category (BC) for β if γ is not theta-marked by a sister lexical head and γ dominates β (Szabolcsi and Lohndal, 2017: 9). Moreover, I' or IP are not inherent barriers (18a), and can only be barriers by inheritance (18b) (Chomsky, 1986: 88).

The following examples of island violations and their explanation serve as good examples of how the barriers framework deals with the problems that have arisen thus far:

(19) *Sentential Subject Constraint*

**Which rock star* was [TP [that the police would arrest _] expected]?

?? *Which rock star* were [TP [admirers of _] arrested]?

(Roberts, 1997: 195)

In (19), the subject is not theta-marked, which makes it a barrier (and a BC) by (18a), which by inheritance makes the dominating TP a barrier as well, causing the moved *wh*-element to cross two barriers, which is not allowed by subjacency.

(20) *Adjunct Island*

?*[CP *Which bottle of wine* was [TP1 Mick annoyed [XP because [TP2 Keith drank _]]]]?

(Roberts, 1997: 221)

In (20), XP is a blocking category (it is not theta-marked and it dominates TP2). Roberts (1997: 221) assumes that adjuncts are adjoined to VP, which causes the dominating TP1 to be a BC by inheritance. As such, the *wh*-element violates subjacency and the sentence is ungrammatical.

Relativized Minimality

Relativized Minimality is an account of island phenomenon that, alongside the A-over-A Principle, rules out certain dependencies on the basis that similar elements interfere with similar elements in a syntactic dependency. Relativized Minimality stipulates that only constituents of the *same type* as the moved element can interfere with the creation of filler-gap-dependencies, for instance, a *wh*-element can interfere with the movement of another *wh*-element, i.e., an A'-specifier will block A'-movement (Roberts, 1997: 232). In (21), "(I)f Z is

a potential governor *of some kind* for Y, it will block only government *of the same kind* from X" (Rizzi, 1990, 2).

(21) [… X_i … [… Z … [… Y_i …]]] *(Roberts, 1997: 237)*

Additionally, as it is stipulated that it is the *closest* constituent that interferes, Relativized Minimality forces movement to occur locally.

(22) *Relativized Minimality Condition*
A constituent X can only be affected (e.g., attracted) by the minimal (i.e., closest) constituent of the relevant type above it (i.e., c-commanding X).
(Radford, 2009: 208)

In relation to island violations, Relativized Minimality bases the account on the *Empty Category Principle* (ECP), which states that all traces must be properly governed in order to be licenced at LF (*Logical Form*) (Roberts, 1997: 199). As such, Relativized Minimality does not prohibit island extraction by constraining *movement*, rather, the Relativized Minimality Condition constrains the formation of filler-gap-dependencies by stipulating that if there is a constituent of the same type this will interfere with government, such that the moved element will not be properly governed. Simplistically, this can be illustrated by the following example:

(23) *[$_{CP}$ *How$_j$* do you wonder [$_{CP}$ *which problem$_i$* [PRO to solve $\__i$ $\__j$]]]
(Rizzi, 1990: 8)

Here, *which problem* occupies an A'-specifier which interferes between *how* and its trace. Therefore, the trace is not properly governed and fronting is not available. Similarly simplified, the following example illustrates the difference between Minimality in *Barriers* and Relativized Minimality:

(24) [$_{CP}$ *How* [$_{C'}$ do [$_{TP}$ you [$_{VP}$ think [_ that [$_{TP}$ Bill solved it _]]]]] *(Rizzi, 1990: 9)*

Here, three heads (T, C and V) and one A-specifier (the subject) intervene between the moved item and its trace. By *Barriers*-minimality, the trace should not be properly governed, but by Relativized Minimality, the trace is properly governed because there are no A'-specifiers that

interfere with antecedent government (Rizzi, 1990: 9). The sentence in (24) grammatical, and accounts of island phenomenon must be able to allow such movement. For problems with Relativized Minimality see e.g., Szabolcsi and Lohndal (2017) and Boeckx (2008).

The Phases Framework

More recently, ideas from Subjacency and *Barriers* have developed into the Phases Framework. *Phases* provides a theory of *why* languages conform to successive cyclicity. Within the Phases framework that developed under the Minimalist framework, successive cyclic movement is rooted in theories of the processing device's capacity to only hold (and manipulate) limited amounts of information at once, and as such the derivation must happen in smaller pieces and in cycles (den Dikken and Lahne, 2013: 675).

The *Phase Impenetrability Condition* (PIC) explains island phenomenon by postulating that a phase is impenetrable for any probe outside the phase, which ensures that only the phase head is open for further derivation (Radford, 2004: 292-293). A few definitions are needed to understand this condition: (1) A phase is considered to be the entire CP – C and its specifier are thus open to further derivations. (2) A probe is a head that looks for a goal to agree with, (3) a goal is a constituent that agrees with a higher probe, and (4) movement is driven by a probe-goal relation. The definition of the PIC is given in (25) below:

(25) *Phase Impenetrability Condition (PIC)*
Any goal in the (c-command) domain of a phase head is impenetrable to a probe outside the phase. *(Radford, 2004: 293).*

Accordingly, in A'-movement, the phase head (the *probe*) will search for the closest A'-constituent. In a simple structure such as (26), where CP is the probe looking for the *wh*-element in DP, movement will be acceptable since the goal (DP) is within the c-command domain of the phase head (CP).

(26) [$_{CP}$ *What* [$_{TP}$ did John see [$_{DP}$ _]]]

In a structure such as (27), the PIC stipulates that CP1 cannot search for the *wh*-element in DP as the highest visible constituent is the SpecCP2.

(27) *[$_{CP1}$ *What*$_j$ did [$_{TP1}$ John see [$_{CP2}$ *how*$_i$ [$_{TP2}$ Mary [fixed [$_{DP}$ _$_j$]] _$_i$]]]]?

If, however, CP2 had been vacant, *what* could have temporarily moved to CP2, and then be visible for the higher CP-probe. Thus, for an element to be able to move out of an embedded clause it must go through the derivations of the phase by first moving up to the specifier of the first phase head, and only then can it be probed by the next phase head:

(28) Phase 1 **Phase 2**
[CP *Where* do you think **[CP _ [that he will go _]]]**

This pattern of movement is thought to be universal – every language functions this way because every human brain is construed in the same way. Sprouse et al. (2016: 338) point out that the phase-based theories will successfully exclude *wh*-islands, but are unable to explain the adjunct, subject or complex NP constraint on filler-gap-dependencies, without postulating extra machinery (e.g., edge-feature, or agreement with little *v*).

2.2.3 Contradictory evidence in English adjunct clauses

The general pattern in English seems to be that adjunct clauses are islands for extraction, in accordance with the CED:

(29) a. ?* *Which bottle of wine* was Mick annoyed [because Keith drank _]?

b. ?* *Which dignitary* did the band leave the stage [without bowing to _]?
(Roberts, 1997: 217)

c. ?**Who* did Mary cry [after Peter hit _]?
(Stepanov, 2007: 80)

The sentences in (29) are examples of adjunct clauses initiated by a complementizer P head (e.g., *because, without, after*), however the adjunct condition also constrains adjunct clauses that are not headed by complementizers:

(30) **Who* did you meet John [angry at _]? *(Roberts, 1997: 218)*

What, then, about examples such as the following, which seem to be acceptable in English – do they contradict the claim that adjunct clauses are islands to extraction?

(31) a. *Which* topic did you leave [without talking about _]?

(Szabolcsi and Lohndal, 2017: 4)

b. *What* did John arrive [whistling _]?

c. *What* did John drive Mary crazy [trying to fix _] ?

(Truswell, 2007: 1356)

(31a-c) are instances of extraction from a gerundival adjunct clause in English. Szabolcsi and Lohndal (2017) argue that (31) does not contradict that adjuncts are islands in English because only DPs are allowed to move out of this domain, and only in non-finite predicates. DP gaps are theorized to leave empty resumptive pronouns as opposed to true "gaps", which PP gaps seem to leave. A resumptive pronoun is a pronoun that occupies the "gap"-position the moved element leaves behind, and, importantly, it agrees with the moved element in number, case and gender. (Szabolcsi and Lohndal, 2017: 5). Resumptive pronouns may salvage strong island extraction in certain situations (see Section 2.3.2.4)[8].

To further complicate the situation, Sprouse et al. (2016: 328) tested extraction from finite adjunct clauses in English in two different dependencies:

(32) a. I saw [DP *the price* [CP which [TP I would be happy [PP if the man won _]]]]

b. [CP *What* do [TP you worry [PP if the lawyer forgets _ at the office]]]?

(Sprouse et al., 2016: 318-319)

They found that extraction from an adjunct island for the purposes of relative clause formation did not trigger island effects[9], whereas filler-gap-dependencies across an adjunct island in a *wh*-dependency did. In their discussion, they argue that such findings are

[8] There is a distinction between strong and weak islands: weak islands are argued to allow some phrases to extract, while strong islands do not allow any phrases to extract from the particular domain (Szabolcsi and Lohndal, 2017: 2). There are, however, some strong islands that allow a subset of phrases to extract. Adjunct-islands, for instance, are strong islands, but may in some cases allow DP-extraction (Szabolcsi and Lohndal, 2017:5). *Wh*-islands, on the other hand, are considered to be weak islands because they are selective, they allow both PP-complements and DP-complements to move out.

[9] That extraction did not cause an "island effect" means that extraction from an adjunct island did not decrease acceptability of the sentence any more than extraction from long-distance dependencies that did not involve an island border did, nor more than the presence of an island structure did, which arguably can decrease acceptability by mere presence (increased strain on processing etc.).

problematic for the CED approach, as it indicates that proper government can vary across dependencies, i.e., adjuncts can be properly governed in *relative-clause*-dependencies and not in *wh*-dependencies. This difference between dependency types is inconsistent with the CED as it is otherwise not assumed that the type of dependency that moves an item out of a phrase interferes with government, i.e., a local relationship between a governing head and a phrase (Sprouse et al., 2016: 334). Accordingly, both cross-linguistic variation *and* structural variation must be accounted for in accounts of island constraints.

Truswell (2007; 2011) argues that there is a systematic pattern for licit adjunct extractions in English, and provides evidence that the licit extractions from gerundival adjunct clauses make up a natural class (2007: 1356). He argues that the examples in (31) are not evidence that adjuncts are not islands, but rather that there must be some explanation for why these particular instances are not ruled out, specifically, he argues that the explanation is semantic in nature:

(33) *"**Extraction from Adjunct Secondary Predicates:***
Extraction of a complement from a secondary predicate is permitted only if the event denoted by the secondary predicate is identified with an event position in the matrix predicate." *(Truswell, 2007: 1359)*

Accordingly, if the event denoted by the secondary predicate, e.g., causation, can be found in the matrix predicate then extraction out of the adjunct clause is possible. The secondary predicate in (31c) denote the *cause* of the matrix predicate; by trying to fix something, John drove Mary crazy. In (31b), the secondary predicate is *depictive*, not causal – John did not arrive *because* he was whistling, but *while* he was whistling[10].

(34) a. **What* did John write a letter [dipping his quill in _]?
b. **What* did John appear [whistling _]?
(Truswell, 2007: 1370, 1372)

[10] This distinction is based on the more general distinction between events denoted by verbs, in which the only event relations that allow extraction are accomplishments and "many achievements", in which predicates modifying accomplishments are interpreted as causatives and predicates modifying "many achievements" are interpreted as depictives (Truswell, 2007: 1367).

(34a) is, according to Truswell (2007), excluded because there is an absence of causal relation between the event in the matrix predicate *write a letter* and the event in the secondary predicate *dipping his quill in what*. In (34b) the event of "appear" is impossible to identify with the event in the secondary predicate because *appear*, unlike *arrive* in (31b), is punctual, i.e., preceding events may be irrelevant to an appearing event (Truswell, 2007: 1370). Truswell's account of adjunct island extractions cannot, however, provide an explanation of Sprouse et al.' (2016) findings that extraction from adjunct islands in *relative-clause-dependencies* did not cause an island effect in English, as Sprouse et al. (2016) tested finite adjunct clauses as opposed to gerundival adjunct clauses.

2.3 A comparative perspective

In general, island phenomena seem to be relatively consistent cross-linguistically, the same pattern for extraction and island inducing structures is found across languages. However, there are important exceptions that pose problems for the accounts explained in the previous section, or which have prompted revision of certain assumptions about universality. The following table provides an overview of some of the cross-linguistic variation that has been discussed:

Table 1. *Cross-linguistic variation on five different island types.*

	WH	Complex NP	Subject	Adjunct	Relative Clause
English	*	*	*	*	*
Italian	-	*	?	*	*
Spanish	-	*	?	*	*
Portugese	-	*	?	*	*
French	?	*	*	*	*
German	*	*	?	*	*
Scandinavian	-	-	-	-	*
Hungarian	?	*	?	*	*

(Sprouse and Hornstein, 2013: 4)

Investigations of cross-linguistic island variation are vital for accounts of island constraints, both in order to determine the universal nature of island phenomenon, but more so, for the accounts to be flexible enough to be able to account for variation.

In this section, I discuss some well-known cases where cross-linguistic variation in island sensitivity has been observed and the potential implications of this variation on universal accounts. I start by discussing the status of island extractions in Italian and then move to island phenomena from Norwegian and the Mainland Scandinavian languages. Since much of the literature not only focuses on, but is based on English examples, the overview will have a comparative focus between languages showing variation and English data to illustrate how the other languages vary from the universal constraints.

2.3.1 Rizzi (1982): Variation in bounding nodes

A problem for the universal validity of the Subjacency Condition is presented by Rizzi (1982). Rizzi (1982: 50) provides evidence that Italian *wh*-islands seem to violate the Subjacency Condition by showing that a relative pronoun can be extracted from an embedded indirect question:

(35) Tuo fratello, [*a cui*$_i$ [$_{TP}$ mi domando [$_{CP}$ *che storie*$_j$ [$_{TP}$ abbiano raccontato [_$_i$ _$_j$]]], era molto preoccupato.
Your brother, to whom I wonder which stories they-have told, was very worried
'Your brother, to whom I wonder which stories they have told, was very worried'.
(Roberts, 1997: 197)

According to the Subjacency Condition, *a cui* should not be able to move to the matrix clause because SpecCP is already filled. Importantly, (35) is an example of *wh*-island extraction from a *tensed* embedded clause, which is a strong island construction and should not allow extraction, this is a pattern that the Subjacency Condition is able to account for in English. For that reason, evidence such as (35) could be argued to prove that Italian does not abide by the Subjacency Condition, and subsequently open for the possibility that the Subjacency Condition is not a universal rule. However, Rizzi provides evidence that Italian obeys other island constraints (Roberts, 1997: 197), for instance the CNPC:

(36) *Tuo fratello, *a cui* temo la possibilità che abbiano raccontato tutto _ .
Your brother, to whom I-fear the possibility that they-have told everything

'Your brother, whom I fear the possibility that they have told everything to'

(Rizzi, 1982: 51-52; Roberts, 1997: 197)

To incorporate the Italian extraction pattern into Universal accounts of island phenomena, Rizzi (1982) proposes that the categories of the bounding nodes vary parametrically cross-linguistically, CP and DP being bounding nodes in Italian. This means that sentence like (35) will conform to the Subjacency Condition, as only one bounding node has been crossed.

Accordingly, evidence of cross-linguistic variation does not necessarily contradict that island constraints are universal, rather investigation of Italian has strengthened the universality claim by showing that Italian also obeys the same constraints. What this evidence does, however, is to force parametric variation in the list of bounding nodes and subsequently open for investigation of other languages in this regard (Roberts, 1997: 198).

2.3.2 Challenges from the "island-less" Mainland Scandinavian languages

Evidence from Mainland Scandinavian (MSc) languages challenge the accounts of English data even more than the Italian data and these languages have occasionally been referred to as "island-less languages" (Sprouse and Hornstein, 2013: 7). Beginning in the 1980s, research on Norwegian and the MSc languages provides suggestive evidence that many of the island constraints in (4) are not universal (see also Table 1). Norwegian seems to allow apparent violations of these constraints (Bermingrud, 1979; Koch Christensen, 1982; Allwood, 1982; Lie, 1982; Taraldsen, 1982; Maling and Zaenen, 1982; Engdahl, 1982):

(37) a. *Embedded question (wh-island)*

Hvilke	*bøker*	spurte	Jon	[hvem	(som)	hadde	skrevet	_]?
Which	books	asked	Jon	who	(that)	had	written	

'Which books did Joh ask who had written?'

b. *Relative clause*

De	*blomstene*	kjenner	jeg	[en	mann	som	selger _]?
These	flowers-DEF	know	I	a	man	that	sells

'These flowers, I know a man who sells'

c. *Complex NP*

Hvilket	*fengsel*	er	det	lite	[håp	(om)	at	man
kommer	helskinnet	fra	_]?					
Which	prison	is	it	little	hope	(about)	that	one
comes	unhurt	from						

'Which prison is there little hope that one comes from unhurt?'

d. *Sentential subject*

De	snakket	om	[*den*	*prøven*	som	Pelle	lurte	på
om	det	at	Kalle	allerede	hadde	lest	*Ø/den]	
ville	ha	en	innvirkning	på	resultatet.			
They	talked	about	that	test-DEF	that	Pelle	wondered	on
about	it	that	Kalle	already	had	read	*Ø/it	
would	have	an	effect	on	result-DEF			

'They talked about the test which Pelle wondered about the fact that Kalle already had read it would have an effect on the results'

(Maling and Zaenen, 1982: 232-236)

e. *Adjunct island*

"Krig og fred"	husker	jeg	ikke	[om	_	har	blitt	
oversatt	til	esperanto].						
"War and Peace"	remember	I	not	if		has	been	
translated	to	Esperanto						

'"War and Peace", I don't remember if has been translated to Esperanto'

(Engdahl, 1982: 167)

What does such evidence mean for the universal principles of islandhood? At first sight, there is greater cross-linguistic variety than the investigation of English and of Italian indicates.

2.3.2.1 Embedded questions

While English seems to consistently obey most of the islands constraints listed in (4), the situation is different in Norwegian. Maling and Zaenen (1982: 232) report that extraction out of embedded questions is permitted in Norwegian, as well as in Swedish, which is illustrated by the following examples:

(38)	a.	*Hvilke bøker*	spurte	Jon	[hvem	(som)	hadde	skrevet	_]?

Which books asked Jon who (that) had written
'Which books did John ask who had written?'

b. *Hvem* vet du ikke [om Jon så _ på kino]?
Who know you not whether Jon saw on cinema
'Who do you not know whether Jon saw at eh movies?'

(Maling and Zaenen, 1982: 232)

Examples like (38) suggest that movement out of a finite *wh*-complement is allowed in Norwegian[11]. English, on the other, does not allow extraction out of a finite *wh*-clause.

Engdahl (1982: 155) argues that one way the Subjacency Condition could account for Scandinavian *wh*-extraction patterns is to "relax the prohibition against doubly filled Comps, thereby letting two *wh*-phrases move into Comp".

(39) Example of a double SpecCP-analysis of (38a) above:
[$_{CP}$ *Hvilke* *bøker*$_j$ [$_{TP}$ spurte John [$_{CPmax}$ _$_j$ [$_{CP}$ *hvem*$_i$ [$_C$ (som) [$_{TP}$ _$_i$ hadde skrevet _$_j$]]]]]]
Which books asked John who (that) had written
'Which books did John ask who had written?'

[11] Åfarli and Eide (2003:264-266) argue that there is a difference between complex *wh*-constituents and simple *wh*-constituents, compare (v a-b) below:

(v) a. [$_{CP}$ *Kven*$_i$ [vil du vite [$_{CP}$ *kva*$_j$ [_$_i$ fekk _$_j$]]]]
Who want you know what got
'Who do you want to know what got?'

b. *[$_{CP}$ Kor *mykje fisk*$_j$ [sa du [$_{CP}$ kva *mann*$_i$ [Ola gav _$_i$ _$_j$]]]]
How much fish said you what man Ola gave
'How much fish did you say what man Ola gave?'

(v a) contrasts with (v b) in that *kven* 'who' is a simple *wh*-constituent and *kva mann* 'which author' is a complex *wh*-element. Åfarli and Eide (2003: 266) argue that simple *wh*-constituents allow extraction because the *wh*-phrase is reanalyzed into a relative pronoun in C (leaving SpecCP open as an "escape hatch").

Now, there is a second "escape-hatch" that *hvilke bøker* 'which books' can use as an intermediate landing site before moving to the matrix CP, thereby adhering to the Subjacency Condition. However, Engdahl (1982: 155) continues by arguing that if there is no limit to the number of SpecCP positions, then the Subjacency-like constraints will not have explanatory power.

2.3.2.2 Complex Noun Phrase Constraint (CNPC)

In English, extraction from Complex Noun phrases is not allowed, which is also accounted for. Engdahl (1982: 161) writes that extraction from Complement Noun phrases is grammatical in Swedish:

(40) [CP [DP *Den tjänsten*] räknade ingen med [DP möjligheten att [TP Svensson skulle söka _]]]
That position-DEF counted no-one with possibility-DEF that Svensson would apply
'That position, no one counted on the possibility that Svensson would apply for'

The same pattern that Engdahl assumes for Swedish seems to hold for Norwegian Complement Noun phrases:

(41) *Hvilket fengsel* er det lite [håp (om) at man kommer helskinnet fra _]?
Which prison is it little hope (about) that one comes unhurt from
'Which prison is there little hope that one gets out from in one piece'?

(Maling and Zaenen, 1982: 234)

2.3.2.3 Relative clauses

Extraction from relative clauses has been investigated more closely than Complement Noun phrases in the MSc languages. Here, again, the pattern deviates from the English data. In English, as illustrated in (42), relative clause extraction is illicit, in fact, relative clauses have been taken as "the prototypical example of a strong island" (Lindahl 2014: 2):

(42) *[CP *Which band* did you write [DP a song [CP which [TP was about _]]]?

(Roberts, 1997: 222)

In Norwegian and the MSc languages, the situation is not as straightforward. Erteschik-Shir (1982: 175) points out that the general pattern in Danish is that relative clauses are islands. There are however, some instances in which relative clause extraction is available in the Scandinavian languages.

(43) a. *Norwegian*

[$_{CP}$ [$_{DP}$ *Rødsprit$_j$*] slipper vi [$_{DP}$ ingen$_i$ inn [$_{CP}$ som _$_j$ har drukket _$_j$]]]

Red spirit let we nobody in that have drunk

'Red spirit, we let nobody in that have drunk' *(Taraldsen, 1982: 206)*

b. *Swedish*

[$_{CP}$ [$_{DP}$ *Bröd$_j$*] är det många$_i$ [$_{CP}$ som _$_i$ behöver äta mer än sex skivor _$_j$ om dagen]]

Bread are there many that need eat more than six slices about day-$_{DEF}$

'Bread, there are many that need to eat more than six slices of a day'

(Engdahl, 1982: 159)

c. *Danish*

[$_{CP}$ [$_{DP}$ *Det $_j$*] har jeg mødt mange$_i$ [$_{CP}$ der _$_i$ har gjort _$_j$]

That have I met many that have done

'That, I have mat many that have done' *(Erteschik-Shir, 1982: 176)*

Engdahl writes that it is normally assumed that relative clauses are more "marked" for extraction than extraction from embedded questions in Scandinavian, as their acceptability can vary depending on the definiteness of the head noun, as well as lexical properties of the verb (1982: 158). There are different proposals of underlying structures of relative clauses in MSc languages that allow extraction (see e.g., Lindahl, 2014).

2.3.2.4 Subject Condition

In English, extraction from a complex subject is not allowed, and the MSc languages seem to pattern like English with regards to the Subject Constraint in non-sentential subjects:

(44) a. **Vilken kung* hänger [många porträtt av _] på Gripsholm ?
Which king hangs many portraits of on Gripsholm?
'Which kings does it hang many portraits of on Gripsholm?'
(Engdahl, 1982: 164)

b. **Marit/kven* meiner han [at mannen til _ burde treffe oss]
Marit/who thinks he that man-DEF to should meet us
'Marit/Who does he think that whose man should meet us?'
(Åfarli and Eide, 2003: 268)

Engdahl (1982) and Maling and Zaenen (1982) provide sentences from Norwegian and Swedish in which extraction from a sentential subject is marked as grammatical. However, Engdahl (1982: 165) emphasizes that the speakers report the sentences to be stilted and tend to repeat the sentences back to her with a different structure.

(45) Dette er *den type oppgave* [som Kalle hevder at om Petter greide å løse *Ø/den] vil vise om han er intelligent.
This is that kind task that Kalle claims that if Petter managed to solve Ø/it will show whether he is intelligent.
'This is the kind of problem that Kalle says that if Pelle succeeds in solving it will show whether he is intelligent.' *(Maling and Zaenen, 1982: 235-236)*

The apparent island violation in (45) is, as the notational marking indicate, only grammatical with a resumptive pronoun present. As seen in (45), and as Szabolcsi and Lohndal (2017: 8) write, a resumptive pronoun may salvage a strong island violation.

From the point of view of the CED, that Scandinavian languages, even if it is only partial, allow extractions from complex subjects is surprising. The CED was thought to have universal distribution, meaning that there should be no languages in which extraction out of either subject or adjunct islands is possible. However, as previously discussed in Section (2.2.3), Truswell (2007) and Sprouse et al. (2016) provide evidence that adjunct island

extraction might be possible in certain environments in English. Furthermore, Stepanov (2007) provides evidence that there are languages in which subject island extraction is possible:

(46) a. *Extraction from subject-clause in Japanese*

[Op [Mary-ga _ yonda no]-ga akirakana yorimo John-wa takusan-no hon-o yonda]

Mary-NOM read that-NOM is-obvious than John-TOP many-GEN book-ACC read.

'(*) *John* read more books than [that Mary read _] is obvious'.

(Stepanov, 2007: 89)

b. *Extraction from subject-clause in Turkish*

[Op$_i$ [Ahmed-in _ git-me-sin]-nin ben-i üz-dü-ˇg-ü] ev.

Ahmed-GEN go-inf-agr-GEN I-ACC sadden-PAST-COMP-AGR house

'*The house* [which [that Ahmed went to _] saddened me].'

(Stepanov, 2007: 90)

Accordingly, the division between extraction from complements and non-complements that the CED postulates seems less natural. Stepanov (2007) argues that evidence such (46) illustrates that the distinction between complements and non-complements must be abandoned. The cross-linguistic evidence forces a theory that is able to exclude subject-islands in some languages but not in all.

2.3.2.5 Adjunct Condition

Adjunct extractions are expected to be illicit in both English and Norwegian on the basis of the universal accounts of islands. Stepanov (2007) argues against a uniform treatment of adjuncts and subjects having found languages that systematically accept subject island extractions. Adjunct islands, on the other hand, are maintained by Stepanov (2007: 92) to be universal island domains. There is substantial empirical support for such a restriction on extraction from adjuncts (Truswell, 2007; Stepanov, 2007; Kush, Lohndal and Sprouse., 2017). However, Truswell (2007), as discussed in Section (2.2.3), has also showed that extraction from English adjunct domains is possible in certain circumstances.

In Norwegian, examples like the following have been used as evidence that extraction from adjunct clauses is possible:

(47) a. *Den saka* ventar vi her [mens de ordnar _].
That case wait we here while they fix
'That case, we wait here while they fix'

b. *Denne bilen* trudde eg du meinte at ho ville bli glad [om eg kjøpte _].
This car thought I you ment that she would be happy if I bought
'This car, I thought you ment that she would be happy if I bought'

c. *Det kravet* er han dum [viss han neglisjerer _].
This demand is he stupid if he neglects
'This demand, he is stupid if he neglects'

d. *Henne* er det lenge [sia eg har sett _].
Her is it long since I have seen
'That woman, it has been long since I have seen'

e. *Det* blir han sint [når eg seier _].
That becomes he angry when I say
'That he becomes angry when I say'

(Faarlund, 1992)

f. *De femti kronene* er det det samme [når jeg får igjen _].
Those fifty kroners is it the same when I get again
'Those fifty kroners, it is the same when I get back'

(Bermingrud, 1979)

g. *"Krig og fred"* husker jeg ikke [når _ kom ut].
"War and Peace" remember I not when came out
'"War and Peace", I do not remember when was published'

h. *"Krig og fred"* husker jeg ikke [om _ har blitt oversatt til esperanto].
"War and Peace" remember I not if has been translated to Esperanto

‘“War and Peace”, I don’t remember if has been translated to Esperanto’

(Engdahl, 1982: 167)

i.	*Montague*	kan	jeg	ikke	huske	[om	_	døde	i
	California].								
	Montague	can	I	not	remember	if		died	in
	California								

‘Montague, I can’t remember if died in California’

(Maling and Zaenen, 1982: 239)

The various examples in (47) illustrate that adjunct extractions can be acceptable with finite predicates in Norwegian as opposed to the examples of licit adjunct island extraction in English. Moreover, extraction is reportedly grammatical from different *types* of adjuncts. However, despite the fact that sentences like those in (47) seem to show that extraction (topicalization) is possible out of a variety of adjuncts, there is substantial disagreement across researchers and articles on the status of extraction from adjuncts[12]. For example, Bermingrud marks (48), the Bokmål equivalent of (47e) as ungrammatical, contrary to Faarlund (1992), who marked it acceptable.

(48)	**Det*	blir	han	sint	[når	jeg	sier _].
	That	becomes	he	mad	when	I	say

‘That, he gets mad when I say’

This is in accordance with Bermingrud’s (1979: 82) findings that temporal adverbial clauses (e.g., introduced by complementizer *når* ‘when’) showed ambiguous extraction patterns. To pile on to this ambiguity, Faarlund (1992)[13] marks the following (49) as ungrammatical, despite having marked (47e) as acceptable. This shows that for him subjects cannot extract from Norwegian adjunct clauses:

(49)	**Ho*	vart	eg	overraska	[når	_	ringde].

[12] For instance, Faarlund, Lie og Vannebo (1997) argue in *Norsk Referansegrammatikk* that subjects can never move out of adjunct clauses, however, Engdahl (1982) and Maling and Zaenen (1982) provide instances (47-g-i) in which the subject has moved out of an adjunct clause.

[13] Faarlund (1992) explicitly states that (49) is his own personal assessment of the acceptability of that adjunct extraction.

She was I surprised when called

'She, I was surprised when called' *(Faarlund, 1992)*

In contrast with Faarlund's (1992) judgements, but in accordance with the judgements provided in (47g-i) above, I, another native Norwegian speaker, find that (49) is not completely ungrammatical, and might even be marginally acceptable.

Furthermore, to me it seems that (49) might actually improve with the complementizer *fordi* 'because'. Particularly, the insertion of a direct object seems to me to improve extraction:

(50) ?*Ho* vart eg overraska [fordi _ ringde meg].
She was I surprised because called me
'She, I was surprised because called me'

Is there a distinction in extraction between the complementizers *fordi* and *når?* That extraction from *fordi* is even marginally accepted in Norwegian is not discussed in any of the literature listed above, which indicates that this might not be an intuition that is shared by many Norwegian speakers. Bermingrud (1979: 83) tested one extraction from a *fordi*-clause and found that 64 of his 70 informants did not accept it:

(51) **Bilen* ble jeg sint på deg [fordi du kjøpte _].
Car-DEF became I mad at you because you bought
'The car, I was mad at you because you bought'

2.3.3 Experimental approaches to Norwegian island phenomena

There are few clear-cut answers regarding the island extraction patterns in the MSc languages. The data upon which the sentences in sections 2.3.2.1-2.3.2.5 and their acceptability markings rely, comes from informal data-collection methods. A different perspective on island phenomena comes from formal acceptability judgement experiments conducted by Kush et al. (2017) and Kush, Lohndal and Sprouse (in preparation). Kush et al. (2017; in preparation), using a (2x2-) factorial design, investigated island extraction patterns in Norwegian in all five island types discussed above; *wh*-island, CNPC-island (i.e., complement noun phrase), relative clause, subject-island and adjunct-island[14].

[14] Another experimental investigation of island effects in the MSc languages is found in Müller (2017).

Kush et al. (2017) found consistently strong subject island effects in all three experiments, indicating that complex subjects are strong islands in Norwegian, and as such, pattern with English in this regard. The same strong island effect was found in Kush et al. (in preparation). Kush et al. (2017; in preparation) found that participants rejected extraction from Complement Noun phrases and from Relative clauses. The effect of extraction was slightly smaller in the topicalization-experiment they did, i.e., participants generally judged CNPC-extraction and Relative clause extraction as more acceptable in a topicalization-dependency.

Kush et al. (2017) found significant interaction effects of extraction from a *wh*-island structure in a *wh*-dependency, i.e., extraction out from a *wh*-island was judged to be less acceptable than from a non-island clause.

(52) *Example of extraction from a wh-island tested by Kush et al. (2017: 10):*

Hvilken	*kake*	lurer	gjesten	på [om	Hanne	bakte _]?
Which	cake	wonders	guest-DEF	on if/whether	Hanne	baked

'Which cake does the guest wonder whether Hanne baked?'

However, the statistically significant island effect is not the whole story. The lowered acceptability that Kush et al. (2017) found for extraction from a *wh*-island was smaller than the effect found in English in Sprouse et al. (2012a) (Kush et al., 2017: 20). This indicates that *wh*-extraction in Norwegian is "less" marked than in English. Furthermore, Kush et al. (2017: 20) write that the majority of the participants rated these items above zero in experiments where positive scores are interpreted to be acceptable. An even smaller effect of extraction was found in Kush et al. (in preparation) where extraction was tested in a topicalization dependency. Andersson (1982: 37) and Erteschik-Shir (1982: 185) imply that extraction with topicalization might be more acceptable because this is a very frequent mechanism in Scandinavian languages.

Regarding adjunct islands, Kush et al. (2017) found, in all three of their experiments, that extraction from adjunct clauses with complementizer *om* 'if' was not accepted by Norwegian speakers in a *wh*-dependency. Given the account of English adjunct islands, this is unsurprising. However, Kush et al. (in preparation) found a strikingly different pattern of extractability for *om* in a topicalization-dependency with context. They found that there was no statistically significant difference between the acceptability of extraction from an adjunct *om* clause compared to extraction from an embedded declarative clause (*at* 'that'). The

findings in Kush et al. (in preparation) suggest that long-distance topicalization-dependencies across adjunct clauses may not be blocked in Norwegian speakers' grammars. Given the accounts of English and their supposed cross-linguistic validity, the findings in Kush et al. (in preparation) are surprising. Moreover, these findings also indicate that adjunct 'if'-clauses in topicalization-dependencies in Norwegian are systematically accepted, which is even more persuasive evidence than informally gathered intuitions about Norwegian adjunct islands as reported in (47).

2.4 Research question

In the current context of research on islands, there are several unanswered questions regarding adjunct islands. Although, Stepanov (2007) argue that adjunct dependencies are islands cross-linguistically, the above discussion made it clear that the (current) status of adjunct island extraction is not straightforward. Sprouse, Fukuda, Ono and Kluender (2011), Sprouse et al. (2012a) and Sprouse et al. (2016) have found a strong adjunct island effect in *wh*-dependencies, but A'-movement out of an adjunct dependency by way of relative clause formation did not cause an adjunct island effect (Sprouse et al., 2016: 327). This shows that there seems to be variation in English adjunct island dependencies, which poses a problem to the claim of universalism.

Kush et al. using experimental acceptability judgements, found a significant island effect for adjunct island extractions in *wh*-dependencies in Norwegian (2017: 18). However, in their second study (Kush et al., in preparation), they did not find a strong island effect in adjunct islands in topicalization-dependencies. This finding is surprising and requires further investigation.

The investigation of Norwegian adjunct islands will provide additional information as to the cross-linguistic status of adjunct islands, which is valuable for comparative studies on language. As seen in section 2.3, comparative study of language is necessary for developing a *comprehensive* theory of islands, one that can account for the constraints governing island extractions in all languages. More to the point, in order for English to be accounted for by a universal theory and not one that is only able to explain the English patterns, comparative data are vital. As such, this thesis seeks to investigate adjunct extractions through formal acceptability judgements to see how Norwegian adjunct extractions align with universal constraints on extraction domains.

Moreover, as discussed above, it is not completely clear how the grammatical accounts of island violations can account for the English adjunct island extractions reported in Sprouse

et al. (2016). The aim of this thesis is to provide more data on adjunct islands in a language that has shown variability in adjunct island extractions so that perhaps some patterns that are not explicitly marked in English can be revealed and thus provide new insight.

Kush et al. (in preparation) only tested conditional *if*-clauses in topicalization-dependencies and have found that participants seem to accept this island violation. What, then, about other adjunct clauses? As the discussion of Norwegian adjunct islands reveals, the status of different complementizers effect on acceptability is unclear. The current thesis will explore what the status of adjunct extractions is in Norwegian, contributing with quantitative data that can accompany examples of adjunct extractions such as (47). The overarching research questions for this thesis can be stated as in (53):

(53) *Main research questions*

a. Are adjunct clauses islands in Norwegian?

b. Is the acceptability of adjunct island violations dependent on the type of complementizer heading the adjunct clause?

As such, this thesis will: (1) test extraction patterns for different adjunct islands headed by different (prepositional) complementizers, to see whether the choice of complementizer influences the acceptability; (2) further investigate the adjunct island effects found in Kush et al. (in preparation), and see whether these results will replicate across new sets of participants; (3) provide further quantitative data on Norwegian extraction patterns; (4) seek to uncover patterns that can provide valuable comparative data for the accounts of adjunct islands in English and across languages.

3 Method

In this thesis, three acceptability judgement experiments have been conducted in order to collect data on the patterns of adjunct island extraction in Norwegian. Five different island types are tested: three adjunct islands – *fordi* 'because', *når* 'when', *om* 'if', and two islands types that are included as baselines for comparison – *whether* and subject. This chapter deals with the method of the acceptability experiments. The chapter is split into two parts where the first part discusses the methodological issues – the theoretical foundation of acceptability judgements and the design of the study. The second part describes and explains the hands-on details of the experiments conducted – materials, procedure, participants and statistical analysis.

3.1 Acceptability judgements and 2x2 factorial design

The design of a study determines what type of data that is collected, how the data are collected and which types of statistical analyses that are relevant. However, before going into detail about *how* the study design is set up to gather and analyze this data, it is important to outline the *type of linguistic data* that is gathered and analyzed in this study.

3.1.1 Acceptability judgements

As Chomsky (1959: 57) puts it: "The grammar must be regarded as a component in the behavior of the speaker and listener which can only be inferred […] from the resulting physical acts". One method to study the grammar can be through spontaneous productions, e.g., a corpus study. However, grammatical knowledge is more than production, as a speaker might have grammatical knowledge without producing, or rarely producing, utterances relying on this knowledge. This implies that a corpus search could yield very few, if any, examples of a target construction, e.g., island violations. In addition, as Henry (2005: 1612) remarks, a structure's absence from a corpus is not indicative of it not being a used structure, it may simply be infrequent, i.e., the speaker might know more than is evident from the corpus. Nevertheless, if any target constructions *are* found, then it is still impossible to fully rule out that these are instances of slips of the tongue etc. (Schütze, 2016: 2).

As is evident, a corpus study might not be able to provide the most appropriate data on a given construction. The question then becomes: How should data-sets of linguistic output be collected for a phenomenon, like island constructions, that does not occur often (if ever) in spontaneous speech? A possible answer is by way of acceptability judgements. Acceptability judgements target the spontaneous judgement of a sentence's general acceptability (Schütze

and Sprouse, 2012: 2-3) and allow us to test constructions that do not (normally) occur in natural speech, i.e., data-collection by observation (Schütze, 2016: 2).

Although it seems that linguistic judgements can be useful, there is still, however, a question of *how* linguistic intuitions should be gathered. Much traditional linguistic research has relied on informal data-collection (e.g., judgements collected from colleagues, informal conversations, friends etc.) and the data-collection method has not been given much attention in published work (Schütze and Sprouse, 2012: 5; Henry, 2005: 1603). As an example, it is not clear what linguistic data Engdahl (1982) is based on; there is mention of a survey, but the design is not elaborated on.

Moreover, the notational markings following sentences in linguistic literature can be as Schütze (2016: 45) points out, quite ambiguous. This poses a problem when comparing data reported by different authors, and in particular, data from different languages and dialects not widely spoken. To exemplify, Schütze (2016: 44) discusses the ambiguous use of question marks "?" in linguistic judgements in which: "One use denotes variable interspeaker ratings, i.e., a sentence that is good for some people, bad for others. The second meaning is that (most) individuals rate the sentence as marginal". Another mark that is used for interspeaker variation is "%", e.g., in Szabolcsi and Lohndal (2017). Roberts (1997: 187-195), in his discussion of island violations, uses four different markings: "*", "?", "??" and "?*":

(54) a. **Which rock star* was [that the police would arrest _] expected?
b. ?*Whose car*$_i$ were you wondering [*how*$_j$ to fix $\__i$ $\__j$]?
c. ??*Which rock star* were [admirers of _] arrested?
d. ?**Whose car*$_i$ were you wondering [*how*$_j$ you should fix $\__i$ $\__i$]?

The difference between (54b) and (54d) is given as "stronger ungrammaticality" in (d) than in (b). It should also be noted that (54b) is also marked as "??" in Roberts (1997: 190). This illustrates the general practice in the field, and it shows that it can be difficult to use and compare data since the notational markings are ambiguous and unclear, and for that reason, seem to be unstable ground to build linguistic research on.

Schütze (2016: 4) argues that linguistic intuitions require new ways of being gathered, as there generally are made no attempts to impose standard experimental control techniques when linguistic intuitions are gathered. Furthermore, Schütze (2016: 4) questions whether data gathered in this way are "at all meaningful or useful to the linguistic enterprise". Formal acceptability judgements, on the other hand, are gathered intuitions about language that

follow the principles of formal research designs. By conducting formal acceptability judgements, it is possible to check whether these judgements hold across several participants[15], to control for effects that might influence judgements, to replicate studies etc.

This, however, does not entail that the findings in Engdahl (1982) are invalid. There is evidence that the choice between formal and informal methods of data-collection in linguistic research may not have a lot of impact on the results when the judgements are relatively robust or clear (Schütze and Sprouse, 2012; Featherston, 2009; Sprouse and Almeida, 2013). However, when there are aspects that are undecided by traditional methods, formal acceptability judgements provide data that go beyond traditional methods, in addition to offer supplementary quantitative data (Sprouse and Almeida, 2013: 227). Moreover, data collected by formal methods are more easily comparable to acceptability judgements gathered in other languages, which, within a universalist approach, can contribute with additional information into the structure being studied.

3.1.1.1 What are acceptability judgements?

In an acceptability judgement task, the participants are asked to provide an assessment of sentences' acceptability. Schütze and Sprouse (2012: 3) argue that the underlying assumption for using acceptability judgements is that acceptability is a spontaneous percept that arise in response to linguistic stimuli. Effectively, acceptability is a perception whose quality can be conveyed in the same way as perceptions of temperature, pain and brightness (Schütze and Sprouse, 2012: 3). Acceptability cannot be measured directly but relies on indirect modes of measurement, for instance by instructing participants to report *perceived* acceptability, temperature etc. on a scale (Schütze and Sprouse, 2012: 3). As such, acceptability judgements require the participant to consciously observe their language perceptions (i.e., metalinguistic awareness) which makes acceptability ratings the result of conscious attitudes to specific types of sentences.

In an acceptability experiment the participants are instructed to read the sentences with a specific mindset, e.g., they may be instructed on what part of the sentence they should focus on, that they should pay attention to *acceptability* and not *prescriptive grammaticality*, and that they should imagine the sentence being spoken in a conversation (invoke the spoken modality) (Schütze and Sprouse, 2012: 12). This is done to lead the participants away from grammatical rules and styles they have been taught in school and formal settings. For

[15] Schütze (2016: 39) emphasizes this point (universal acceptability between speakers), in particular, for why *formal* data-collection methods are necessary.

instance, Faarlund (1992: 95) writes that speakers of Norwegian tend to allow topicalization more freely in spoken language compared to written language.

It is possible to use different tasks to collect the participants' judgements in an acceptability judgement experiment, e.g., numerical tasks or forced-choice tasks. Schütze and Sprouse (2012: 6) argue that although numerical tasks might not provide information about subtle differences, they have the advantage of providing information of the size of the difference. A numerical scale provides participants with a numerical interval typically of 1-7 or 1-5, where the end-points are defined as "unacceptable" and "acceptable"[16]. The advantage of using a 1-7 or 1-5 scale is that the ratings can easily be used with parametric statistics, given that such a scale provide interval-level measurements[17].

By means of giving the researcher more control over how different participants use the scale, anchor items in the test instructions are typically included. An anchor item provides an example of a sentence and the subsequent ratings. This can be done for the high and low point of the scale to establish a ceiling and a floor of the scale (Schütze and Sprouse, 2012: 13). Sentences that represent the mid-point of the scale can also be included to encourage participants to use more than just the end-points of the scale. Another tool is to include fillers of varying degrees of acceptability mixed in among the experimental sentences to urge participants to use the entire scale. Fillers also help camouflage the target sentences by asking for judgement on sentences with a different syntax than the target constructions (Schütze and Sprouse, 2012: 15).

3.1.1.2 Do acceptability judgements tap performance or competence?

Cowart (1997: 6) writes that it has been assumed by many linguistic studies that a participant's encounter with a sentence will yield the same judgement of acceptability every time, and the judgement will also be the same across participants with the same grammar. These studies will expect to find very little variation, e.g., relatively equal distribution between participants. However, Cowart (1997) argues that the processes at work in providing acceptability judgements are the same "flawed" processes that are used in production, and as such, do not directly reflect the speakers' *competence*, but rather – *linguistic performance*. As

[16] A problem facing the interpretation of scale tasks in acceptability judgements is the question of gradience. Why are gradient acceptability judgements reported? – Schütze and Sprouse (2012: 23) list the following as plausible answers to this question: (a) it has to do with the nature of grammar, (b) the nature of processing or (3) the fact that participants are asked to give gradient responses, i.e., the judgements are not naturally gradient. See also Schütze (2016, section 3.3) for a more elaborate discussion of this issue.

[17] See section (3.2.1.4) for further discussion of this issue.

such, there might be variability between speakers of the same language. Schütze (2016: 6) supports this view by pointing to the fact that acceptability judgements are a kind of performance. Effectively, "[t]he grammar that a linguistic theory posits in the head of the speaker does not exercise exhaustive control of judgements […]" (Cowart, 1997: 7).

Put simply, there is a distinction between *acceptability* and *grammaticality.* This does not imply, however, that acceptability judgement data is not useful to linguistic research. However, it means that when using acceptability judgements it is important to look for *systematic judgement patterns.* Also, judgement tests open a window into the contents and processes of the grammar, which are thought to be inaccessible, and thus require indirect approaches to be studied. The process of judging linguistic output as "acceptable or not" is thought to involve the speakers' grammar (Chomsky 1975: 8). Consequently, *grammaticality* is thought to play a crucial role in sentence judgement and is thus partly accessible through judgement tests. In short, acceptability judgements provide valuable knowledge of linguistic intuitions that is not readily available from other kinds of data (Schütze and Sprouse, 2012: 4).

3.1.2 Study design

The present study builds on previous work as one of its aims is to contribute to the growing body of quantitative data on Norwegian island extractions. Acceptability judgements are used in order to collect data about the acceptability, and, as discussed above, the aim is to use this data to probe the grammaticality of island violations in Norwegian.

3.1.2.1 Factorial design

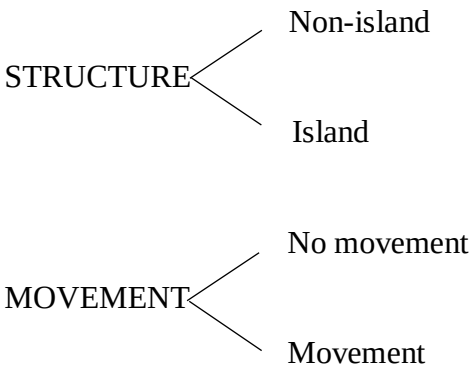
Schütze and Sprouse (2012: 24) argue that the components of judgement data is a classic "black-box" problem as "several different unobservable systems contribute to the observable behavior". A research design aims to impose structure on the variability in the judgements so that observed differences can be given some theoretical interpretation (Cowart, 1997: 41).

Running a comparison between a non-island structure and an island structure is not sufficient to test for an island effect. As previously discussed, an island violation seems to occur when a filler-gap dependency is attempted across a domain that will not allow it. Simply put, an island violation occurs when an island *structure* is present (e.g., clausal adjunct, subject structure, complex NP) and; (2) something (typically a DP) A'-*moves* out of that island dependency. As such, the island effect can be defined as the interaction effect of STRUCTURE and MOVEMENT (Sprouse, 2007: 52), and must be analyzed as a factor analysis which measures the variables that the target effect is comprised of (Field, 2013: 667-

668). In the current thesis, two processes in the "black-box" are tested simultaneously, namely the effect of an island structure (island vs. no-island) and the effect of movement (movement vs. no-movement) to see whether there is an interaction effect between the two main effects.

Accordingly, there are two factors (independent variables) that must be controlled for: STRUCTURE and MOVEMENT[18]. Furthermore, these two factors both have two levels, which can be illustrated by the following example:

(55)



Alternatively:

Table 2. *Overview of the two main effects and their levels within the 2x2 factorial design.*

	– STRUCTURE	+ STRUCTURE
– MOVEMENT	No-movement – No-island	No-movement - Island
+ MOVEMENT	Movement – No-island	Movement - Island

As illustrated in (55) and in Table 2, a 2 x 2 (two-by-two) factorial design will test four conditions in an interaction between two factors. A 2 x 2 factorial design will allow us to control for two factors with two levels each.

All experiments in the current study have a 2 x 2 factorial design, following Sprouse et al. (2011), Sprouse et al. (2012a), Sprouse et al. (2016), Kush et al. (2017) and Kush et al. (in preparation). The design can best be explained by the following example:

[18] Kush et al. (2017) label the second factor as DISTANCE with the levels "long" and "short" as they have used *wh*-movement as the relevant A'-movement. However, the present study, unlike Sprouse et al. (2011), Sprouse et al. (2012a), Sprouse et al.(2016) and Kush et al. (2017), employs "topicalization" as the A'-movement to investigate the acceptability of island extraction.

(56) *Example of a Når 'when'-item translated into English*[19]:

Context sentence: The office manager thinks short coffee breaks are ok…

a. but she dislikes [that the employees take long lunch breaks].
No-movement, no-island

b. but *long lunch* breaks she dislikes [that the employees take _].
Movement, no-island

c. but she gets mad when the employees take long lunch breaks.
No-movement, island

d. but *long lunch* breaks she gets mad [when the employees take _].
Movement, island

(56) above is an example of a test item with four different conditions, each featuring a different combination of the factors STRUCTURE and MOVEMENT. STRUCTURE refers to whether the test sentence contains a second clause that is an island structure (e.g., the adjunct *when*-clause in 56) or not (e.g., the complement clause beginning with 'that'). Thus, for each item there will be two sentences that do not contain an island structure and two that do, i.e., the difference between (56a-b) and (56c-d), respectively. Similarly, MOVEMENT refers to whether the extracted element moves from the second clause (56b, d) or not (56a, c).

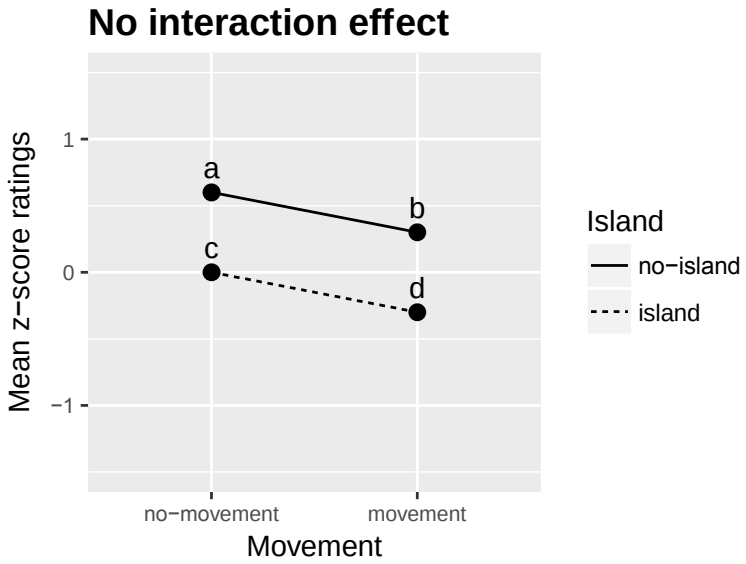
The factorial design permits us to measure the main effects of STRUCTURE and MOVEMENT, as well as the STRUCTURE x MOVEMENT interaction. The main effect of STRUCTURE tells us the average difference between the island conditions and the non-island conditions. The main effect of MOVEMENT yields the average difference between the movement conditions and the non-movement conditions. If there is no island effect, the difference between the conditions within each level should be the same (i.e., the difference between "no-movement, no-island" and "no-movement, island" should be the same as the difference between "movement, no-island" and "movement, island"). As Sprouse (2007) writes, it could be imagined that a clausal adjunct will decrease the acceptability slightly as this might be considered a complex structure (56c). Similarly, extraction out of either

[19] The item in (56) in its original form:

(vi) Kontorsjefen synes korte kaffepauser er ok,... men hun misliker at de ansatte tar lange lunsjpauser.
Kontorsjefen synes korte kaffepauser er ok,... men lange lunsjpauser misliker hun at de ansatte tar.
Kontorsjefen synes korte kaffepauser er ok,... men hun blir sur når de ansatte tar lange lunsjpauser.
Kontorsjefen synes korte kaffepauser er ok,... men lange lunsjpauser blir hun sur når de ansatte tar.

embedded clauses might decrease the acceptability slightly (56b, d). Assuming that there is no island effect, a 2 x 2 factorial design will, plotting the average acceptability of each condition, as below, yield two parallel lines (Sprouse et al., 2012a: 87).

Figure 1. *Interaction plot: no interaction, two main effects (STRUCTURE, MOVEMENT):*

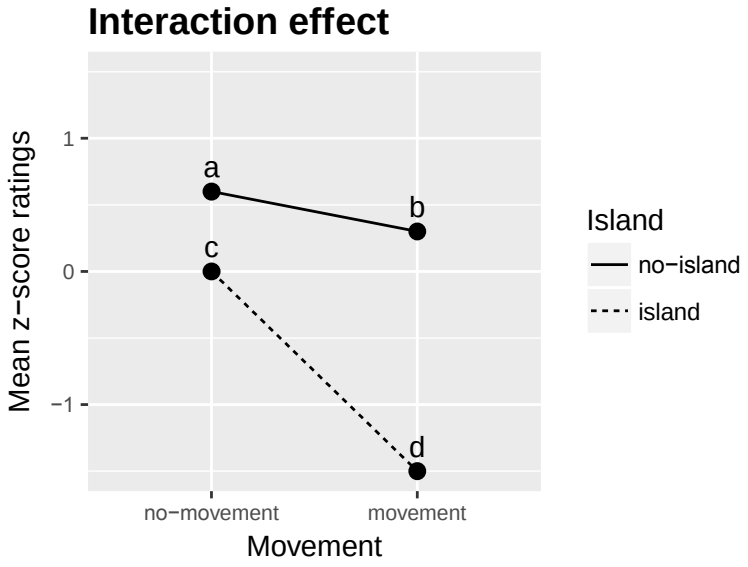


In this hypothetical plot, the main effects STRUCTURE and MOVEMENT decrease the acceptability equally: The baseline condition "no-movement, no-island" (a) yields a score of 0.6, whereas the introduction of an island structure (c, d) evenly decreases the acceptability by 0.3 points. Similarly, movement out of an embedded clause (b, d) decreases acceptability by 0.3 points evenly across the two conditions. The acceptability of the island violation condition "movement, island" can be predicted by adding the main effects of STRUCTURE and MOVEMENT to the acceptability of the "no-movement, no-island" condition[20]. This *linear additivity* means that there is no interaction effect, and therefore no island effect.

However, if there is an interaction, plotting the acceptability will yield nonparallel lines, which Sprouse et al. (2012a: 87) call the *superadditive effect*. In other words, a superadditive interaction causes a greater decrease in acceptability than is predicted by simply adding the main effects to the baseline condition. This super-decrease is argued to constitute the effect of movement out of an island structure (i.e., island effect).

[20] Since the effects of STRUCTURE and MOVEMENT are negative, adding the effects will cause a decrease in acceptability compared to the "baseline-condition".

Figure 2. *Interaction plot: interaction, two main effects (STRUCTURE, MOVEMENT):*



The interaction plot in Figure 2 tells us that there is some unknown variable that decreases the acceptability of the "movement, island" condition (d) by more than would be predicted by simply adding the two main effects to the acceptability of the "no-movement, no-island" baseline. This "unknown" variable can be measured as "the island effect" (Sprouse, 2007: 54). Mathematically, it can be illustrated as follows; "the combined effect of the two costs is greater than the (linear) sum of the individual costs" (Sprouse et al., 2012a: 87):

(57) a. Figure 1

$(a - b) + (a - c) = (a - d)$

$(0.6 - 0.3) + (0.6 - 0.0) = (0.6 - (-0.3))$

$0.9 = 0.9$ *Additive effect*

b. Figure 2

$(a - b) + (a - c) < (a - d)$

$(0.6 - 0.3) + (0.6 - 0.0) = (0.6 - (-1.5))$

$0.5 < 1.5$ *Superadditive effect*

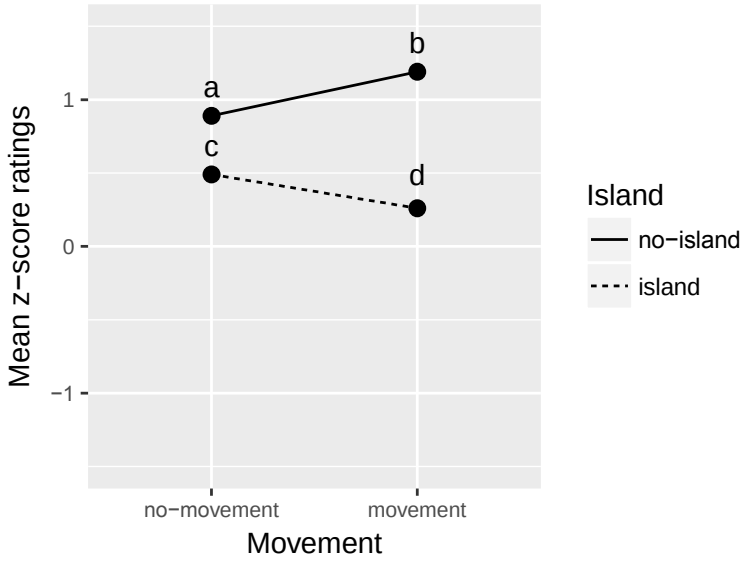
In a factorial definition of an island effect, the island effect is seen in the added 1.0 difference. Importantly, an interaction effect can have many realizations and does not necessarily have to visually resemble the plot in Figure 2.

3.1.2.2 The DD-score – the size of the island effect

The *size* of the interaction effect, i.e., island effect, can be calculated using a Differences-in-Differences score (DD-score) (Angrist and Pischke, 2009). One way of calculating the DD-score is the following: First, the difference between the ratings of the first two conditions, i.e., "movement, no-island" and "movement, island", is calculated. Then, the difference between the remaining two conditions "no-movement, no-island*"* and "no-movement, island" is calculated. Finally, the difference between the movement and the no-movement condition is calculated, i.e., the difference between the difference-scores (Sprouse et al., 2012a: 92).

Figure 3 below is an example of a calculation of an item's DD-score. The numbers below reflect the (real) mean scores for each condition of the example-item in (56) as reported in Experiment 1[21]:

Figure 3. *Interaction plot of the real scores for the når-item ('when') in (56):*



DD-score: (b – d) – (a – c)

(1.19 – 0.26) – (0.89 – 0.49) = 0.53

"Intuitively, the DD-score measures how much greater the effect of an island structure is in a long-distance dependency sentence than in a sentence with a local dependency" (Sprouse et al., 2012a: 92). Importantly, a DD-score can be calculated for each individual participant and

[21] In comparison, the DD-score of the hypothetical example in Figure 1 is 0 ((0.3 – (-0.3)) – (0.6 – 0.0) = 0).

for each island and item[22]. Sprouse et al. point out that another advantage of the DD-score is that it also will subtract any other factors that may affect the acceptability score in these sentences (2016: 314).

3.2 Details of the experiments

This part of the chapter provides as an overview and discussion of the aim, materials, procedure, participants and statistical analyses of the three experiments conducted. I discuss experiment 1 first, before the details of the second experiment, which is divided into two sub-experiments (experiments 2a and 2b), are provided. Experiments 2a and 2b were created to follow up on the findings in experiment 1. Largely, the same method for analysis is employed in all three experiments.

3.2.1 Experiment 1

Experiment 1 had two goals: (1) to test whether extraction from adjunct clauses cause an island effect, and (2) to test whether different adjunct types exhibit different island effects. In experiment 1, topicalization from five different island conditions was tested: *fordi* 'because', *når* 'when', *om* 'if', subject and *whether*. The investigated adjunct clauses are introduced by the complementizers *om, når* and *fordi.* All three complementizers can be classified as conditionals (cf. Bhatt and Pancheva 2006: 654), and importantly, this is the reading available from the test-items.

The motivation for using topicalization as A'-movement in this experiment was to further investigate the adjunct island pattern reported in Kush et al. (in preparation). Furthermore, topicalization-dependencies provide an interesting comparison with Kush et al.'s (2017) results from extractions involving *wh*-dependencies. Since both dependency types are cases of A'-movement it is expected that they will behave similarly, however, Kush et al. (in preparation) found a difference in acceptability between the dependency types. Moreover, testing different dependency types is also motivated by Sprouse et al.'s (2016) results where they found differences between *wh*-dependencies and *relative-clause*-dependencies for English adjunct *if*-islands.

Items testing *whether* and subject island violations were included as baselines for comparison with the adjunct islands tested, as both island types have provided stable results in

[22] Processing accounts predict a difference in the DD-score between subjects (inter-subjectively) as working memory capacity has been reported to vary between people (Sprouse et al., 2012a: 93). Grammatical approaches do not predict much variation between subjects.

experiments so far. The *whether*-island has showed a very small island effect in topicalization-dependencies (Kush et al., in preparation), and does as such, provide as a baseline for island violations that receive high acceptability ratings. The subject island, on the other hand, has repeatedly showed a large island effect (Kush et al., 2017; in preparation), and provides as a baseline for what is assumed to be a strong island in Norwegian.

3.2.1.1 Materials for experiment 1

Materials for the first experiment included the same exact item sets that were used in Kush et al. (in preparation) for the subject, *whether* and *om* 'if' islands. In addition, two new item sets for the novel adjunct islands with complementizers *fordi* 'because' and *når* 'when' were included. In total, there were 40 items in experiment 1; 8 items created for each of the new island types, and 8 items per island type adopted from Kush et al. (in preparation) for the subject, *whether* and 'if' islands.

The way the test items were created is closely connected to the 2x2 factorial design of the study. As illustrated below, the test items consist of four different realizations of the two main effects STRUCTURE and MOVEMENT. Furthermore, the reliance on the interaction effect to identify whether there is an island effect, rests on the assumption that other independent variables are also controlled for by the factorial design in order to be able to assign the "unknown" variable to the effect of islandhood[23]. If the effect of context, for instance, is kept constant across all four conditions then this will affect all four plots evenly. The same goes for any other imaginable effect. As such, the factorial design forces the four conditions in an item to be as similar as possible (Cowart, 1997: 47). Therefore, keeping the sentences as similar as possible gives the 2x2 factorial design power to control for variables that are not directly relevant to the interaction effect (Cowart, 1997: 48).

What follows is a list of examples of test items, one for each of the island types tested. However, first, it should be explained that each test sentence is preceded by a context sentence that provides contextual motivation for the topicalization tested. A context sentence was included in the current experiments in order to further investigate the surprising results

[23] Cowart (1997: 8) argues that as acceptability judgements do not offer a direct path to the speaker's linguistic competence, it is important that the experimental design controls for the different possible explanations of the behaviour, e.g., other components of the cognitive system (limitations to working memory, processing devices) or interactions between the grammar and those other components. Given that the movement manipulation allows isolation of the effect of dependencies independent of structure, and the structure manipulation isolates the effect of structural complexity, the 2 x 2 factorial design does exactly this.

Kush et al. (in preparation) found in their experiment with topicalization-dependencies with context. In the items, topicalization is motivated by a contrast between the predicate in the context sentence and the predicate in the test sentence. In the following item set (58) testing *fordi* 'because', topicalization is motivated by the contrast between "not pleased with the summer temperatures" and "likes the winter-temperatures". This contrast allows for the emphasis on the *winter* temperatures that topicalization provides, i.e., by moving to the matrix SpecCP *winter* actualizes the contrast between winter and summer (Faarlund, 1992:90).

(58) ***Fordi* 'because' item:**

Context sentence:

Mette er ikke fornøyd med sommertemperaturene i Nord-Norge,…

Mette is not satisfied with summer-temperatures-DEF in North Norway,…

'Mette is not happy with the summer temperatures in Northern-Norway,…'

Test sentences:

a. men hun sier at hun liker vintertemperaturene.
but she says that she likes winter-temperatures-DEF.
'but she says that she likes the winter temperatures'.

b. men [*vintertemperaturene*] sier hun at hun liker _ .
but winter-temperatures-DEF says she that she likes
'but the winter temperatures she says that she likes'.

c. men hun blir boende fordi hun liker vintertemperaturene.
But she becomes living because she likes winter-temperatures-DEF.
'but she stays there because she likes the winter temperatures'.

d. men [*vintertemperaturene*] blir hun boende fordi hun liker _ .
but winter-temperatures-DEF becomes she living because

she likes

'but the winter temperatures she stays there because she likes'.

Below is an example of a *når* 'when' item.

(59) ***Når* 'when' item:**
Context sentence:

John føler seg i god form når han drikker øl,…
John feels himself in good shape when he drinks beer,…
'John feels fine when he is drinking beer,…'

Test sentences:

a. men han blir ofte dårlig av å drikke whisky.
but he becomes often bad of to drink whisky.
'but he often feels bad from drinking whisky'.

b. men [*whisky*] blir han ofte dårlig av å drikke _ .
but whisky becomes he often bad of to drink
'but whisky he often feels bad from drinking'.

c. men han blir dårlig når han drikker whisky.
but he becomes bad when he drinks whisky.
'but he feels bad when he drinks whisky'.

d. men [*whisky*] blir han dårlig når han drikker _ .
but whisky becomes he bad when he drinks
'but whisky he feels bad when he drinks'.

(60) below is an example of an *om* 'if' item adopted from Kush et al. (in preparation).

(60) **Om 'if' item:**
Context sentence:

Moren var glad for at brudeparet husket å sende ut invitasjoner i tide, …
Mother-DEF was glad for that bridal-couple-DEF remembered to send out invitations in time,…
'The mother was happy that the bride and groom remembered to send out the invitations in time,…'

Test sentences:

a. men hun forventer at de kommer til å glemme å sende ut takkekortene med en gang.
but she expects that they come to to forget to send out thank-you-notes-DEF with one time.
'but she expects that they will forget to send out the thank you notes right away'.

b. men [*takkekortene*] forventer hun at de kommer til å glemme å sende ut _ med en gang.
but thank-you-notes-DEF expects she that they come to to forget to send out with one time
'but the thank you notes expects she that they will forget to send out right away'.

c. men hun blir skuffet om de glemmer å sende ut takkekortene med en gang.
but she becomes disappointed if they forget to send out thank-you-notes-DEF with one time.
'but she will be disappointed if they forget to send out the thank you notes right away'.

d. men [*takkekortene*] blir hun skuffet om de glemmer å sende ut _ med en gang.
but thank-you-notes-DEF becomes she disappointed if they forget to send out with one time.
'but the thank you notes she will be disappointed if they forget to send out right away'.

Below is an example of a *whether*-item adopted from Kush et al. (in preparation).

(61) ***Whether* item:**

Context sentence:

Servitøren antok at Christina ville nekte å drikke Farris,…
Waiter-DEF assumed that Christina would refuse to drink Farris,…
'The waiter assumed that Christina would refuse to drink Farris,…'

Test sentences:

a. men han trodde at hun ville drikke Bris i stedet.
but he thought that she would drink Bris instead.
'but he thought that she would drink Bris instead'.

b. men [*Bris*] trodde han at hun ville drikke _ i stedet.
but Bris thought he that she would drink instead.
'but Bris he thought that she would drink instead'.

c. men han lurte på om hun ville drikke Bris i stedet.
but he wondered on if she would drink Bris instead.
'but he wondered whether she would drink Bris instead'.

d. men [*Bris*] lurte han på om hun ville drikke _

i stedet.

but Bris wondered he on if she would drink instead.

'but Bris he wondered whether she would drink instead'.

It is important to note that some of the verbs that take *whether* in Norwegian differ from verbs selecting *whether* in English: some of the Norwegian VP constructions take a preposition as in (61c) [VP[PP[CP]]] as opposed to in English where the verb takes the CP directly (Kush et al., 2017: 10; Faarlund et al., 1997: 697). This is a variable that the factorial design is unable to control for as it is not evenly distributed across all four conditions. Effectively, the DD-score will be "the sum of the effect of extraction from the embedded whether-question and the effect of extraction from a prepositional phrase" (Kush et al., 2017: 10). However, Norwegian is a language that allows preposition-stranding, and additionally, a language that allows long-distance movement out of a [VP[PP]]-constituent. Therefore, it is not likely that extraction from a PP will cause a large decrease in acceptability as this is an extraction pattern that is generally productive in Norwegian:

(62) a. [*Hvem*] snakket regissøren med _ ?

Who spoke director-DEF with

'Who did the director speak with?'

b. [*Hva*] insisterte John [på [at mannen måtte lese _]]?

What insisted John on that man-DEF must read

'What did John insist that the man must read.'

(Kush et al., 2017: 10)

An example of a subject-island-item adopted from Kush et al. (in preparation) is given in (63).

(63) **Example of a Subject-item:**

Context sentence:

Vitenskapsmannen tror ikke at den gamle behandlingen er god,…

Scientist-DEF think not that the old-DEF treatment-DEF is good,…

‘The scientist does not think that the old treatment is good,…’

Test sentences:

a. men han synes den nye behandlingen fortjener Nobelprisen.
but he thinks the new-DEF treatment-DEF deserves Nobel prize-DEF.
‘but he thinks the new treatment deserves the Nobel prize’.

b. men [*den nye behandlingen*] synes han _ fortjener Nobelprisen.
but the new-DEF treatment-DEF thinks he deserves Nobel prize-DEF.
‘but the new treatment thinks he deserves the Nobel prize’.

c. men han synes den nye behandlingen mot kreft fortjener Nobelprisen[24].
but he thinks the new-DEF treatment-DEF against cancer deserves Nobel prize-DEF.
‘but he thinks the new treatment against cancer deserves the Nobel prize’.

d. men [*kreft*] synes han den nye behandlingen mot _ fortjener Nobelprisen.
but cancer thinks he the new-DEF treatment-DEF against deserves Nobel prize-DEF.
‘but cancer he thinks the new treatment against deserves the Nobel prize’.

In the subject-items, there is variation between the two levels of STRUCTURE: in the “no-island”-conditions the whole subject moves to SpecCP of the test sentence, but in the

[24] In experiment 1, this item was tested with a definite form of *kreft* “cancer”, however, this was changed to an indefinite form in experiments 2a and 2b in order for the sentence to be closer to standard Norwegian. In experiment 2a and 2b, the “no-movement, island”-condition in this item received (on average) slightly higher acceptability ratings compared to the same condition in experiment 1.

"island"-conditions a DP is extracted from *within* the subject, typically from a [DP[PP[DP]]] structure. This means that the subject-islands tested are not *Sentential Subjects*, but rather *Complex Subjects*, which are also considered to be islands to extraction. The subject-island-items are created such that in the "island"-conditions a [PP[DP]] is added to the subject of the "no-island"-conditions, to keep as much of the structure similar across conditions.

As is illustrated in the examples (58 – 63) above, when constructing the items it was emphasized that the sentences were kept as similar as possible across conditions, which means that within an item it is: (1) a [DP] or a [DP[PP]] that is topicalized from the embedded clause to the matrix clause; (2) the moving constituent is the complement of the same verb in each condition; and (3) the context sentence is the same[25]. Because the different levels of STRUCTURE require two different embedded clause types, there could be minor differences between the two variables. The matrix verb is sometimes different between the two levels (e.g. *mener* 'thinks/believes' vs. *var skuffet* 'was disappointed'). The embedded verb is (as far as possible) kept identical across all four conditions to assure that the VP from which the DP is extracted has the same properties across conditions.

As is stressed in Hofmeister, Staum Casasanto and Sag (2012: 391), there is a chance that acceptability may decrease due to misparsing, and not because of a grammatical constraint (e.g., crossing two bounding nodes). Hofmeister et al. (2012: 391) theorize that the parser will expect the first encountered DP in the sentence to be the subject of the matrix verb, then, when the reader encounters the second DP, following the VP, they will have to reanalyze the sentence which will cause a decrease in acceptability. This reanalysis will guide the reader to interpret the first DP as the object of the matrix VP. Experimentally, this possibility can be excluded by only using intransitive VPs. In (64), *spillekvelder* 'game nights' cannot be interpreted as the object to the VP as it is impossible to "become a game night".

(64)	men	[*spillekvelder*]	blir	han	glad	når	de	arrangerer	_ .
	but	game-nights	becomes	he	happy	when	they	arrange	

[25] Crucially, the A'-moved constituent moves from a tensed embedded clause in all conditions in all five island types tested, as tense has been shown to influence island sensitivity, e.g., tensed VPs tend to strengthen islands (Szabolcsi and Lohndal. 2017: 10). Similarly, none of the embedded clauses were negated, i.e., contained the negative adverb *ikke* 'not', as negatives have been found to block extraction (Szabolcsi and Lohndal, 2017: 27, 36).

'but game nights he is happy when they arrange'

The unavailability of analyzing the first DP as the object of *bli* 'become', will encourage the reader to move on to the next two possible hypotheses: (a) the sentence is bad; *or* (b) the DP belongs further down, i.e., the sentence might be analyzed as acceptable. As there are two movement conditions in which misanalysis might happen this will be controlled for by the 2x2 factorial design, i.e., the reanalysis cost is held constant. Moreover, this scenario also illustrates why it is important to avoid verbs that can have parasitic gaps associated with them as this will allow an analysis such as the following:

(65) This is the kind of *food* you have to cook _ before you eat _ .

(Engdahl, 1983: 5)

It is also important to consider the content of the test items. Hofmeiser et al. (2012: 396) argue that pragmatically odd content can act as "hindrances to processing", under which they classify the use of a referential NP without any antecedent, an utterance context that is difficult to imagine and misparsing of the matrix verb to be pragmatically odd. However, as explained above, this effect would be equal across all four conditions and will consequently not over- or underestimate the DD-score. At the same time, the sentences' context and pragmatic content were considered when the items were constructed in order to get ratings that were representative of the conditions tested. More to the point, the items were constructed to control for as many of these added effects as possible in order for the superadditivity and received ratings to only be attributable to the effect of an island violation.

Filler items

The fillers used in the experiment were originally created for Kush et al. (in preparation). The filler sentences included in the experiment were acceptable and unacceptable declaratives and followed the same pattern as the test sentences with a context sentence and a following sentence that the participants were supposed to rate. The bad fillers contained a varying degree of violations, ranging from pragmatically odd context and subtle syntactic mistakes to word order mistakes (e.g., wrong placement of indirect object or temporal adverbial clauses) and morpho-syntactic mismatches (e.g., missing definite article, mismatch between reflexive pronoun and binding antecedent). The fillers varied in complexity and degree of "unacceptability" in order to encourage participants to make use of the full range of the scale.

The fillers and the test sentences were distributed pseudo-randomly, such that no test sentence occurred next to another test sentence. Additionally, four fillers that included *local topicalization*, i.e., an element within the main clause was topicalized, were included. This was included to avoid that participants would begin to anticipate movement from the embedded clause, i.e., detect the type of structure that was tested.

3.2.1.2 Participants

In experiment 1, there were 109 participants, out of which four were excluded for having reported a different "mother-tongue" than Norwegian, leaving 105 Norwegian speakers (mean age: 43.5, female: 66). The participants were exclusively recruited through public posts on Facebook.

The participants were asked to provide their age, gender, first language, dialect/region, the first languages of their parents, dominant language during childhood, highest level of completed education and whether they had studied linguistics for more than one semester.

3.2.1.3 Procedure

The experiment was hosted on IbexFarm (Drummond, 2012)[26].

At the start of the survey, the participants read instructions about the task. Participants were told that they would read one item at a time and that each item was composed of two sentences – the first sentence given in italics would serve as the "context"-sentence and the second as the test sentence. Participants were instructed to rate the test sentences between 1-7 and they were told to give sentences they perceived as unacceptable and "not possible in Norwegian" a low score, sentences they perceived as "acceptable" and "possible in Norwegian" a high score; and "not completely unacceptable, nor acceptable" sentences a "medium" score. The participants were also instructed to imagine that the sentences were uttered in an every-day conversation (*muntlig samtale* 'spoken conversation'), in addition to being explicitly asked to avoid judging the sentences based on grammatical rules they were taught in school (*grammatiske regler du har lært på skolen*).

In experiment 1, 8 items for each island type (5 island types) were tested, giving a total of 40 items (8 x 5). For each item, there were 4 conditions, which gives a total of 80 sentences

[26] IP-addresses were not collected, instead a corrupted (and thus unidentifiable) number-string was generated on the basis of the IP-address and other information (e.g., the time of day a participant completed the experiment). Importantly, this number-string cannot reliably be decrypted to identify the IP-addresses.

(40 x 4). In order to avoid that participants could detect which items were the experimental items, the sentences were distributed into four separate lists using a Latin Square Design, where each list contains only one condition from every item (Stowe and Kaan, 2006: 49). Since there were 8 items for each island type, participants saw two tokens for each condition, yielding a total of 40 test sentences in each of the four lists.

The experiment was roughly balanced for acceptable and unacceptable sentences (1:1 ratio), and balanced with regards to the type of island tested. Each island was tested an equal amount of times, and each condition was tested an equal amount of times. A balanced design controls for effects of learning, repetition effects and as pointed out by Schütze (2016: 181) priming of "acceptable" or "unacceptable" sentences[27]. Additionally Sprouse (2007: 117) has found that balanced designs provide stable acceptability judgements. In experiment 1, the filler sentences were roughly 3:1 (unacceptable:acceptable), and the test sentences 1:3 (unacceptable:acceptable), where island-violation sentences were treated as unacceptable.

3.2.1.4 Analysis

The main portion of the data analysis was carried out following Kush et al. (in preparation), Kush et al. (2017), Sprouse et al. (2011), Sprouse et al. (2012a) and Sprouse et al. (2016). This method of data analysis involves (in summation) transforming the raw ratings into z-scores, calculating the *difference-in-difference score* (DD-score) for each participant within each island type and performing a linear mixed effects model (equivalent to a repeated measures two-way ANOVA) to check the significance level of the island effect. What follows is a discussion and explanation of each step in the analysis, with the exception of the DD-score which is explained in section (3.1.2.2).

First, however, it is important to make a comment on the level of measurement of the collected data. The participants were asked to rate the sentences on a 7-point scale. It could be argued that a 7-point scale will produce scaled *ordinal* ratings as opposed to scaled *interval* ratings, as it could be argued that the interval between 1 and 2 might not be the same as between 5 and 6 (Sprouse, 2007: 42; Field, 2013: 9). However, this study will, following much previous research on the same topic treat the scores at an interval level of measurement

[27] The design was also balanced to control for syntactic satiation, a process in which acceptability judgements of violations improve with repetition (Sprouse, 2007: 81). This is problematic for acceptability judgements, however, Sprouse (2007: 117) offers evidence that acceptability judgements in a balanced design with scaled judgements provide stable ratings throughout the experiment, i.e., there is no significant effect of satiation.

(Kush et al., 2017; in preparation; Sprouse et al., 2011; Sprouse et al., 2012a; Sprouse et al., 2016).

Z-score transformation

Every participants' raw scores were z-score transformed prior to analysis to avoid scale biases (Sprouse et al., 2012a: 96), i.e., different participants may use the 1-7-scale differently, for instance by being prone to only use the extremes of the scale. Z-scores are normally distributed with a mean of 0 and a standard deviation of 1. In other words, to avoid scale biases, the raw scores are transformed to denote how many standard deviations from a participant's mean score a given judgement is, e.g., a z-score rating of 1.13 is 1.13 standard deviations from the participant's mean. A positive value lies above the participant's mean, and a negative value below. As this is a balanced design, a positive score would indicate, at least generally, that it is an acceptable sentence, whereas a negative score would indicate unacceptability. One criticism against z-score transformations on numeric ratings is the argument that numeric ratings are ordinal, not continuous. However, if the decision to run parametric tests has already been made, then the response data is already treated as continuous (and interval) and there can only be benefits of z-score transforming the data (Schütze and Sprouse, 2012: 19-20). An added advantage, is that z-score transformations also make the response variable continuous.

Linear mixed effects models

The main analysis was conducted using linear mixed effects models model (which roughly corresponds to a repeated measures two-way ANOVA) using the lme4 (Bates, Maechler, Bolker and Walker, 2015) and lmerTest (Kuznetsova, Brockhoff and Christensen, 2017) packages in R (R Core Team, 2017), following the procedure in Kush et al. (in preparation). A linear mixed effects model is a linear model that tests the differences between several means (Field, Miles and Field, 2012: 550), and there are fixed factors (repeated measures) and random factors (not repeated) (Baayen, 2008: 263-264). In the current study, the two fixed factors are STRUCTURE and MOVEMENT, with the levels "no-island" / "island" and "no-movement" / "movement", respectively. The subjects and the items enter the models as random factors as they are randomly sampled, subjects are pseudo-randomly sampled from the various platforms they were recruited from, and the items are randomized, first in the Latin Square, then randomized within each list. Unlike an ANOVA, a linear mixed effects model allow the two random effects to be controlled for simultaneously.

In the analysis, separate models for each island type with STRUCTURE, DISTANCE and STRUCTURE x DISTANCE as the fixed effects were constructed. The models also included random intercepts for subject and items and by-subject random slopes for all fixed effects and their interaction. In the few cases when a model did not converge, the random effects structure was simplified. The Satterthwaite approximation was used to calculate p-values in the lmerTest package**.** All plots were constructed by use of ggplot2 (Wickham, 2009).

3.2.2 Experiments 2a and 2b

A second experiment was created in order to further investigate variability in adjunct extraction patterns found in experiment 1. The second experiment was expanded such that each complementizer was represented with 20 items, as opposed to 8 items per island type in experiment 1 and in Kush et al. (in preparation). This experiment is better suited to investigate variability as extending the number of test-items will provide more observations per participant for each island type, and potentially contribute to finding systematic differences *between* participants and/or *within* participants.

In order to limit the strain on participants and to keep the experiment execution time as brief as possible, the second experiment was split into two sub-experiments – experiments 2a and 2b. Both sub-experiments included the subject-island, *whether*-island and *om*, in experiment 2a *fordi* was included, and similarly, *når* was added to experiment 2b.

3.2.2.1 Materials – experiments 2a and 2b

In experiment 2a, 20 *fordi* 'because' items, 20 *om* 'if' items, 16 subject items and 8 *whether* items were tested. As the aim was to investigate variability within adjunct islands, the largest number of items was included for these island types. Fewer items were included for the baseline island types[28]. There were created 13 new items for 'because' (excluding item 5 from experiment 1)[29], 14 new items for 'if' (excluding items 33 and 35 from experiment 1) and 8 new items for the subject-island. The new items were equivalent to the previously given example-items above. The rest of the test sentences were the exact same as in experiment 1.

[28] The relatively large number of subject-items was included to control for satiation.

[29] All items from experiment 1, independent of island type, that were excluded in experiment 2a and 2b were excluded because the conditions that are considered to be acceptable (e.g., "movement, no-island") received poor z-scores. This indicates that there are other factors in the test item that may be conditioning the acceptability and which are not controlled for in the experiment, e.g., participants did not accept topicalization in that particular context.

In experiment 2b, the item sets were the same as in 2a, except 20 *når* 'when' items were tested as opposed to 20 *fordi* items. 14 of the *når* items were new and created for experiment 2b (excluding items 11 and 13 from experiment 1). In both experiments each of the adjunct islands were represented with five tokens of each condition in each list, subject with four, and *whether* with two tokens. Accordingly, 64 items were tested in both experiments 2a and 2b.

3.2.2.2 Participants – experiments 2a and 2b

In experiment 2a, there were 32 participants, three were excluded for having failed to report Norwegian as their mother tongue, leaving 29 participants (mean age: 24.7, female: 20). In experiment 2b, after excluding one participant for having reported another language than Norwegian as their mother tongue, there were 37 participants (mean age: 25.9, female: 27).

For experiments 2a and 2b, participants were recruited through: (1) public posts on Facebook; (2) visits to lectures at the Norwegian University of Science and Technology (NTNU); (3) public posts on Blackboard (educational platform used at NTNU). The same procedure as described for experiment 1 was followed for experiments 2a and 2b.

3.2.2.3 Analysis

The same exact statistical analyses were conducted to analyze the data for experiments 2a and 2b as described for experiment 1 in section (3.2.1.4).

4 Results

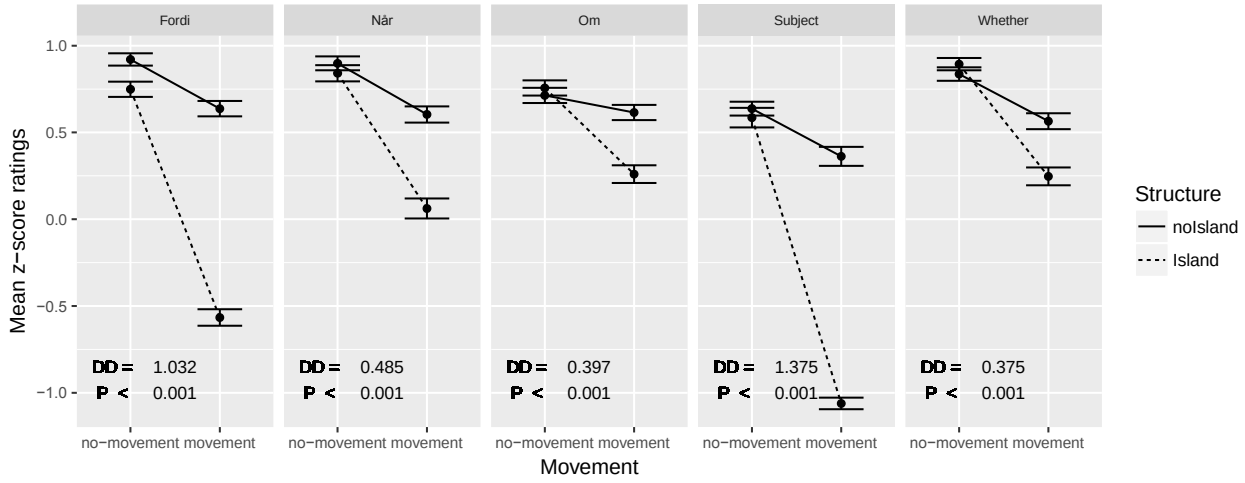
This chapter presents results from the three acceptability judgment experiments. The first experiment expanded on Kush et al. (in preparation), testing two new adjunct island constructions with a large sample size. The second and third experiments (experiments 2a and 2b) followed up on experiment 1, in order to investigate variation at the participant-level. Results from experiment 1 is presented first, followed by the results from experiments 2a and 2b.

4.1 Experiment 1

The mean z-scores of the fillers can provide an interpretative context for the results; the bad fillers received a mean z-score of -0.838, the good fillers received a mean z-score of 0.629. The z-score rating of the bad fillers provides a baseline for the lower end of the z-score scale, whereas the good fillers provide a baseline of how participants use the higher end of the scale. The experiment is designed such that positive z-scores (generally) reflect acceptable sentences, and negative z-scores unacceptable sentences.

Figure 4 provides an overview of experiment 1 and all the island types tested (by columns), with the mean z-scores for each condition within each island type. All island types show a statistically significant super-additive interaction at the $p < 0.001$-level. This means that all the island types tested show an *island effect*, which, in practice, means that the fourth condition "movement, island" received a mean z-score that was lower than the sum of MOVEMENT+STRUCTURE would predict. The *size* of the effect of this super-additive interaction is illustrated by the DD-score.

Figure 4. *Average z-scored ratings by item and condition from experiment 1. Error bars show the standard error (SE) of the mean.*



For the subject and *whether* island, the general findings from Kush et al. (2017; in preparation) are replicated. The subject island effect is large with a DD-score above 1, whereas the *whether* island effect is smaller with a DD-score below 0.4. Accordingly, they provide good baselines for comparison with the adjunct islands.

Figure 4 shows that the average z-score ratings are quite different for the island-violating condition in each of the three adjunct islands. The average z-scores illustrate that extraction from *om* 'if' and *når* 'when' is accepted (at least to some degree), and they especially seem acceptable when compared to the subject-island baseline which received very low mean ratings. Instead, the mean rating for *om* is very close to the mean rating for the *whether*-island, which indicates that extraction from *om* seems relatively acceptable. The average z-score for the island-violating condition in *fordi,* on the other hand, is well below zero, which indicates that extraction from *fordi* is not accepted. The mean rating for *fordi* is still well above the mean rating for the subject island, which indicates that extraction from *fordi* is not as degraded as extraction from a complex subject.

The difference in the average z-score rating in the "movement, island"-condition (henceforth to be referred to as the *island-condition*) looks to be statistically significant. This was confirmed by running a one-way ANOVA. The ANOVA found statistically significant differences between the types of complementizers at the $p < 0.001$-level ($F(2, 103) = 68.13$, $p < 0.001$). A post-hoc Tukey-test showed that the difference between *om* and *når* was slightly smaller than when these complementizers were compared to *fordi*. Simply put, the ANOVA shows that it matters whether extraction happens from within an *om, når* or *fordi-clause*.

Table 3. *Results of a post-hoc Tukey-test, comparing the mean z-scores of the island-condition of the different complementizers:*

Comparison of complementizers	***p-value***
Når-Fordi 'When' – 'because'	$p < 0.001$
Om-Fordi 'If' – 'because'	$p < 0.001$
Om-Når 'If' – 'when'	$p = 0.021$

Another interesting finding is that there also seem to be clear differences between the *type* of complementizers in terms of the island effect and DD-score. The DD-score for o*m* 'if' is the lowest of the three adjunct islands (DD = 0.397), *fordi* 'because' has the largest island effect (DD = 1.032), and *når* 'when' is somewhere between the two other complementizers (DD = 0.485). In other words, the effect of movement out from an *om*-clause is smaller than the effect of movement out from a *når*-clause, and much smaller than from a *fordi*-clause. The *om*-island effect closely resembles the effect of extraction from the *whether*-island, whereas the *fordi*-island effect resembles that of the subject-island.

Om and *når* show small island effects compared to the large island effects seen in *fordi* and the subject-island, moreover the average z-scores are significantly different across island types. What is the source of this difference?

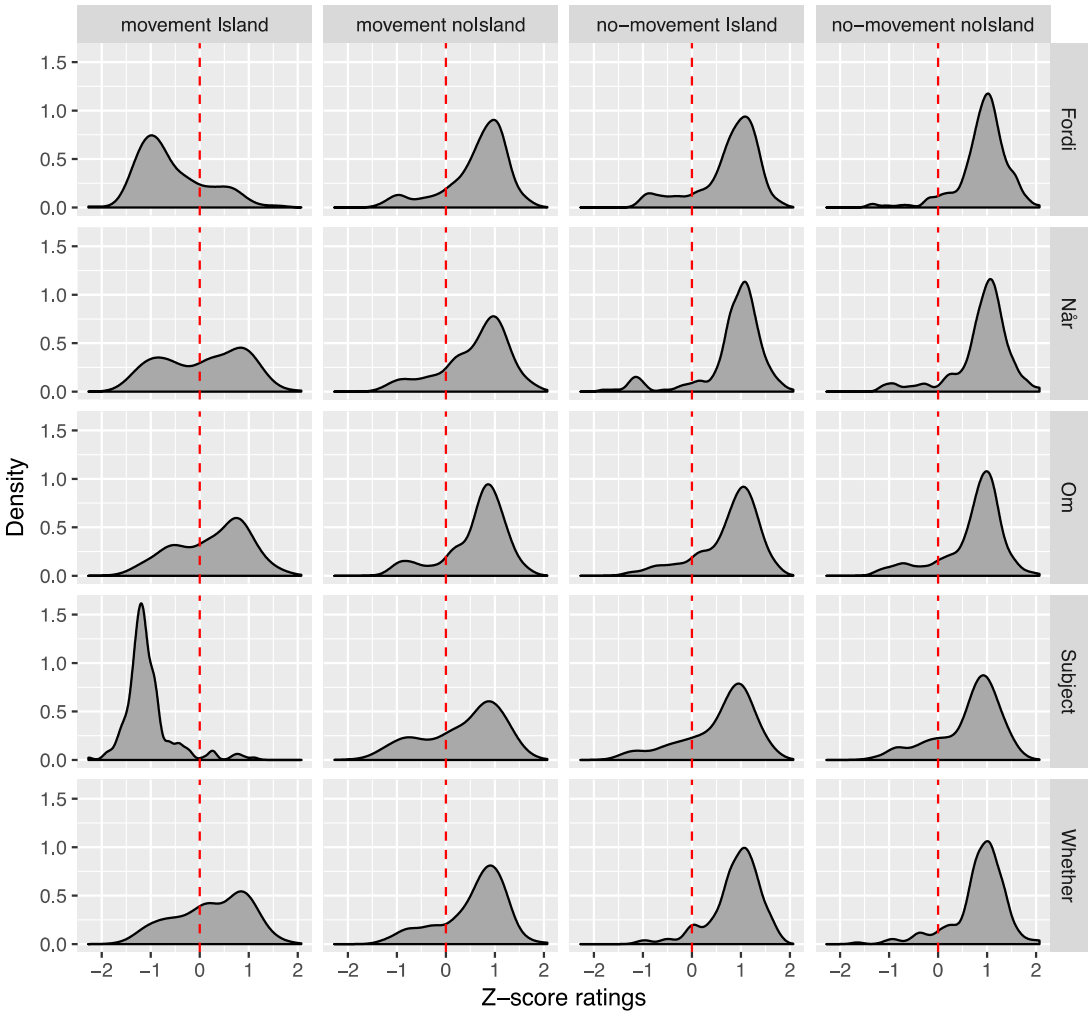
4.1.2 Source of the difference between adjunct islands - looking at variation

It is surprising that *om* and *når* show smaller island effects than *fordi* considering that they all are treated as adjunct islands in all standard syntactic accounts. There are three possible explanations for how an island type can show small island effects, like *om* and *når* do: (1) There is a consistent small-effect across speakers, i.e., speakers consistently rate extraction from these island types as close to acceptable. This corresponds to a gradient theory of grammaticality. (2) The mean z-score averages over two different groups, where one group is consistently accepting island extractions, whereas the other is consistently rejecting island extractions. Considering the uncertainty regarding the acceptability of extraction from *når* that was discussed in section (2.3.2.5), where Faarlund (1992) marked one sentence as acceptable, and Bermingrud (1979) marked the same sentence as ungrammatical, it is possible that the small island effect in *når* is caused by averaging over two different groups of grammars. In addition, Kush et al. (2017: 25) report considerable variation across speakers in the *whether*-island. (3) Participants are internally inconsistent, they reject one test sentence

and accept the other. Kush et al. (2017) found a considerable amount of intra-speaker variation in the *whether*-island.

The density plots in Figure 5 illustrate that there is substantial agreement in the last three conditions ("no-movement, no-island", "movement, no-island", "no-movement, island") across all island types, and the clear majority of z-score ratings reside around 1 for these conditions. This means that participants seem to agree that the sentences that test these conditions are acceptable across island types. It can also be seen that across every condition there is a long left tail that indicates that there are some participants that reject the sentences in these conditions, however, these ratings constitute a very small subset of responses.

Figure 5. *Density plot of the distribution of z-scores for each condition within each island type. The red line (going through 0) illustrates the tipping point between acceptance and rejection.*



For the island-condition in the subject island the z-scores densely cluster around -1.5, which indicates that participants clearly agree that extraction from a subject-island is unacceptable. Taken together with the results in Figure 4, the subject island seems to be a good example of a strong island. The subject island provides a sharp contrast to the island types in which there is great variation, showing that even though an island effect was found for *every* island type tested, the effect size behind the behavior that the term "island effect" covers can vary greatly.

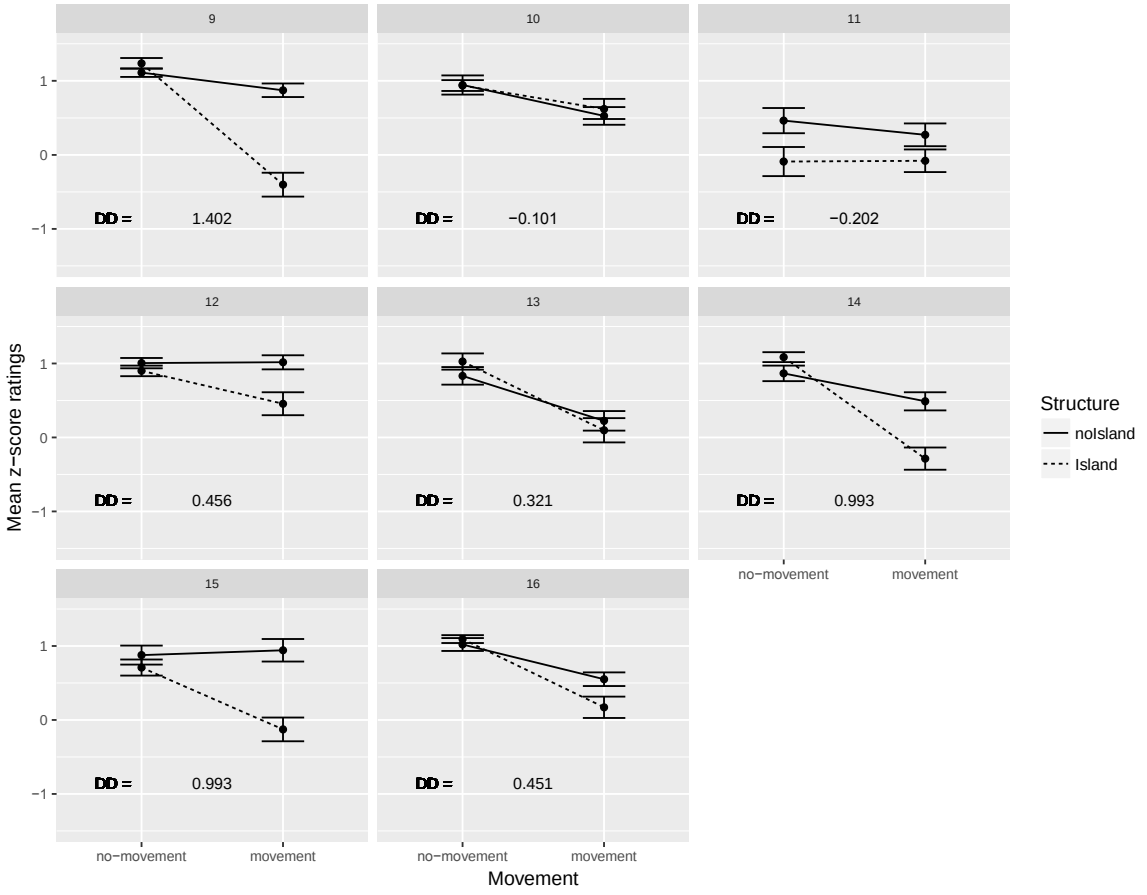
The interaction plots in Figure 4 above illustrate that there are differences between the different adjunct complementizers concerning the *size* of the interaction effect. The density plots in Figure 5 reveal that, as in *whether,* there is also considerable variation in the distribution of z-score ratings for *om* 'if' and *når* 'when'. The complementizers introducing adjuncts exhibit different distribution patterns – *fordi* is mainly centering around a negative z-score, which is similar to the subject-island, *når* is showing a (visually) bimodal distribution on both sides of zero, and *om* is mainly centering around a positive z-score, just as the *whether*-island is.

Participants seem to agree more on the acceptability of extraction from *fordi* compared to the other complementizers, and the great majority of z-scores fluctuate around -1. The right tail is very small, resembling the pattern in the "movement, no-island" condition. Again, the mean can provide a good representation of the judgements of extraction out of a *fordi*-clause. *Om* 'if', on the other hand, exhibit quite the opposite judgement pattern. The density plot reveals that most of the z-scores for *om* center around 0.7 – 0.8, indicating, on the basis of the design of the study, that most participants agree that the sentences that were tested for this condition are acceptable. The left tail is larger in *om* than the right-going tail in *fordi,* indicating larger variation in the judgements of *om.* Moreover, the island effect found for *om* does not describe the same pattern of extraction as it does for *fordi*: the island effect for *om* illustrates that there is an effect of movement out of an *om*-clause, but this does not necessarily lead to unacceptability as it does in *fordi.*

The z-score distribution for *når* 'when' illustrates that there is great variation within this complementizer-type, and there seems to be two main patterns when it comes to the judgements: Acceptance, centering around 0.8, or rejection, centering around -0.9. The bimodal nature of the z-score ratings implies that the *mean* is not a good representation of the judgement pattern (mean = 0.062). What is the cause of the cluster of positive z-scores that can be seen in the *island-condition* in the *når*-island? The bimodal clustering reflects that there is variability, and that there are two groupings of responses. The variability can be *between* participants, *within* participants and/or *between* items (e.g., variability between the

different items tested). Figure 6 indicates that there is some variability between the items tested in the *når*-island. Items 9, 14 and 15 show rather large DD-scores, 12 and 16 show mid-range DD-scores and 10, 11 and 13 have small or even negative DD-scores. This indicates that the mean DD-score reported in Figure 4 above is not necessarily representative. A common predictor between items that show similar results has not been possible to identify. Evidently, the cluster of positive z-scores in Figure 5 above can be attributed to the variation *within* participants, i.e., they vary their responses with respect to which items they encounter.

Figure 6. *Interaction plot of når-items in experiment 1*[30].

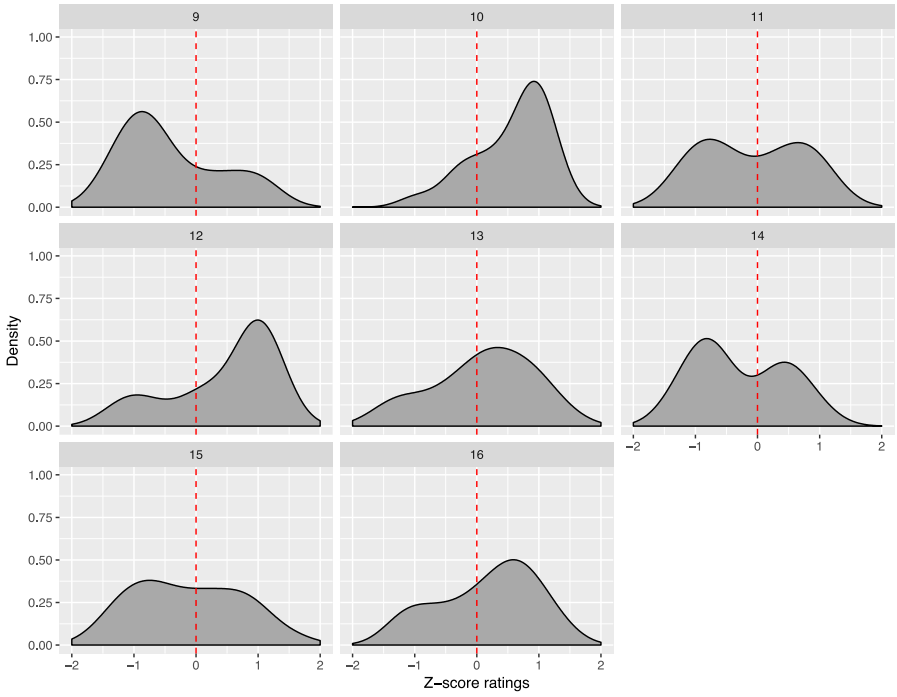


This however, does not seem to be the full explanation. The density plot below indicates that items 11, 15 and 14 (and to some degree 13 and 16) show a wide distribution of z-scores (disagreement between participants), whereas items 9,10 and 12 show more agreement

[30] Items 10, 13 and 16 look surprisingly similar, however I have not been able to find any common component in the test sentences in these items, e.g., type of embedded verb, definiteness etc.

between participants. Although items 10 and 11 have very similar DD-scores, their z-score distribution is different, this implies that some items provoke *between* participant differences, while others do not. Which, in turn, implies that there are also *between* item differences. Interestingly, the cluster of positive z-scores in the *når*-island can be a result of variation both *between* participants[31] (wide z-score distribution) and *between* items.

Figure 7. *Density plot of z-score distribution for items in the når-island.*

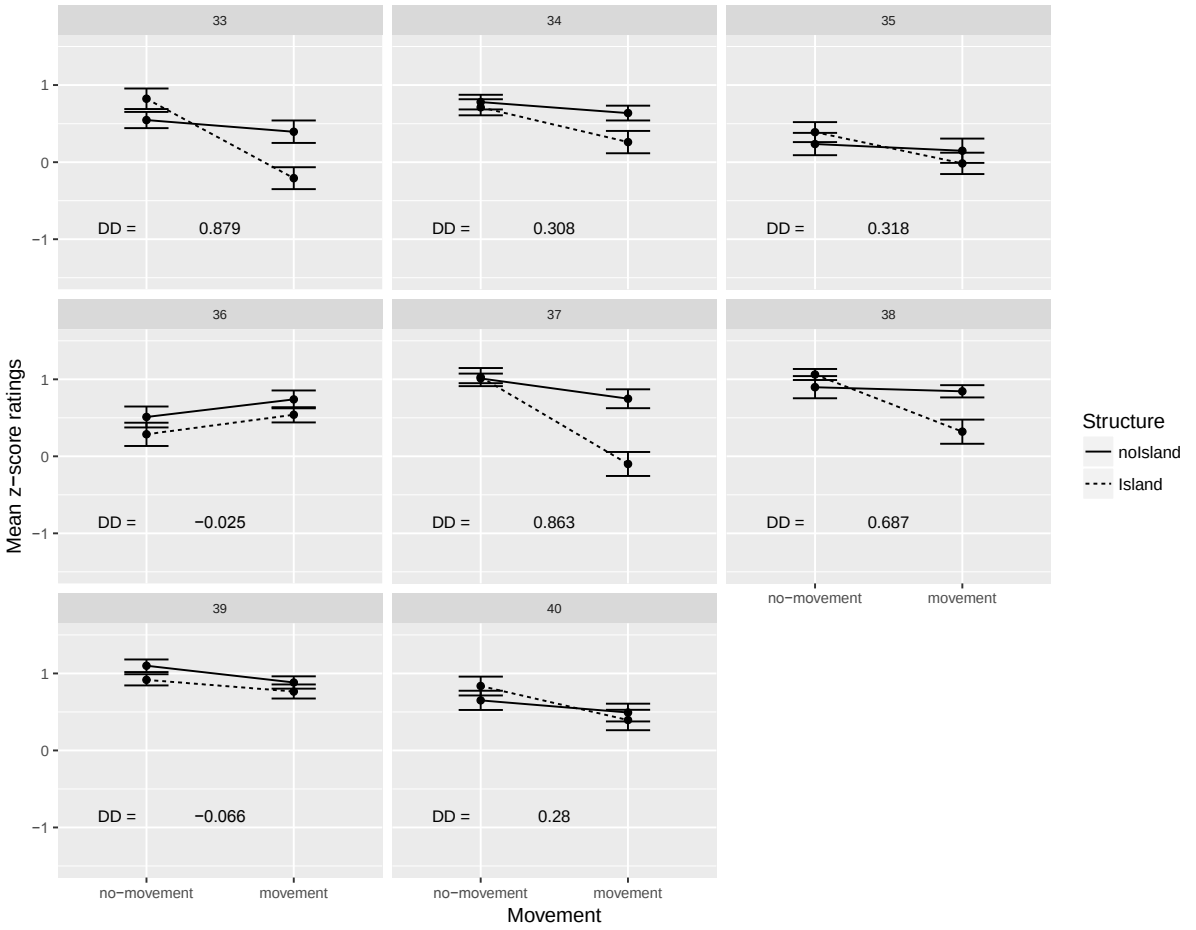


Similarly, it is not clear what causes the variation within the *om*-island. The density plots in Figure 5 reveal that the majority of the responses are positive, i.e., participants are generally accepting *om*-island violations. Nevertheless, although the largest group of responses is "acceptance", there is a substantial amount of responses that are negative. An analysis of the interaction plots for each *om*-item shows that items 33, 37 and 38 have large DD-scores, indicating that these items contribute to the cluster of negative z-scores in Figure 4. Items 36 and 39 have negative DD-scores, while 34, 35 and 40 have relatively small DD-scores. This indicates that some of the variation is attributable to variation between the different items,

[31] Introductory investigations into the *between*-participant-factor that can contribute to the variation has not been identified – neither gender, age nor dialectal background seem to be the variable that leads to variability.

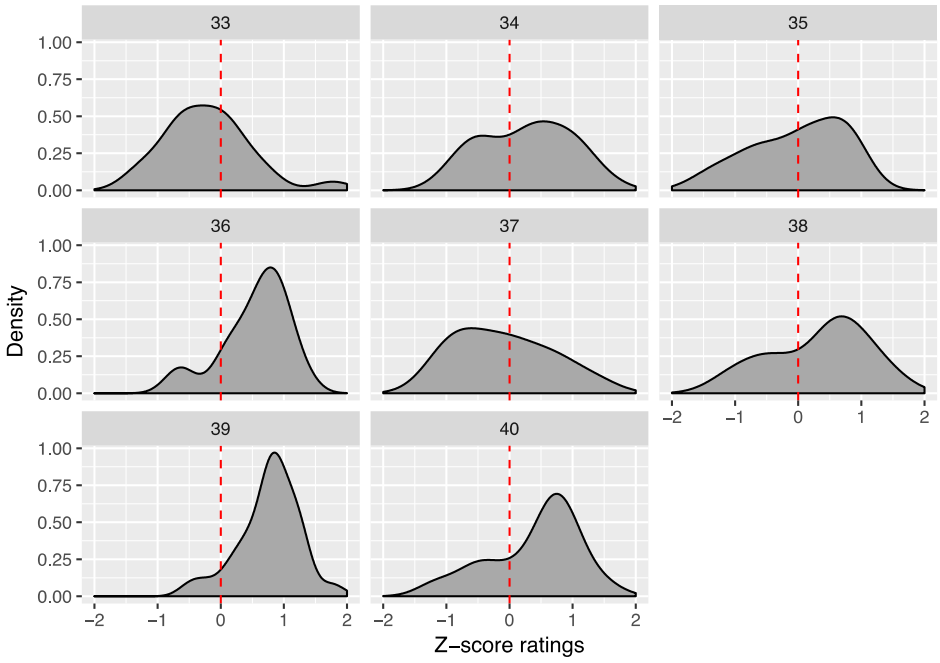
again a common predictor has not been possible to identify between items that show similar results.

Figure 8. *Interaction plot for om-items in experiment 1.*



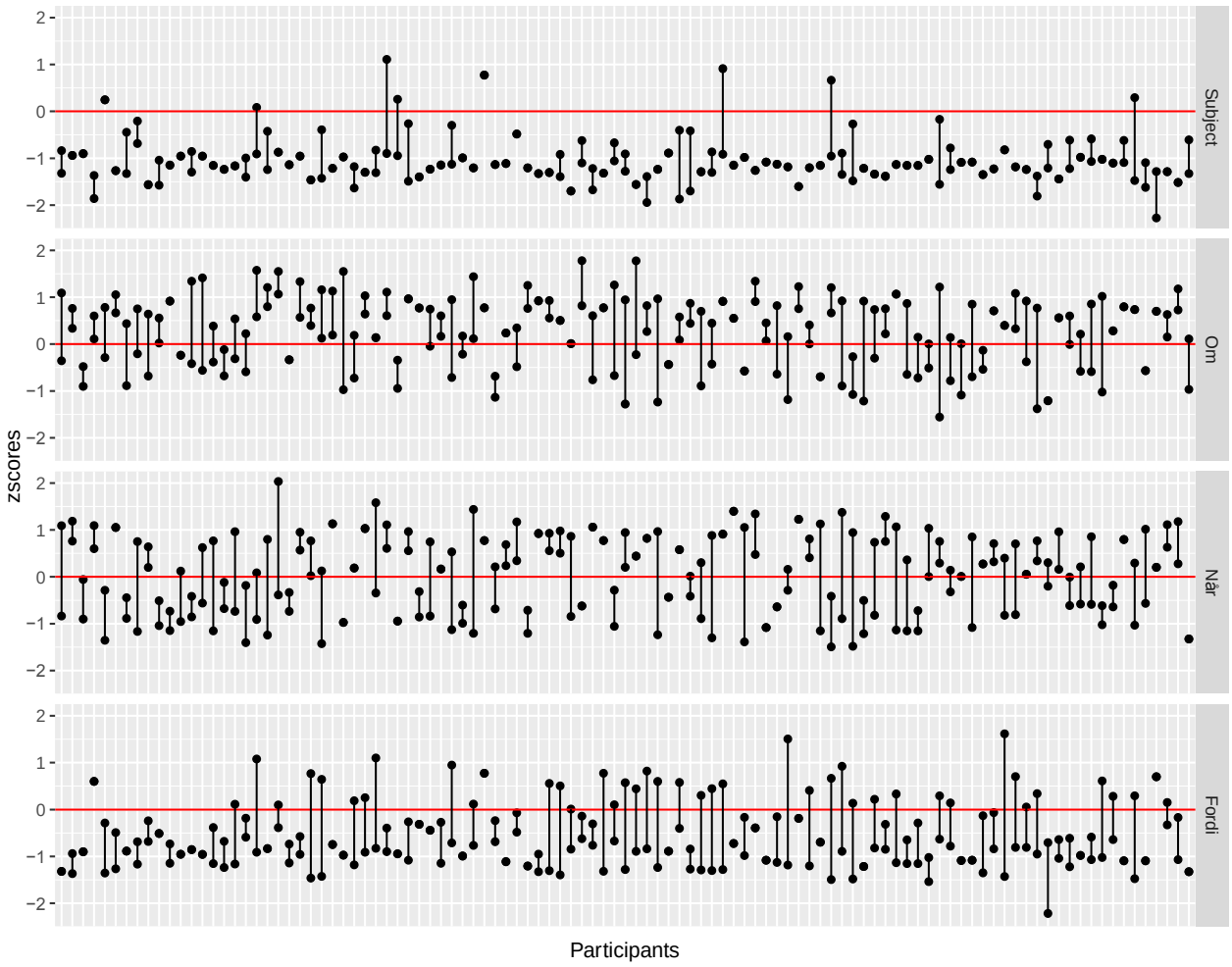
However, in some items there is also substantial variation between participants. Items 34, 35, 37 and 38 show little agreement, whereas items 36, 39 and 40 show a lot of agreement. Interestingly, there is a pattern here that was not found for *når*: the items with the lowest DD-scores also show the most agreement across participants (e.g., items 36 and 39).

Figure 9. Density distribution of z-scores for the "movement, island"-condition by item for the om-island in experiment 1.



None of the plots above can provide insight into whether there is *within* participant variation – are participants consistent? Figure 10 shows every response given by a participant for the island-condition ("movement, island"). Many participants provide varying judgements within the same condition. Every dot represents a response and a line is drawn between a participant's two responses, if there is no visible line it means that this particular participant provided consistent ratings (i.e., there is no distance between each response) for the island-condition. Some participants are consistent rejecters, some are consistent accepters (only found in the *når*- and *om*-island), while others vary between their two responses to the island-condition – rejecting one and accepting the other. At first sight, *fordi* seems to yield quite consistent ratings. However, compared to the clear consistency seen in the subject-island, *fordi* seem less consistent and resembles the other adjunct islands more. *Om* and *når* are strikingly different from the subject-island baseline. Figure 10 also illustrates that it is not the design that causes inconsistency, rather this is a property within the "adjunct islands".

Figure 10. *Plot showing the responses given by each participant for the three adjunct island types, the subject island is included for comparison. The dots represent the participant's exact z-score and a line is drawn between each z-score. The red line is drawn to illustrate the point where the z-score is 0, in other words, the line between "accepting" and "rejecting". Z-scores below 0 are distributed as follows: subject = 200, om = 68, fordi = 164 and når = 89 out of 210 responses.*



The same pattern of inconsistency within participants is also found for the *whether*-island in Kush et al. (2017) and Kush et al. (in preparation). Because of the design of the study, it is not possible to determine the source of *within* participant variation. Inconsistent ratings can in theory reflect two different scenarios, and importantly, neither scenario excludes the other; (1) the participant is not consistent; (2) the items cause inconsistency in that the participant encountered a commonly accepted item (such as 36 or 39 above) *and* an item that is commonly rejected or one that causes variability (such as 37 or 33 above). At this point in the investigation, however, it is not clear what the cause of the observed item variability is, in principle there can be three different causes: (1) Inconsistent participants, (2) there is some (yet) undiscovered inter-item variable that the design does not control for, (3) both of the previous causes contribute to item variability simultaneously.

4.1.3 Summary of experiment 1

Experiment 1 showed that the subject-island effects and the *whether*-island effects in Kush et al. (2017; in preparation) are replicated: The subject-island showed a large island effect and the *whether*-island showed a small island effect. The adjunct island types tested showed different patterns of acceptability. *Om* 'if' and *når* 'when' pattern like the *whether*-island – they showed rather small island effects *and* received average z-scores above 0. Moreover, these two island types showed a lot of variability, and interestingly, they showed different *between*-participant-variation. The *fordi*-island 'because', resembling the subject island, showed a much larger island effect than the two other complementizers as well as less variability, though still more variability than the subject-island.

From the analyses above, it is not clear what the source of the variation between adjunct island types is. It appears as though there is *between* participant variation, *within* participant variation, and *between* items variation that yield the small island effects in *om* and *når*. In order to investigate the source of the variation, it may be useful to gather more observations per participants. This provides more data on the participant-level and will be helpful in addressing the question of possible item-variation.

4.2 Experiments 2a and 2b

In experiment 2a, the bad fillers received a mean z-score of -0.786[32,33]. This provides us with a baseline for the average score for unacceptable sentences. A significant interaction effect was found for all island types at the $p < 0.05$ level, with the exception of *whether*. Considering the (relatively) low number of participants in experiment 2a (29), and given the results found in Kush et al. (2017) and Kush et al. (in preparation), it is unsurprising that *whether* did not show a significant interaction effect. Kush et al. (2017) and Kush et al. (in preparation) found large variation within the *whether*-island.

In experiment 2b, the bad fillers received a mean z-score of -0.842[34]. A significant interaction effect was found for all island types at the $p < 0.05$ level.

The *om*-island shows very similar results in experiments 2a, 2b and 1. The island effect is of similar size in all three experiments. Also, it is the smallest of the adjunct islands in all three experiments, patterning like the *whether*-island. The *når*-island effect was

[32] No acceptable fillers were included in these experiments since the ration between acceptable and (theoretically) unacceptable test-sentences already is 3:1.

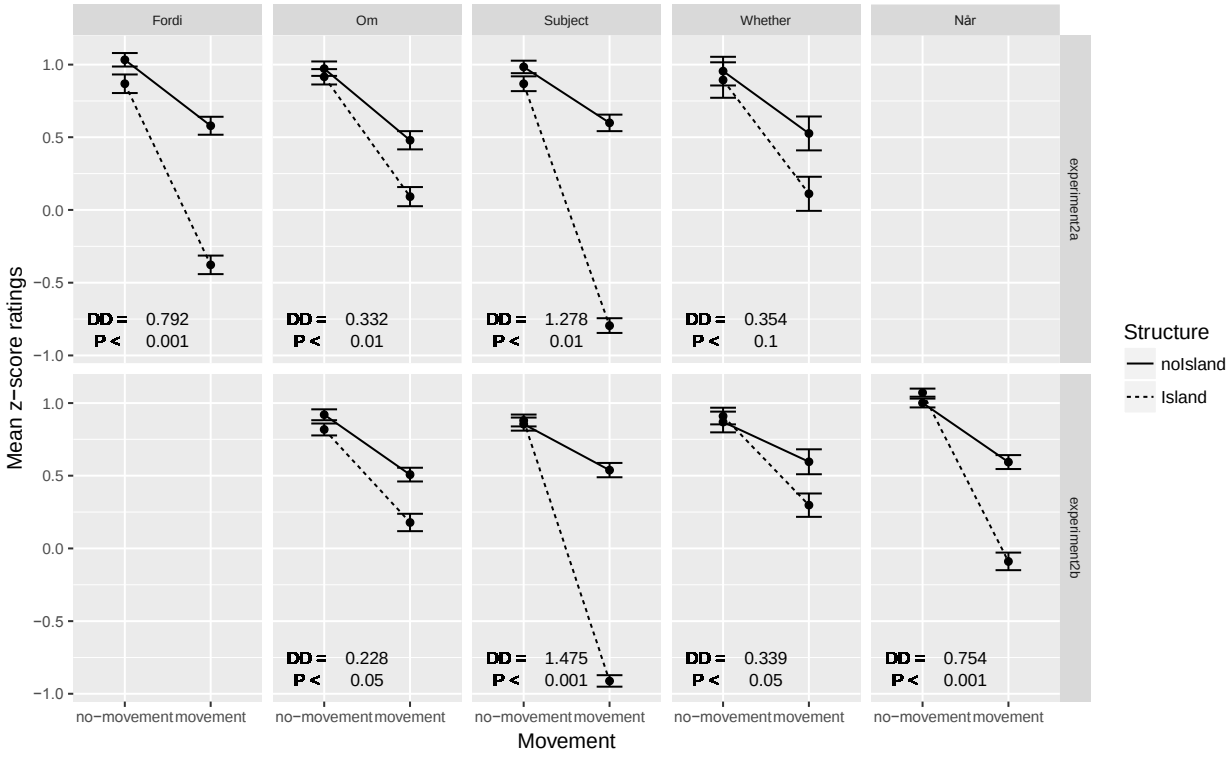
[33] The local topicalization items received a mean z-score of 0.132.

[34] The local topicalization items received a mean z-score of -0.054.

measured to be slightly larger in experiment 2b, compared to experiment 1. The *fordi*-island effect is smaller than it was in experiment 1 and received a similar effect size as the *når*-island did in experiment 2b. However, there is an important distinction between these two complementizers: The mean of the island-condition for *når* is just below zero, while it is around -0.4 for *fordi.* This illustrates an important point, extraction from *når* appears to (on average) receive higher z-scores for the island-condition compared to *fordi*, but they might still receive the same DD-score.

The same difference *between* the complementizers as was seen in experiment 1 is also found in experiments 2a and 2b: extraction from *om* is largely accepted, extraction from *når* less so and *fordi* is (mostly) rejected. Again, *fordi* is the adjunct island that most closely resembles the subject-island baseline for large island effects.

Figure 11. *Main results for experiments 2a and 2b; row 1 – experiment* ***2a*** *and row 2 – experiment* ***2b****. Fordi 'because' was tested in experiment 2a, whereas når 'when' was tested in experiment 2b.*

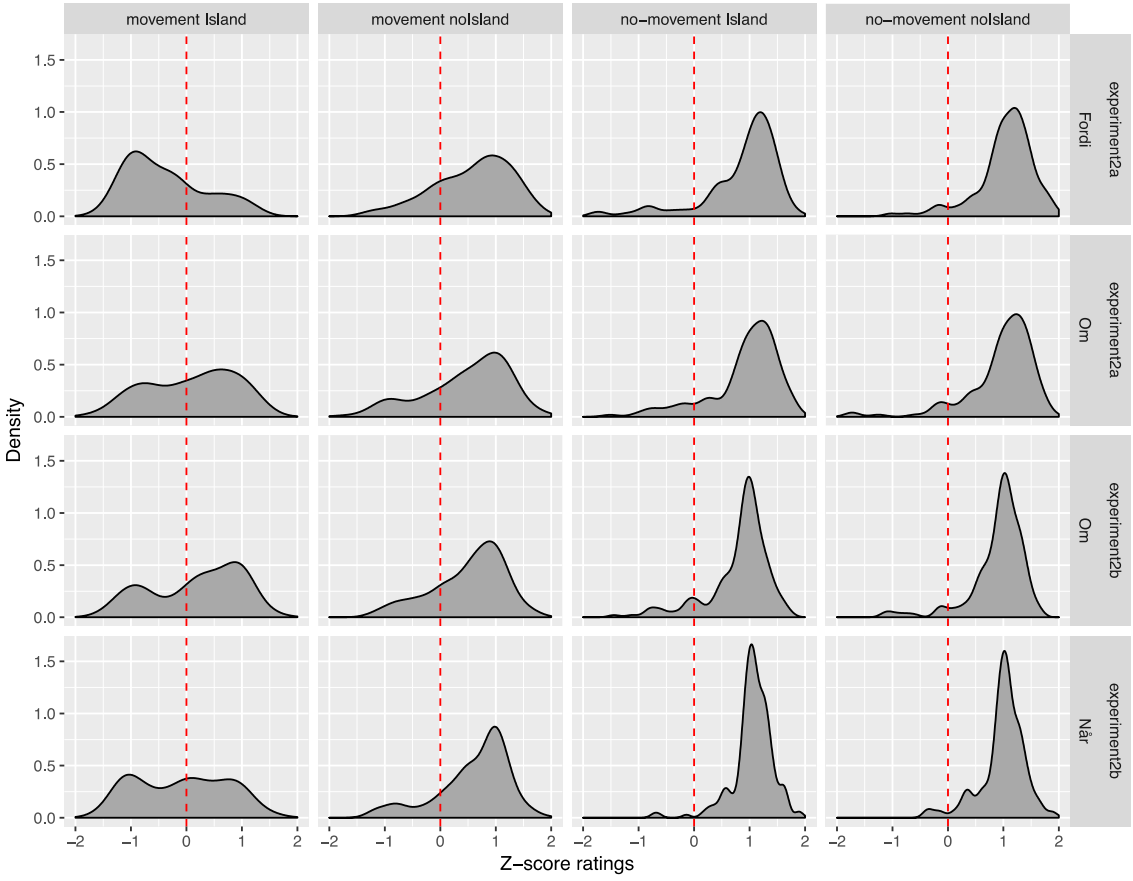


What about the z-score distribution of the adjunct-islands? The density plots below, where only the adjunct islands (*om*, *når* and *fordi*) are included from experiments 2a and 2b, show

that these two experiments overall yield the same pattern of z-score distribution as was found in experiment 1, but there are some small differences. The majority of z-scores for the "movement, no-island"-condition fall above 0 across-island types, but the distribution of z-scores for the island-condition is dependent on the type of island.

The *om*-island shows a bimodal pattern in experiments 2a and 2b, indicating that the responses are divided into two groupings. Also, the *når*-island exhibits a surprisingly flat distribution compared to experiment 1, indicating that the z-scores are evenly distributed along the entire scale ranging from -1.5 – 1.5. The distribution of z-scores for *fordi* pattern as in experiment 1.

Figure 12. *Density plot by z-score (experiments 2a and 2b combined) – only adjunct-islands are included.*



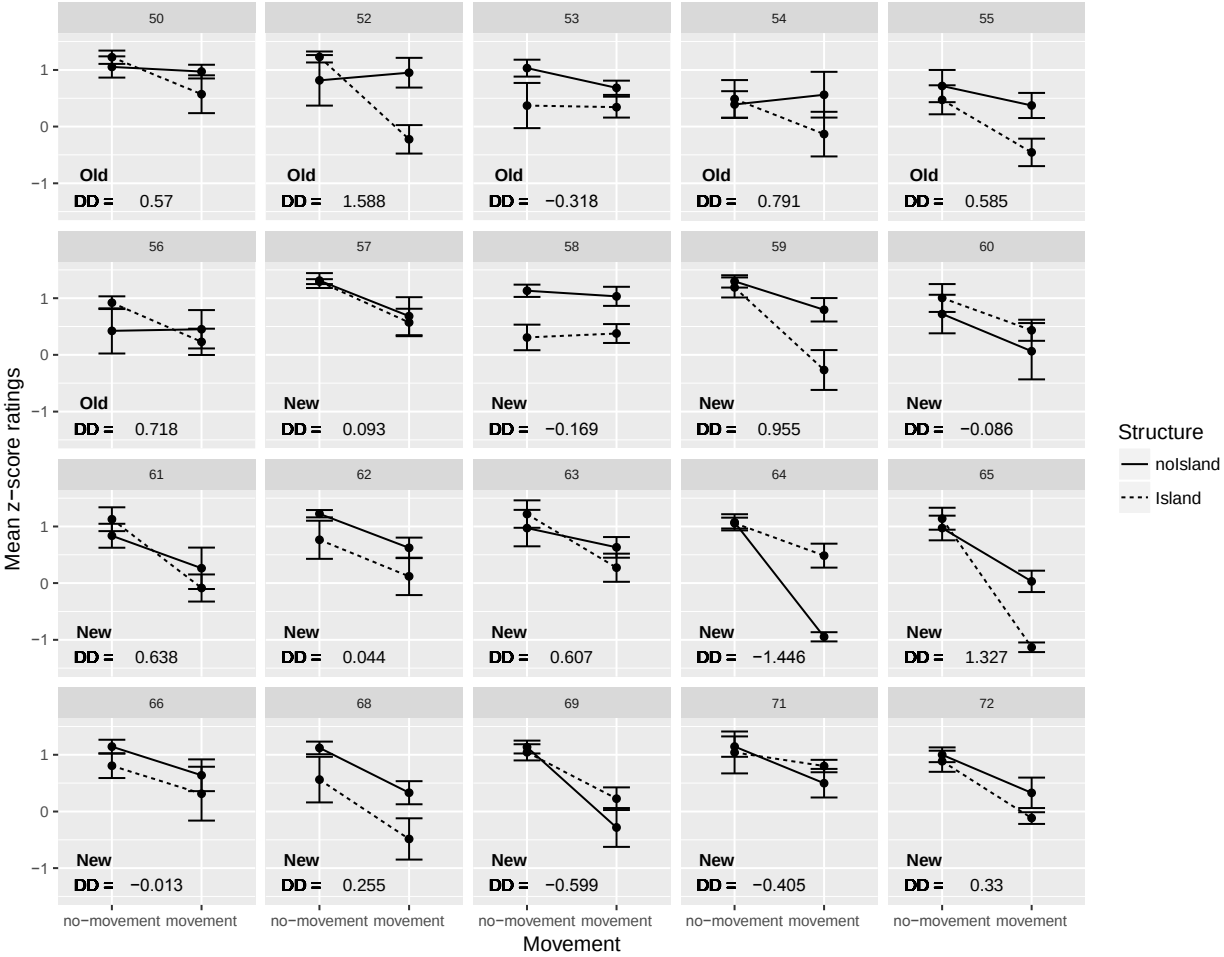
Variation at the item-level for the adjunct-islands in experiments 2a and 2b, show a similar pattern as was found in experiment 1. The "old" items tested in experiment 1 and in Kush et al. (in preparation) show a super-additive interaction with rather large DD-scores in experiment 2a, except for item 53 which received a negative DD-score. Items 66, 68, 62, 60

and 57 show simple linear additivity, whereas items 53, 58, 64 and 72 have small or negative DD-scores. This indicates that there is variation *between* the test items. However, as for the items in experiment 1, I have not been able to find any reliable predictor in the test-sentences that would cause them to pattern similarly.

The same pattern is found for *fordi* in experiment 2a (see appendix D), there are some items that show linear additivity, some that have small DD-scores, while the majority of items have large DD-scores. 6 of the *fordi*-items have small or negative DD-scores, while the remaining 14 have relatively large DD-scores.

The interaction plot together with the DD-scores for the *når*-items in experiment 2b show some variation between the items: 9 of 20 items show linear additivity or negative DD-scores, while the remaining 11 exhibit super-additive behavior (see appendix E).

Figure 13. *Interaction plots with DD-scores for every om-item in experiment 2a.*

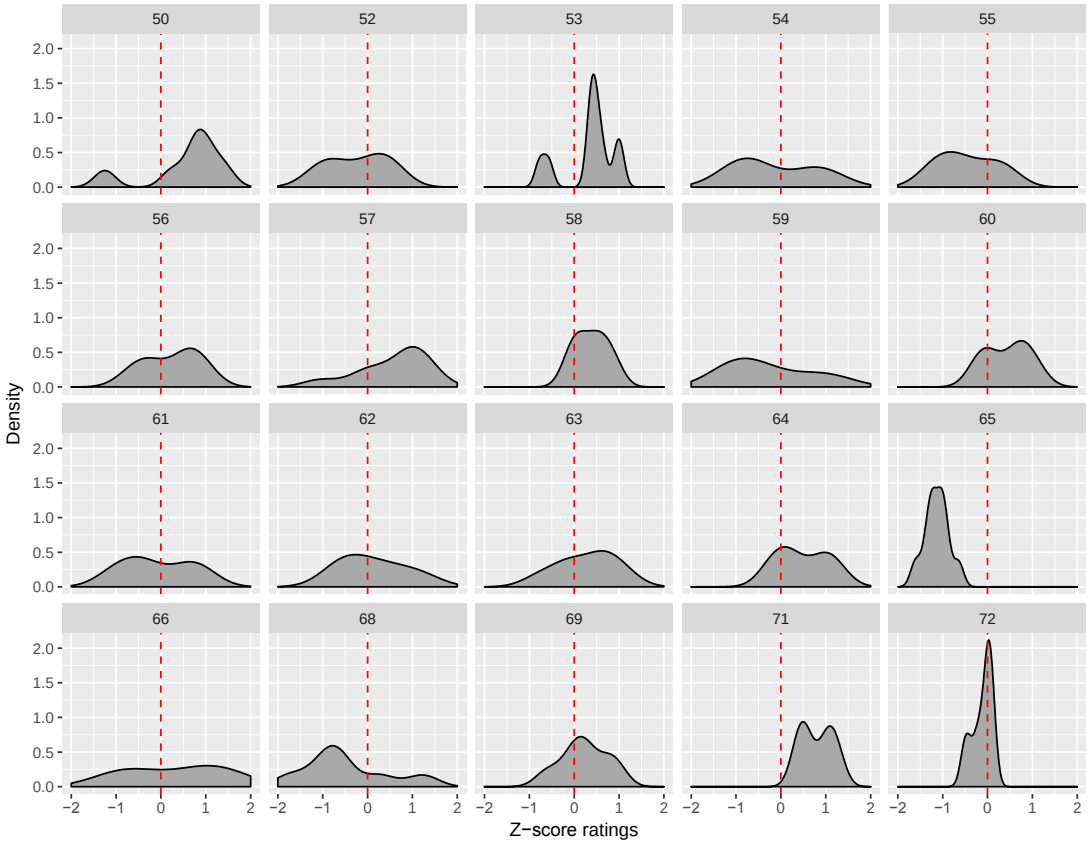


The DD-scores for the same *om*-items in experiment 2b also show some variation – ranging from DD-scores of 1.539 to -0.360 (see appendix G). Interestingly, some of the *om*-island

items receive the same DD-score in experiments 1, 2a and 2b, indicating that the results are stable, while other items receive different DD-scores in two or all of the three different experiments, indicating between-participant variation.

The density plots below indicate that most of the *om*-island items in experiment 2a have a wide distribution, a very similar pattern of judgement was also seen in experiment 2b for the *om*-items (see appendix H). This implies that the mean scores that are used to calculate the average DD-score might not be representative of the judgement tendency. This is also seen for the *når*-items in experiment 2b: most of the items show a wide distribution indicative of little agreement between participants (see appendix F).

Figure 14. *Distribution of z-score ratings for the om-items the island-condition ("movement, island") in experiment 2a.*



As there was considerable *within* participant variation in experiment 1 where a participant only rated two tokens of the same condition, it is expected that the *within* participant variation will increase when there are five tokens per participant. If it is the type of item encountered that causes *within* participant variability, i.e., a generally accepted item, variability-item or

generally rejected item, it is expected that when the number of items increases, so will the intra-speaker variability. Furthermore, taking into account the considerable amount of *between* items variability that is seen in Figure 13, it is expected that *within* participant variation will increase.

Figures 15 and 16 show the variation in the *island*-condition in experiments 2a and 2b. The Figures show that there is, as expected, more variability in responses when more tokens are included. Almost every participant ranges from negative to positive z-scores in the *om*-island. This happens less in the *fordi*-island. In the *når*-island, most participants provide z-score ratings that range from negative to positive, but more participants are consistent compared to in the *om*-island. It is interesting to note that the variation mirrors the differences between the complementizers that are seen in the interaction plots: the island receiving the highest z-scores (*om* 'if') also shows the most variation, the island receiving the mid-range z-scores (*når* 'when') shows slightly less variation and the island receiving the lowest z-scores (*fordi* 'because') shows even less variation (though it is still considerable).

Figure 15. *Variation for each subject in experiment 2a – z-score ratings of the island-condition in the fordi- and om-island.*

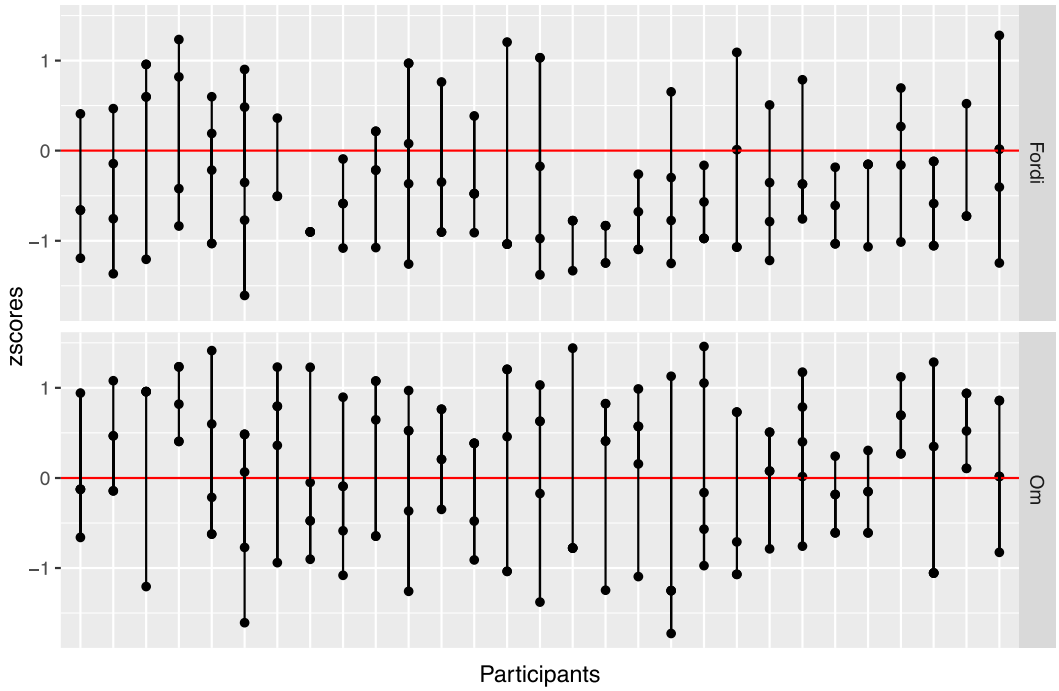
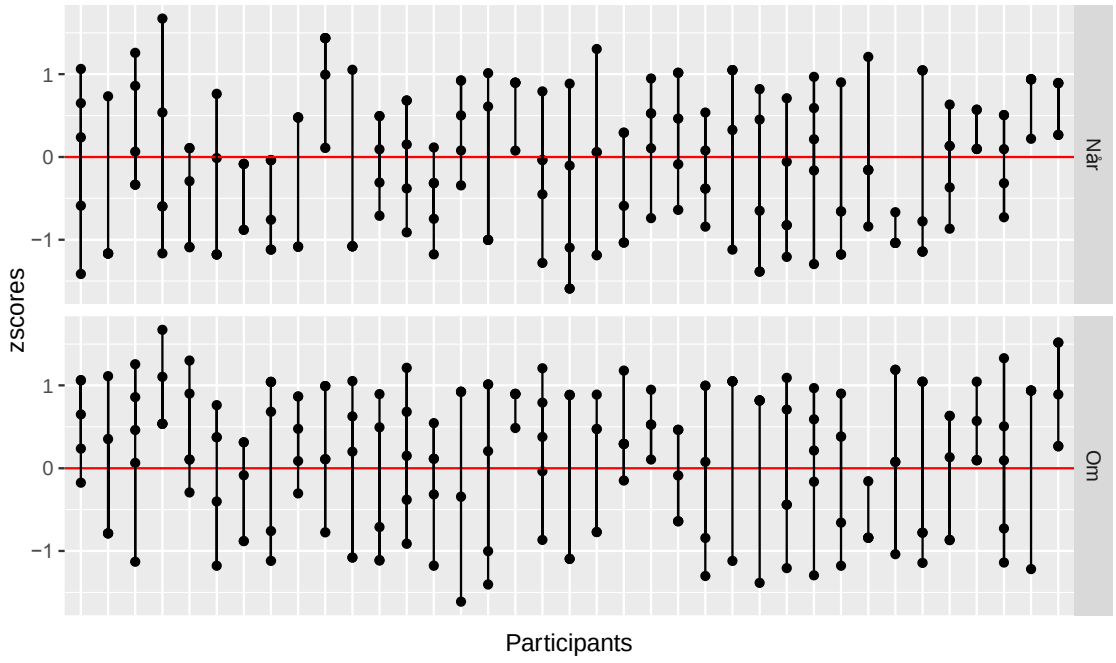


Figure 16. *Variation for each subject in experiment 2b – z-score ratings for the island-condition in the når- and om-island.*



4.2.1 Summary of experiments 2a and 2b

Experiments 2a and 2b showed that increasing the number of test-items did not generate considerably different average judgements compared to experiment 1, which indicates that the difference in acceptability that was seen in experiment 1 is consistent across more items. However, the added number of test-items caused an increase in *within* participant variability for all adjunct islands. This provides some new insight as to the source of variability as, for instance, the bimodal distribution for *om* taken together with the plot of *within* participant variability indicates that the bimodal pattern is not due to different groups of people, but must rather be attributed to inconsistent ratings *or* item-variability. This analysis, however, is not necessarily true for the bimodal distribution seen in *når*.

4.3 Replication results

The main findings from Kush et al.'s (in preparation) paper were mostly replicated in all three of the current experiments: the reported DD-scores in Kush et al. (in preparation) are very similar to the DD-scores found in all three of the current experiments. Kush et al. (in preparation) tested two different topicalization-dependencies, one that did not provide a context for topicalization and one that did, the latter being the experiment that the three current experiments are built on. In Kush et al.'s (in preparation) "Topicalization with context"-experiment they found statistically significant interaction effects for the subject island but failed to find statistically significant interaction effects for adjunct *om* and *whether*.

As mentioned above, no statistically significant interaction effect was found for the *whether*-island in experiment 2a either.

Also, as also reported in Kush et al. (in preparation), the acceptability of extraction in a *topicalization*-dependency differed from extraction in a *wh*-dependency, which was tested in Kush et al. (2017). Kush et al. (2017) found, in contrast to the findings in Kush et al. (in preparation) and the three current experiments, large adjunct island effects, and in the first two experiments, large *whether*-island effects. This shows that the type of dependency matters for extraction in Norwegian adjunct islands.

Table 4. *Overview and comparison of DD-scores of two different dependency types tested on Norwegian extraction patterns in three different island types.*

		Wh-dependency	Topicalization-dependency	
	Island-type	**Kush et al. (2017)**	**Kush et al. (in prep.)[35]**	**Current experiments**
DD-score	*Om* 'if'	1.07 / 1.07 / 1.26	0.55 / 0.20	0.397 / 0.332 / 0.228
	Whether	0.68 / 0.44 / 0.27	0.05 / 0.21	0.375 / 0.354 / 0.339
	Subject	1.04 / 1.32 / 1.22	1.33 / 1.66	1.375 / 1.278 / 1.457

Moreover, the distribution of z-scores for the subject-island, *whether*-island and adjunct *om* 'if' in Figure 5 is very similar to the distribution of z-scores reported for the same island types in Kush et al. (in preparation). This indicates that although there is variation in the distribution of the z-score ratings, the variation seems to be more or less consistent across experiments (which is also seen in the similar distribution of z-scores found across experiments in the current thesis). The reader is referred to Kush et al. (in preparation) to compare the distribution of z-scores with the distributions reported in the current thesis.

[35] The results to the left are from the experiment testing topicalization *without* context, while the results to the right are from the experiment providing a context for the topicalization.

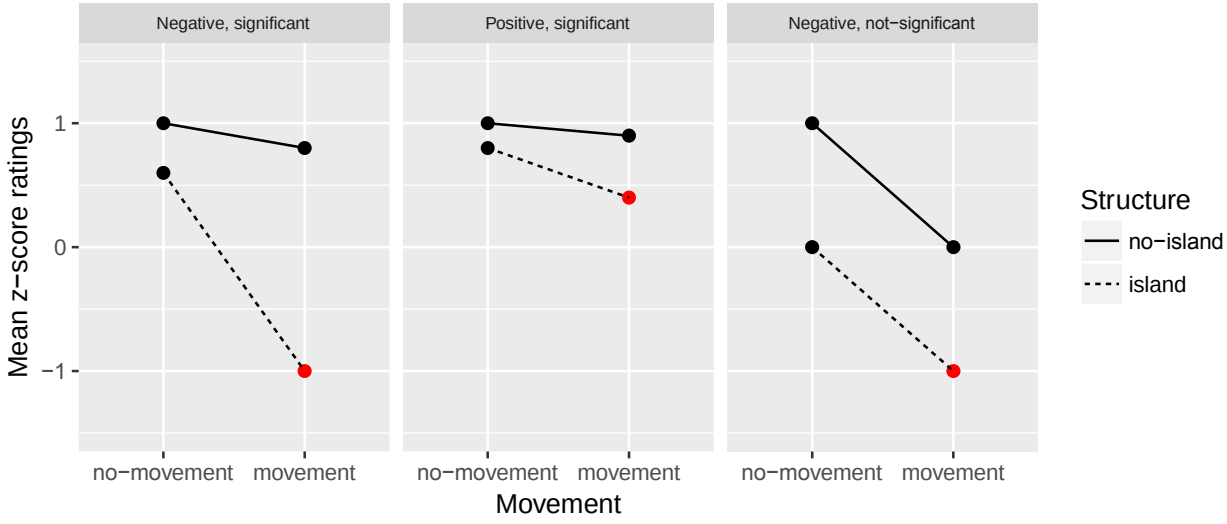
5 Discussion

This chapter discusses the results obtained in experiments 1, 2a, and 2b, and compares the findings to data on English islands. Moreover, the chapter reviews the Norwegian findings in light of universalist theories of island-extraction. Section 5.2 discusses the different acceptability of movement from *om, når,* and *fordi* adjuncts in relation to data from English. Section 5.3 then focuses on the different sub-categories of adjunct islands and discusses them in relation to the theories of island constraints that were reviewed in chapter 2. Lastly, a discussion of universalism in relation to the main findings follows.

5.1 What does a significant interaction effect mean?

The findings in Kush et al. (in preparation) for subject, *whether* and *om*-islands were (largely) replicated in the current three experiments. The three island types showed very similar patterns of acceptability in the three current experiments and in Kush et al. (in preparation) for the *topicalization with context*-dependency. For both the *whether*-island and the subject island there was a significant interaction effect in experiment 1 and 2b (only the subject-island showed a significant interaction effect in 2a). However, these island types showed very different acceptability patterns – where extraction from *whether*-islands was found to center well above 0, extraction from subject-islands consistently centered below -1. This shows that a significant interaction effect is not necessarily the same as acceptability, which is illustrated in Figure 17. These plots provide an overview of the different realizations of the interaction effect and the variation of negative and positive z-scores in the "movement, island"-condition.

Figure 17. *Different realizations of the interaction effect. The red dot represents the z-score ratings of the island-condition in each of the three plots.*



The first plot is an example of a large and significant interaction effect with a negative z-score rating for the island-condition, and this plot is representative of the subject-island effects found in experiments 1, 2a and 2b. This plot is equivalent to Sprouse et al.'s (2016) findings concerning English *if*-islands in *wh*-dependencies. The second plot also shows a significant interaction effect, but the average z-score rating of the island-condition is positive. This plot is representative of the *whether*-island effects found in experiments 1 and 2b. The last plot is representative of Sprouse et al.'s (2016) findings regarding adjunct island violations in *relative-clause*-dependencies. Sprouse et al. (2016) did not find statistically significant interaction effects in *if*-islands in *relative-clause*-dependencies in English. However, unlike the findings for *whether*-islands in the current thesis, the mean z-score ratings of the island-condition are negative (around -1) (Sprouse et al., 2016: 326-327).

Kush et al. (2017) also found the same inconsistency between statistically significant average interaction effects and high reported acceptability for *whether*-islands in Norwegian. Kush et al. (2017) argue that positive z-scores combined with a significant interaction effect are potentially compatible with a number of sources: (1) that all languages show universal island effects, but that the strength of the effect may differ between languages (2017: 20), and (2) inconsistent judgements both between and within participants. Accounts in terms of effect-size variation predict consistency in the DD-scores, i.e., the majority of participants should consistently show small island effect sizes. Hypotheses about inconsistency in judgements predict variation between trials in the island-condition. Kush et al. (2017) only find evidence that indicate that there is inconsistency in judgements, they did not find support for an account in terms of effect-size variation.

In all three of the current experiments, the *whether*-island exhibits a DD-score around 0.30[36], which is similar to the DD-score obtained for *whether* in Kush et al. (in preparation) in the same dependency type (DD = 0.21). Moreover, it can be compared to Kush et al. (2017)'s results for topicalization in a *wh*-dependency, which was found in their experiment 2 to be 0.44 and in experiment 3 to be 0.27. Importantly, the variation that Kush et al. (2017) report on in *whether*-islands is replicated in the current experiments (see the density plot for the

[36] A statistically significant interaction effect was not found for the *whether*-island in experiment 2a ($p < 0.1$). As previously discussed, this is unsurprising given the great amount of variation found in Kush et al. (2017), which suggests that non-significant results might reflect a low sample size in which, by chance, there is no predominance of either group of participants (e.g., rejecters – DD-score > 0.25).

island-condition in *whether* in Figure 5). This indicates that the variation found in Kush et al. (2017) and Kush et al. (in preparation) is not due to chance but seems to be a reliable pattern of acceptability exhibited by Norwegian speakers.

5.2 Different acceptability ratings for each of the adjunct-complementizers

At face value, the results obtained from all three experiments provide support for the grammatical approach to islands: all adjunct-island types tested showed statistically significant interaction effects. This can be taken to mean that adjunct-clauses in fact *are* islands in Norwegian, and as such, the findings strengthen the claim that finite adjunct clauses are islands universally. However, as seen in the *whether*-island, a significant interaction is *not* necessarily the same as being an island (i.e., syntactic barrier to movement).

The statistical analyses revealed a more intricate pattern of acceptability for adjunct island violations than what the first impression suggests: Although there was, for all the three adjunct-islands, a statistically significant interaction effect (minimum $p < 0.05$) in all three experiments, the *size* of the effect differed between the three complementizers in all three experiments. The average DD-score across experiments were 0.912 (*fordi*), 0.618 (*når*) and 0.319 (*om*). *Fordi* resembles the island effect size in the subject-island and *om* resembles the *whether*-island effect. In addition, the complementizers received statically significant different mean z-score ratings in the "movement, island"-condition at the $p < 0.001$-level. Furthermore, as in Kush et al. (2017) and Kush et al. (in preparation), the results showed large variations both between the different items tested, but also between and within the different participants, which suggests that they are treated differently by participants. I will now consider each of the complementizers in more detail.

5.2.1 Complementizer *om* 'if'

In all three experiments, there was a statistically significant interaction effect of movement out of an *om*-island. Considering the interaction plots, *a statistically significant interaction effect* means, in these particular experiments, that when there is topicalization (MOVEMENT = movement) out of an *om*-clause (STRUCTURE = island) the acceptability is lower than what is *linearly* predicted by the rated acceptability of the other conditions (i.e., "no-movement, no-island", "movement, no-island", "no-movement, island"). This decrease is not attributable to the added cost of the two factors MOVEMENT and STRUCTURE, but the effect must be attributed to the interaction of the two (MOVEMENT x STRUCTURE), which can be stated with more than 95% confidence. In other words, in the factorial definition of island effects, the three current experiments show that *om*-clauses are islands to extraction in

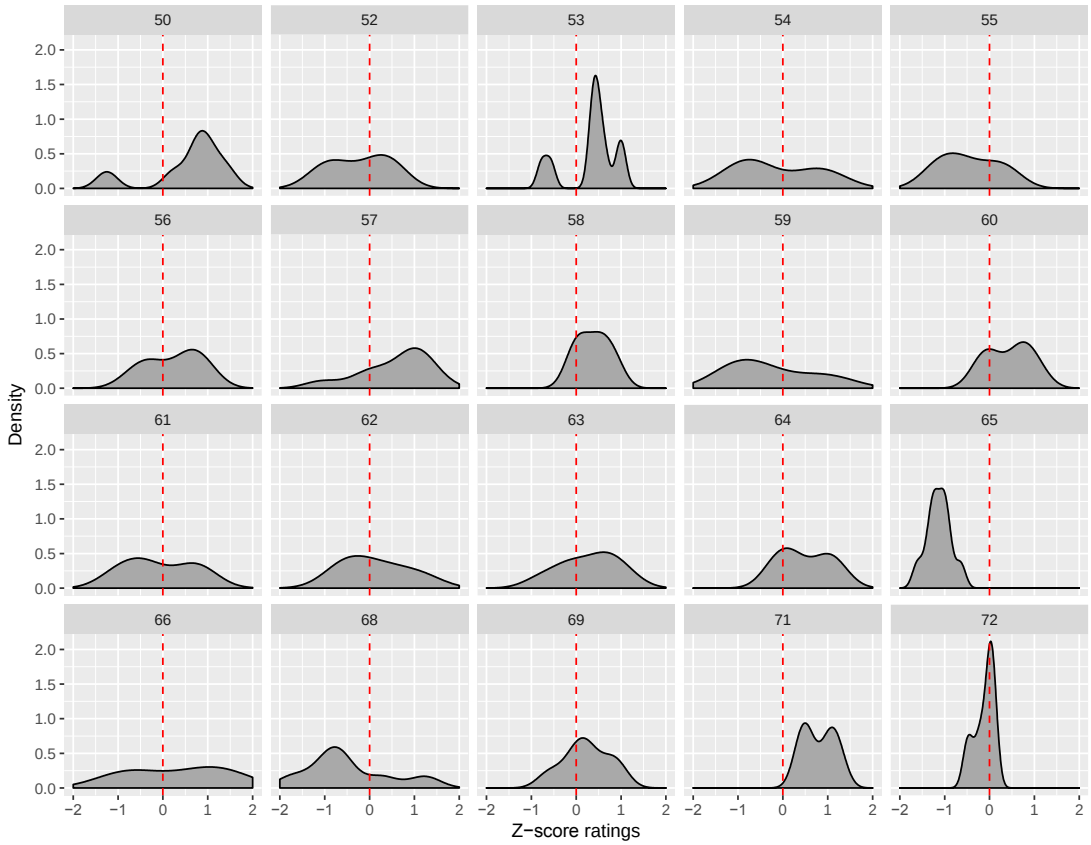
Norwegian. Albeit, the *size* of the island effect is smaller than the other adjunct islands' effect size.

However, in all three experiments, despite finding a statistically significant island effect, the clear majority of the z-score ratings for *om* are positive, i.e., they are generally accepted. Accordingly, the *om*-island violating sentences are considered acceptable by most of the Norwegian participants. Interestingly, this suggests that Norwegian sentences with *om*-island violations may be correctly marked as grammatical as in Engdahl (1982) and Faarlund (1992). In experiment 1, 46 out of 105 participants either showed as very small DD-score (-0.25 – 0.25) or a negative DD-score (< -0.25), indicating that for these speakers *om*-clauses are not islands to extraction. At the same time, it is clear that there is, in most cases, some inherent structure in the *om*-clause that separates extractions from *om*-clauses from extractions from non-island embedded clauses. This difference can, for instance, be seen in the density plots as the difference in distribution between the two conditions "movement, island" and "movement, no-island" where the non-island embedded clause exhibited substantial agreement, whereas the island-condition exhibited extensive variation between speakers.

The complementizer *om* 'if' has been tested in the three current experiments and in Kush et al. (2017) and Kush et al. (in preparation). It shows sensitivity to context and type of dependency. The effect of dependency type that was found in Kush et al. (in preparation) is also replicated in the current experiments for *om* and *whether*. Sprouse et al. (2016) also found an effect of dependency-type for English *if*-clauses. In a topicalization-dependency *with* context *om* provides relatively stable DD-scores, but we seem to require a large sample size (either a large number of participants or a large number of items) in order to find a significant interaction effect. Kush et al. (in preparation) failed to find statistically significant results for *om* with 36 participants testing 8 items, which given the make-up of the study, makes for an experiment with 72 responses for each of the conditions within each island type. In comparison, experiments 1, 2a and 2b had 210, 145, 185 responses, respectively, and all three of the current experiments yielded statistically significant results. A low p-value is dependent on either low variability or large sample sizes, meaning that in an experiment with relatively low sample sizes a non-significant effect is characteristic of high variability. This suggests that, given the amount of variation that has been found in the *om*-island, the relatively low number of responses is responsible for the non-significant interaction effect reported in Kush et al. (in preparation).

Furthermore, the variability-pattern for *om* seems to be divided into two judgement behaviors – either there is agreement between participants that the item tested is acceptable, *or* participants disagree about the acceptability which then yields a large range of judgements. Out of the 20 *om*-items tested in experiment 2a and 2b, there were only a few items that participants clearly agreed were unacceptable, again this shows the inconsistency in judgements.

Figure 18: *Distribution of z-score ratings for all 20 om-items in experiment 2a, previously seen in Figure 14 repeated as Figure 18 for convenience. The red line goes through 0 to illustrate the tipping point between acceptance and rejection.*



5.2.2 Complementizer når 'when'

A significant interaction effect was found for *når* across experiments 1 and 2b; however, *når* shows a bimodal pattern of acceptability in both experiments. A bimodal pattern of z-score ratings indicates that the acceptability judgements are divided into two groups. As such, the results mirror what has been reported about *når* in the literature: e.g., Bermingrud (1979) marked a sentence with extraction from *når* as ungrammatical, whereas Faarlund (1992) marked the equivalent sentence as grammatical (see section 2.3.2.5).

Nevertheless, it is not clear from the data-material whether the bimodal pattern is a result of variation between participants or within participants: The z-score distribution of the different *når*-items tested in experiment 1 reveals that some items exhibit a bimodal pattern, while others exhibit a unimodal pattern. Again, this points in the direction that item variability cannot account for all of the variation seen, there is significant inter-individual variation as well. A bimodal distribution normally indicates that the data is gathered from two distinct groups (Rugg, 2007: 45). Applied to studies of islands, this indicates, under the assumption that all other relevant variables are controlled for, that we could be dealing with two distinct grammars treating extraction from *når*-islands differently. In relation to their findings on *whether*-islands, Kush et al. (2017) suggest that variation points in the direction that there are (at least) three different groups of participants: consistent rejecters, consistent accepters and unclassified participants (they did not find any consistent differences between the groups regarding age, gender or dialect (2017: 21/24)). Figures 10 and 16 above illustrate that the same pattern of different participant groups is found in the current experiments for *når*.

The linear mixed effects models for experiments 1 and 2b yielded a significant interaction effect for the *når*-island. However, the linear mixed effects model is based on the *mean* ratings for each of the conditions and as there is great variation within the ratings of the *island*-condition, it is not clear whether or not *når* is an island for extraction across speakers in Norwegian. It might be that certain sentences with *når*-island extraction trigger an island effect in some participants, but not in others. No systematic pattern for what kind of sentences that cause such variability has been found. That being said, extraction from *når*-islands receives lower z-score ratings than extraction from adjunct *om* 'if', and shows a pattern of bimodal ratings. This suggests that extraction from *når* might be less acceptable than extraction from *om* for Norwegian speakers, but this will vary considerably between different speakers (or groups of speakers, groups which have not been possible to identify in the data collected in the current experiments).

5.2.3 Complementizer *fordi* 'because'

Extraction out of *fordi* is the type of extraction that most clearly shows an island effect: *fordi* consistently shows less variability than *når* and *om*, and the variation centers around a lower z-score across experiments. This separates *fordi* from the other complementizers in that *fordi* is less accepted both across participants and items. In both experiments 1 and 2a, *fordi* shows a large DD-score and the z-score ratings are mainly distributed well below 0. Moreover, in both experiments, *fordi* most closely resembles the subject-island, and not the other

complementizers introducing adjunct-clauses. The subject-island shows, across experiments, a large island effect (Kush et al., 2017; in preparation).

However, there are some interesting issues to discuss. There are a lot of participants that have z-scores that range from positive to negative, although the positive z-scores are lower than the z-scores for the corresponding condition for *når* and *om*. This indicates that in some cases extraction from *fordi* is marginally accepted. This is confirmed by looking at the density plots for experiment 1 (Figure 5) and the interaction plot of *fordi*-items in experiments 1 and 2a (see appendices A and D), which show that items 7 and 6 trend towards a positive z-score and that there are several items that show linear additivity or small DD-scores (see especially appendix D). However, there are no participants that only provide positive z-scores for *fordi* in the island-condition, as there are for both *om* and *når*. This points in the direction that the variability seen in *fordi* is due to *within* participant variability as opposed to *between* participants, i.e., we are not dealing with different groups of participants.

The difference in *within* participant variation that separates *fordi* from the subject-island, two island types that generally pattern relatively similarly, suggests that the adjunct clauses also share some characteristics. It also shows that a large island effect does not necessarily lead to consistency. Considering that *fordi* quite closely resembles the subject-island, it is surprising that *fordi* shows considerable variation as opposed to the consistent ratings provided in the subject-island condition. Accordingly, this implies that there is something that causes variability in *fordi*, but not in the subject-island, though both are generally considered unacceptable. It could be speculated that subject-islands and *fordi*-islands might be constrained by different systems, where one system will provide consistent responses every time and the other will not.

It is also interesting to see that in both experiments *fordi* actually receives DD-scores (DD = 1.032/0.792) that are larger than what Sprouse et al. (2016) found for English adjunct *if*-islands in a *wh*-dependency (DD-score = 0.71). This indicates that *fordi*, as opposed to *når* and *om*, shows a clear island effect in Norwegian and it resembles the findings for adjunct *if*-islands in *wh*-dependencies in Norwegian (Kush et al., 2017) and, as such, aligns with the universalist claim about adjunct islands.

5.2.4 Why variation at the participant and item level is important to investigate

The discussion above concerning the different complementizers not only shows that they are different, but it also shows that looking at the variation within acceptability judgements can provide interesting information. And even more so, as is especially clear for *når* ‘when’,

investigating the variation can provide additional and vital information about the acceptability of an island-extraction that is not conveyed by just considering the mean results.

The importance of variation within acceptability judgements is discussed in Kush et al. (2017) who found significant variation in Norwegian *whether*-islands and who, in the absence of variation between items, attribute the variation to inter-individual differences. They argue that inter-individual differences suggest that there may be variation between speakers' grammars. This can also be extended to the findings for *når*. Kush et al. (2017) also found that participants are not consistent in their ratings, a finding that was also made in all three experiments in the present study. This is important because it uncovers some of the most complicated patterns that are lost by averaging over the ratings – namely that there is *both* between participant variation and within participant variation that is not explained by inter-item differences[37].

Kush et al. (2017: 23) found three groups of participants in their three experiments on island extractions in Norwegian *wh*-dependencies: Rejecters, accepters and unclassified participants. "Rejecters" are classified as participants whose DD-score is > 0.25 and "accepters" are participants with DD-scores between -0.25 and 0.25. "Unclassified participants" are participants that show *subadditive* island effects (DD-score > - 0.25)[38], which is a pattern not interpretable by current theories (Kush et al. 2017: 23). It is not clear how subadditive interaction effects should be interpreted as neither grammatical nor processing accounts predict that participants will show subadditive effects. Sprouse et al. (2012a) suggest that the subadditive interaction effects they find in their dataset may be experimental noise and remove the DD-scores below 0. Kush et al. (2017) suggest that the percentage of participants in their "unclassified class" is too large for it to be experimental noise. It is evident that for all the islands tested in the current thesis, the largest group is the rejecters, even when the unclassified class and the accepting class are combined. This suggests that conditional adjunct-clauses are islands to extraction for the majority of Norwegian speakers, and that from such a perspective, it is not necessarily incorrect to classify *om*, *når* and *fordi* as islands in Norwegian.

[37] Kush et al. (2017) did not find any between-items differences in *whether*-islands.

[38] Sprouse et al. (2012a) classify *subadditive* interactions as DD-scores below 0.

Table 5. *Overview of the number of participants in the three groups as classified by Kush et al. (2017): rejecters (DD > 0.25), accepters (DD = -0.25 – 0.25), unclassified (< -0.25) in all five island types tested in experiment 1.*

	Rejecters	Accepters	Unclassified	% rejecters
Om 'if'	59	24	22	56%
Når 'when'	62	22	21	59%
Fordi 'because'	81	14	10	77%
Subject	93	6	6	89%
Whether	53	30	22	50%

Moreover, although not explicitly addressed, in Sprouse et al. (2012a), the mean z-score ratings for each condition in complex NP-, adjunct-, subject- and *whether*-islands have surprisingly large standard deviations (SDs) – ranging from 0.58 (complex NP island) to 0.86 (subject-island). In comparison, in experiment 1 of the current thesis, the SDs of each condition for each island type range from 0.483 (subject-island) to 0.838 (*når*-island). This indicates that there might also be a lot of variation in the acceptability of English island violations, as has been seen in Norwegian data in the three current experiments and in Kush et al. (2017; in preparation). As such, the variation within a data set is important to explore in order to say something about the pattern of acceptability – e.g., whether or not there are groups of participants that cluster.

5.3 "Adjunct" – not necessarily a natural class

The results show that the various complementizers that introduce adjuncts are treated differently in an island-violating structure. Moreover, the investigation of the variation within each island type reveals that it is not only the central tendency that differs, the complementizers exhibit dissimilar variation as well. This result is surprising, and it implies that the class of "adjunct" is not a natural class. Furthermore, it strongly suggests that studies of "adjunct islands" need to consider possible variation among different complementizers. For instance, results from experiments testing *if* (Sprouse et al., 2011; Sprouse et al., 2012a, Sprouse et al., 2016) has been generalized to cover the behavior of all adjunct islands. The current experiments have, on the other hand, shown that *om* is treated differently from other adjunct-islands, and as such, cannot predict the behavior of *når* or *fordi*. This suggests that each language and its different complementizers have to be investigated separately. Clearly,

this has implications for analyses of islands based on data from English. I turn to that in the next sub-section.

5.3.1 Accounts of English

This section will consider some of the accounts of English island violations discussed in chapter 2. The universalist perspective on island constraints maintains that the accounts proposed to explain English adjunct island phenomena should be applicable to Norwegian as well. For that reason, I will compared the experimental findings with the accounts of English to investigate whether these accounts are able to explain the effect of complementizer. The goal of this section is not to provide new accounts or explanations of island phenomena, but to investigate how the findings of the current experiments comply with previous accounts of English. This will involve discussing various ways that the accounts can deal with different complementizers and problems facing such accounts.

First, Subjacency-like accounts will be discussed, including the Subjacency Condition, the Barriers Framework and the Phases Framework. Subjacency-like accounts are approaches that: (1) measure the size of a given movement step, (2) limit the step size of movement, (3) specifies which nodes permit escape and (4) specifies the number of slots in the "escape nodes" (Sprouse and Hornstein, 2013: 7). Next, Relativized Minimality, i.e., an approach that defines the constraint in terms of intervention, will be discussed[39]. The CED will be briefly discussed in section 5.4 in relation to issues concerning universality.

5.3.1.1 Subjacency-like accounts

Among the Subjacency-like accounts, only the Barriers framework and the Phases framework offer an explanation of adjunct island violations[40]. Within *Barriers*, extraction from adjunct-clauses is explained in terms of proper government. Complementizers introducing adjuncts (typically PPs) are not properly governed, and for that reason, nodes above the complementizer will (by inheritance) become blocking categories (Chomsky, 1986; Roberts, 1997).

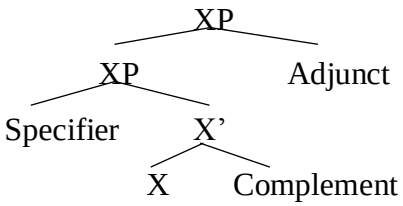
[39] Truswell's (2007; 2011) approach will not be discussed as the different complementizers show different behavior while still belonging to the same semantic class (i.e., conditionals) and as such, it seems that an approach that is based on semantic classes will not be appropriate to explain the findings. Also, Müller (2017) investigating adjunct island extractions in Swedish found that extraction from *eftersom* 'because' was not accepted which she argues is contrary to Truswell's account on causation.

[40] The Subjacency Condition itself did not consider adjunct islands.

A similar approach to adjunct islands is adopted in *Phases*: adjuncts do not receive theta-roles from the matrix verb, and unlike in *Barriers*, this does not affect any other node, but it simply stipulates that any element in the adjoined phrase will be invisible for further operations (Adger, 2003: 399). It is important to note that this is *one* account of how adjoined phrases are "invisible" for further operations within the Phases framework, see Müller (2010) for an account based on edge-features and Rakowski and Richards (2005) for an account based on agreement with little *v*. However, for the sake of closeness with *Barriers*, the theta-assignment hypothesis will be assumed in the following discussion.

The explanation of adjunct island effects in *Barriers* and *Phases* relies on how the adjunct-clause is incorporated into the matrix sentence. Typically, the adjunct complementizer (PP) is thought to be *adjoined* to the VP, as follows:

(66) *Illustration of adjunction to VP from Adger (2003: 111):*



With the exception of non-finite adjunct clauses, English adjunct island phenomena are sufficiently explained as scholars have not considered different complementizers as a source of variability; nor have any such differences been suggested or appeared in formal experiments.

There is, however, no mechanism that can account for the findings in the current thesis. As it stands, neither the Barriers nor the Phases framework expect there to be any variation between different types of complementizers with regard to extraction. This is because adjuncts are all adjoined to the matrix clause in the same way – irrespective of the complementizer in question. As such, the Barriers and Phases frameworks are not sensitive to different types of complementizers, which suggests that their granularity is not fine-grained enough to account for the variation found within Norwegian, nor can they account for the differences between a language like English on the one hand and Norwegian on the other hand.

There may be different avenues that can be pursued to salvage the accounts when faced with the present data from Norwegian. For example, is it possible to say that *fordi*,

which showed a large island effect, is adjoined to the matrix clause in a different way than *om*? Or, that some Norwegian speakers seem to include *når* into the matrix clause in a way that makes the *når*-clause visible for further operations, i.e., allowing island extraction, whereas it is invisible for other groups? Unless independent evidence for such analyses are to be found, they will appear as stipulations and thereby not increase our understanding of island constraints cross-linguistically.

It is clear that the Subjacency-like approaches are not able to explain the distinction between different complementizers as they treat all adjoined phrases similarly[41]. In other words, they treat adjunct-clauses as a coherent class in which further subcategorization is not necessary in relation to island violations. Clearly, a theory that is sensitive to the different acceptability of different complementizers is necessary to adequately explain the pattern found in Norwegian. Moreover, this illustrates that data from Norwegian adjunct islands can provide valuable data for accounts of English island phenomena in that it strongly suggests that these are not the correct accounts of adjunct islands cross-linguistically.

5.3.1.2 Relativized Minimality

Relativized Minimality deals with adjunct islands by stipulating that there is some feature that intervenes between the filler and the gap such that a dependency between the two cannot be established. The intervener and the target (i.e., filler) must have the same feature. In *wh*-islands this is typically called an operator, e.g., [+Op]. Kush et al. (2017) argue that the only way within Relativized Minimality to accommodate their findings would be to stipulate that some participants analyze *whether* as [+Op], i.e., not allowing extraction, whereas other analyze it as [-Op], i.e., allowing extraction.

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[41] Truswell (2011: 14) discusses the possibility that within the Barriers framework, elements moving out from adjunct-clauses can reach Spec-CP by only crossing one barrier. And furthermore, that crossing one barrier does not lead to unacceptability, but to (mild) degradation. An element moving from an adjunct-clause that is adjoined to VP is stipulated to only cross one barrier, whereas adjunction to IP would mean crossing two barriers. This is achieved by assuming that the moved element can adjoin to VP as an intermediate landing site (Chomsky, 1986: 33).

(vii) *Who* [$_{TP}$ is it [$_{VP}$ _ time [$_{CP}$ _ (for John) to visit _] ?

Could it be that *om* and *fordi* are adjoined at different levels in the structure? Such an account of adjunct extraction would be forced to stipulate that some speakers adjoin *når* to VP, while others adjoin it at IP. Moreover, it stipulates that participants will provide stable judgements within each complementizer – this however, is not the case in the current findings.

(67) [__ Roar wondered [whether$_{[+Op]}$ Torgeir ate which tacos$_{[+Op]}$]]

(Kush et al., 2017: 32)

In the literature it is less evident what feature the intervener in adjunct clauses shares with the moving element. A proposal with a specific implementation of such an intervener is given in Bhatt and Pancheva (2006). They argue that conditional complementizers such as *om* 'if', *når* 'when' and *fordi* 'because' are interpreted as free relatives with a "possible worlds" operator (2006: 654). This means that extraction from adjunct clauses can be explained by postulating that the possible worlds operator intervenes between the moved element and the trace (Sprouse et al., 2016: 340).

(68) if John arrives late

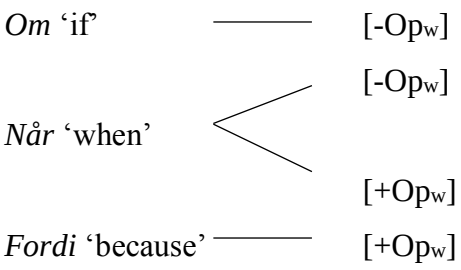
a. LF: Op_w C^0 John arrives late in w

b. *i*w [John arrives late in w]

(Bhatt and Pancheva, 2006: 655)

In accordance with the findings in the current thesis and with Kush et al.'s (2017) discussion of *whether*-island effects in Norwegian, it could be possible to stipulate that the three complementizers tested thus far could be assigned the feature *operator of possible worlds* differently[42].

(69)



This however, does not provide an explanation of *why* the complementizers are analyzed differently, and Relativized Minimality is, as the Subjacency-like accounts, only able to explain the pattern by stipulating that complementizers are analyzed differently without going beyond a superficial level of analysis.

[42] It is easy to imagine that other complementizers may show different patterns of extractability.

Moreover, taking into account other experimental data on adjunct island extraction, the above solution might not be the only possible analysis of adjunct island effects found in Norwegian. Sprouse et al. (2016) and Kush et al. (2017; in preparation) found that the type of dependency matters for acceptability of extraction. As such, Kush et al. (2017: 36) speculate that different types of dependencies could be driven by different features, such that [Op_w] is not relevant for topicalization. Accordingly, [+Op_w] would not be a feature that causes an RM violation in topicalization-dependencies. This type of explanation would again not be able to separate between the different complementizers and would have to stipulate a different intervener for *fordi* and, partly, for *når,* than for *om*.

5.3.2 Intermediate conclusion

None of the accounts of English are able to fully explain the complementizer effects that have been observed for extractions of out islands in Norwegian. Crucially, they are not sensitive to different types of complementizers. It is in *Barriers, Phases* and Relativized Minimality possible to stipulate some mechanism that can constrain extractability in certain adjunct clauses, but not in others. However, these solutions do not offer an explanation of *why om* 'if', *når* 'when' and *fordi* 'because' differ. Rather, the accounts treat all adjunct-clauses similarly. The above discussion shows that treating all adjunct complementizers similarly will predict the wrong acceptability in Norwegian. Thus, to explain the findings, a closer investigation into the structures of each of the complementizers is needed. However, this is beyond the scope of the current thesis and has to be left for future research.

5.4 Issues concerning Universality

It has been shown that the three complementizers tested in the current experiments all show different behaviors regarding extraction. The evidence presented demonstrates that Norwegian speakers are sensitive to type of complementizer, and this pattern cannot be fully explained in any of the accounts of English island phenomenon. All of the accounts of English rest on the assumption that island constraints are universal and can be derived by universal constraints – what then about the effect of complementizer found in Norwegian speakers?

First, it has been established that "adjunct" does not seem to be a coherent class of structures in Norwegian, which in itself does not challenge the claim that adjunct islands are universal. Instead, it calls into question whether it makes sense to categorize *om* 'if', *når* 'when' and *fordi* 'because' as members of the same class. As such, it raises a problem of classification – does it make sense to investigate the universality of "adjunct islands" if it has

been shown to provide strikingly different results of acceptability depending on the type of complementizer tested?

Rather, evidence from Norwegian suggests that it should be investigated whether *om*-islands are universal and whether *når*-islands are universal etc. Embedded *if*-clauses have been tested in English and were found to be islands to extraction in *wh*-dependencies. Following the research presented here, however, this cannot be generalized to account for all other structures thought to be covered by the term "adjunct islands". Furthermore, conservatively, this is not necessarily damning evidence for the CED as this simply stipulates that any clause that is not properly governed will be an island to extraction. To maintain the relevance of the CED, it would have to be stipulated that *om* is (for some speakers/in some items) properly governed, whereas *fordi* is not. Therefore, it requires that the cover term "adjunct" is redefined such that distinctions between complementizers can be accounted for.

More problematic however, is the difference between Norwegian and English *if*-island violations – the three current experiments together with Kush et al. (in preparation) suggest that *om* in a *topicalization dependency with context* may not be an island to extraction for all speakers in Norwegian. There is an (on average) effect of movement out of *om*, however, it does not lead to unacceptability (on average), and the large variation indicates that there is a rather large group of speakers that do not show an island effect in *om* adjuncts. As such, to propose that there is a distinction between properly governed complementizers (e.g., *om*) and not properly governed complementizers (e.g., *fordi*, English 'if'), will also force a stipulation of parametrization between languages (and speakers within the same language) on whether or not a certain complementizer is properly governed.

5.5 Strengths and weaknesses

The fact that the three current experiments largely replicated the findings in Kush et al. (in preparation) strengthens the confidence in the design of the study. The results obtained from this experimental design is replicable, even with different sample sizes. This also strengthens the findings in other studies using the same experimental design in other languages, e.g., the results on *if*-clauses and dependency types in English in Sprouse et al. (2016). Moreover, it shows that, for most island types, experiments following this design are sufficiently powered with around 32 participants. In addition, the findings in experiment 1 were also replicated in experiments 2a and 2b. Furthermore, as experiment 1 had a large number of participants, whereas experiments 2a and 2b included more test-items for the adjunct islands, it suggests

that experiments following this design can increase their statistical power by two different measures depending on what is most suitable in a given situation.

A possible challenge facing the experimental design as described in this thesis, which follows Kush et al. (2017; in preparation), Sprouse et al. (2011), Sprouse et al. (2012a), Sprouse et al. (2016), is that there is a great amount of variation seen in the current three experiments. A considerably large group of participants show negative DD-scores, a type of acceptability behavior that cannot be accounted for by current theories (Kush et al. 2017: 23). Accordingly, there is either some variable that the design is unable to detect or that is not included or, more problematic, the design "forces" this group of participants to respond in one particular way, or the statistical tests misanalyse the responses. However, as the findings are replicable, it indicates that the design is reliable, and furthermore, the subject-island shows very little variation, which points in the direction that it is not the design that causes variability, it is the islands tested.

Moreover, one thing to keep in mind, is that due to the Latin Square Design, the items are split into four lists. The result is that two and two items are tested by the same participants, in other words, items X and Y are tested by the same group of participants, while A and B are tested by a different group of participants. Accordingly, as the between-participant variation is large, it might be problematic to compare items as they may only be expressions of inter-individual differences. This means that the design does not really facilitate between items comparison, because the sample of participants that rate each item is not completely randomized by participant. Tentatively, this seems to explain some of the inter-item differences. However, a one-way ANOVA reveals that there is not a statistically significant difference between the mean z-scores in the island-condition of the four lists ($p = 0.11$), which indicates that the effect of "list" or "group" is not significant.

5.6 Future research

There are two important questions that are left unanswered following the above discussion and which will have to be left for future research. One is whether the effect of type of complementizer for extraction that is found in Norwegian is also seen in English, and in other languages. The other is whether there is anything that can reliably predict the extraction pattern (e.g., semantic class, syntactic structure etc.).

Beginning with the first question, which, essentially, is a question of learnability, the findings in the current thesis show that Norwegian speakers are sensitive to the type of complementizer introducing an adjunct clause in a topicalization dependency. This raises the

question of *how* Norwegian speakers have learned to distinguish extraction from *om* 'if' from extraction from *fordi* 'because' – is it learned from the input or is it part of UG – as it is claimed that adjunct islands are? It is impossible to provide any answer to this question based on the evidence presented in the current thesis, however, this is an important question raised by the findings. It seems a long stretch to argue that there are innate constraints for each complementizer that a language may have. Yet, the question that faces all island constraints is equally relevant for *om-*, *når-* and *fordi*-islands: how can the relevant patterns be learned from the input? Research on whether English shows the same effect of complementizer for extraction can provide us with a first venue into this problem.

Second, if an internal predictor for extraction within each of the complementizers can be identified, this can be a first approximation to incorporate this granularity into current accounts of island violations. As discussed above, none of the accounts of English adjunct islands are able to distinguish between each of the complementizers tested in the current experiments, and they are therefore not able to account for the different patterns of acceptability. If, however, there is some feature internal to each complementizer that reliably predicts the extraction pattern, it might be possible to adapt the current accounts of English so that they are sensitive to this difference.

6 Conclusion

The aim of this thesis has been to provide new insight into the status of adjunct islands in English by investigating acceptability of extraction from adjunct islands in Norwegian. Islands are domains that constrain the formation of filler-gap-dependencies. Within a grammatical approach to islands, islands are considered to be universal. The universal constraints are thought to be derived by both general principles such as *locality* and more specific constraints, e.g., Relativized Minimality. The accounts that have been proposed are quite adept at accounting for data on English island violations. For instance, the Subjacency Condition constraints (70) by stating that *about which topic* cannot cross two TPs on its way to the matrix SpecCP, when the closest SpecCP is already filled.

(70) *[$_{CP}$ *About which topic* did [$_{TP}$ John ask [$_{CP}$ who [$_{TP}$ was talking _]?

(Szabolcsi and Lohndal, 2017: 4)

However, the accounts are not fully able to explain the extraction pattern found in adjunct islands. Adjunct islands are embedded clauses that are *adjoined* to the matrix clause, and are argued to have universal validity (Truswell, 2007; 2011; Stepanov, 2007). Thus, it is expected that, as in English, adjunct clauses are islands in Norwegian. However, examples provided in Bermingrud (1979), Engdahl (1982), Maling and Zaenen (1982) and Faarlund (1992) indicate that not all Norwegian adjunct clauses are islands to extraction. This, together with the fact that there are also certain patterns in English adjunct islands that are not accounted for (cf. Sprouse et al., 2016), implies that more knowledge of adjunct islands is needed. Comparative research of adjunct islands in English and Norwegian – two languages that show differing patterns of extraction from adjunct islands – can be one approach to gain more knowledge of adjunct islands. Accordingly, the thesis has investigated whether Norwegian adjunct clauses are islands to extraction, and more specifically, whether the type of complementizer heading the adjunct clause has an effect on the acceptability.

Following Sprouse et al. (2011), Sprouse et al. (2012a), Sprouse et al. (2016), Kush et al. (2017; in preparation), I have investigated adjunct islands by way of an experimental approach in a 2x2 factorial design. Norwegian speakers' acceptability judgements were collected on five different island types; *fordi* 'because', *når* 'when', *om* 'if' (conditional complementizers), *whether*-island and subject-island. The two latter island types were included as baselines as both island types have shown consistent results in Kush et al. (2017; in preparation).

The findings in experiment 1 were surprising – the three adjunct islands received different average acceptability ratings *and* different island effect sizes. In order to find the source of this difference, the variation within each adjunct island type was investigated. The three adjunct islands showed different variation: *om* clearly patterns like *whether* by showing a very low average island effect and a lot of variation. *Når* showed a bimodal distribution of judgements, which indicates that there are two groupings of judgements. However, the experiment could not separate between the different types of variation, it could be *between* participants, *within* participants and *between* items. *Fordi* patterns like the subject-island by having a narrow distribution of z-scores that centers below 0. However, *fordi* showed considerably more variation *within* each participant than the subject-island did (in experiment 1 *within* participant variation is inseparable from *between* items variability).

Experiments 2a and 2b were conducted to further investigate the variation seen in experiment 1 by including more responses per participant for the adjunct islands. The results in experiments 2a and 2b showed that the variation seen in experiment 1 replicated when more items per participants were included. Experiments 2a and 2b revealed that *om* does not show a lot of between participant variation, instead there is more within participant variation and between items variation. Furthermore, the results in experiment 2b provided further understanding of the bimodal results in *når* as they more clearly showed the existence of different groups of participants in *når:* there are consistent rejecters, some consistent accepters and some inconsistent participants. This pattern is not seen in the judgements for *om* – where *om* shows a bimodal distribution, experiments 2a and 2b suggest that it must be attributed to *within* participant variation.

Theoretically, the findings are surprising as the imply that "adjunct" is not a natural class since the "adjunct islands" receive such different judgements. This suggests that it does not necessarily make sense to discuss "adjunct islands", instead each complementizer must be looked at separately. None of the accounts proposed to explain English adjunct island extraction that are reviewed in this thesis (*Barriers, Phases,* Relativized Minimality, CED) can successfully explain the effect of complementizers since none of the accounts reviewed are sensitive to type of complementizer. Moreover, none of the accounts are able to account for the bimodal nature of the *når* ratings.

The experiments provide evidence that theories based on data from English adjunct islands might not be appropriate since they do not generalize to a language like Norwegian. As such, to maintain that adjunct islands are universal, a closer investigation of the *domains that are adjoined to the matrix clause* is required. The findings also pose a learnability issue,

which calls for an investigation of whether there is comparable variation between complementizers in English and other languages.

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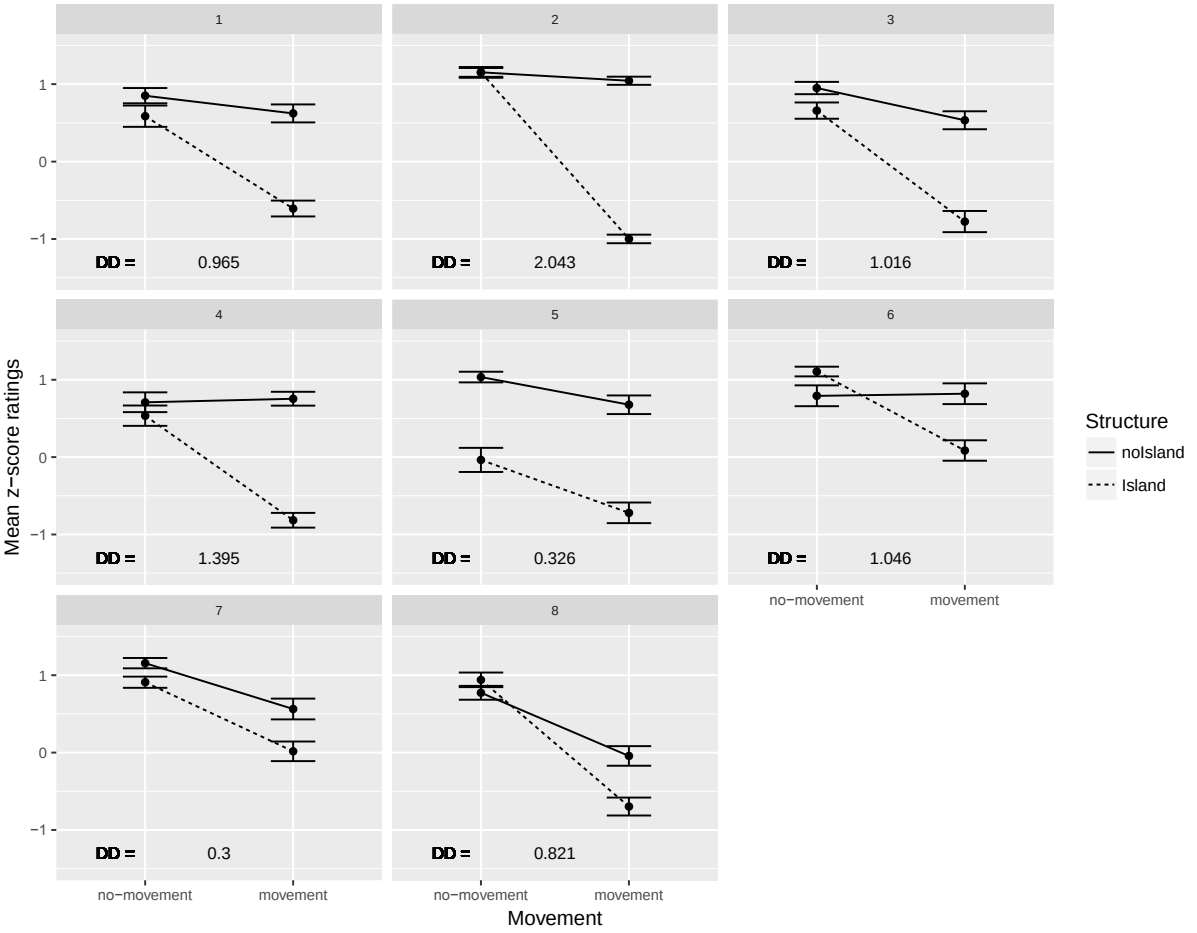
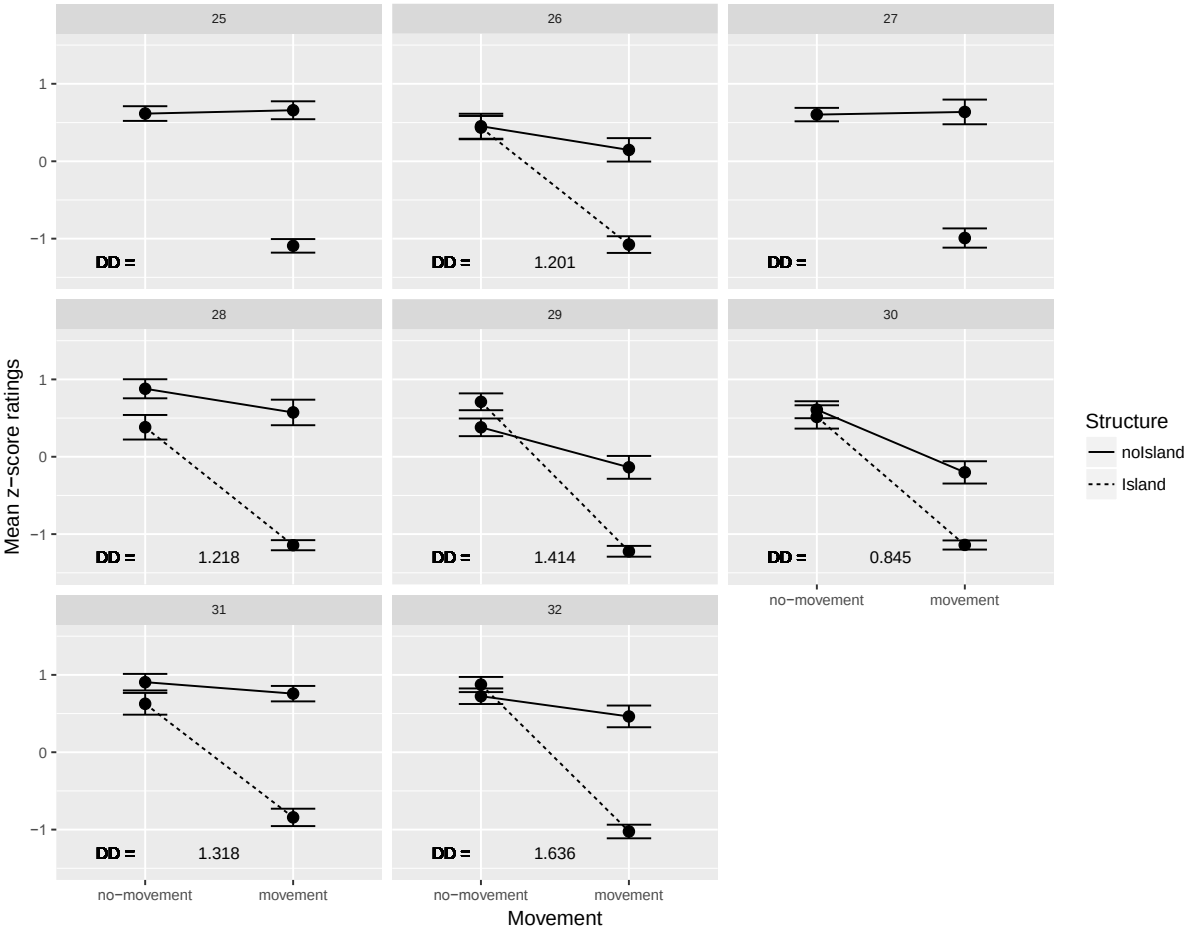
Appendices

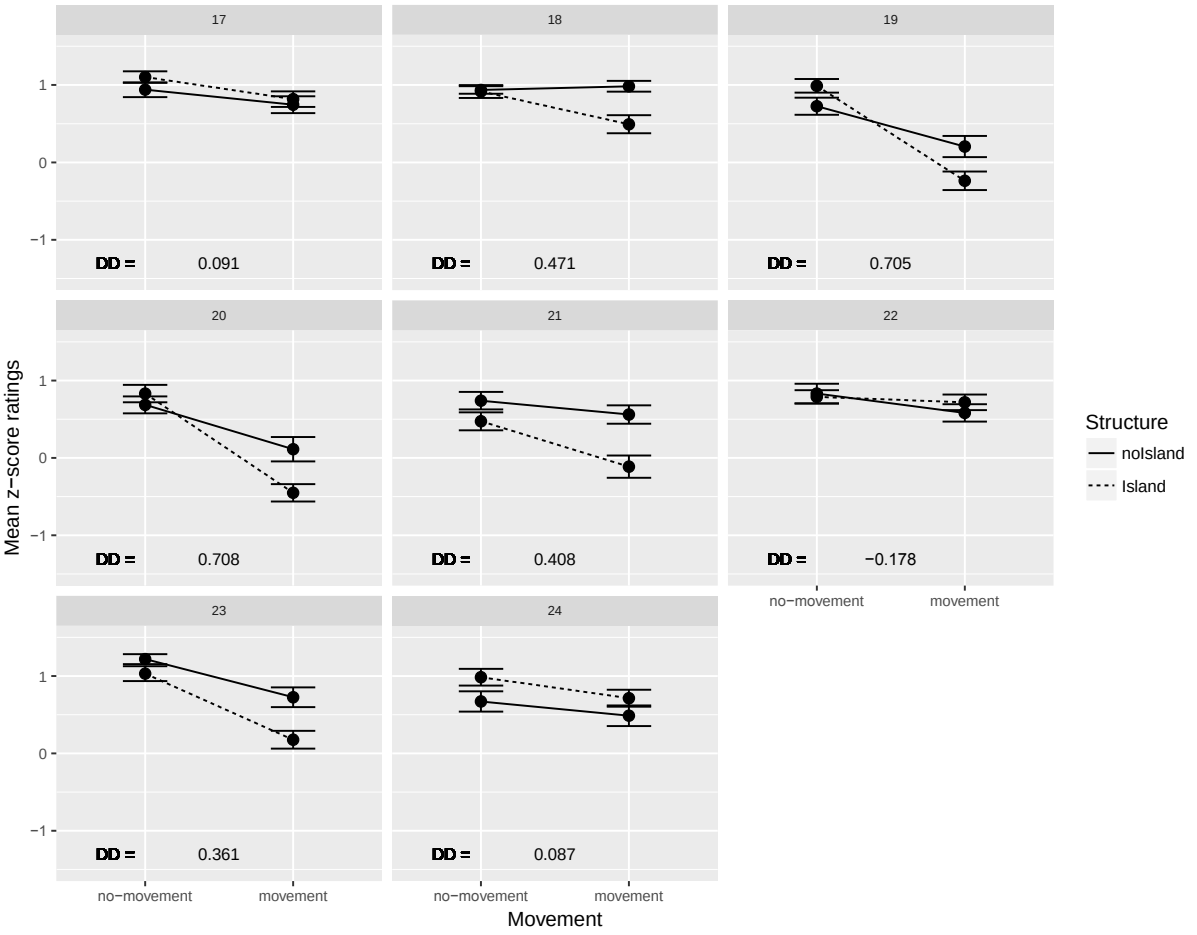
Appendix A. *Interaction plot of* fordi-*items in experiment 1.*



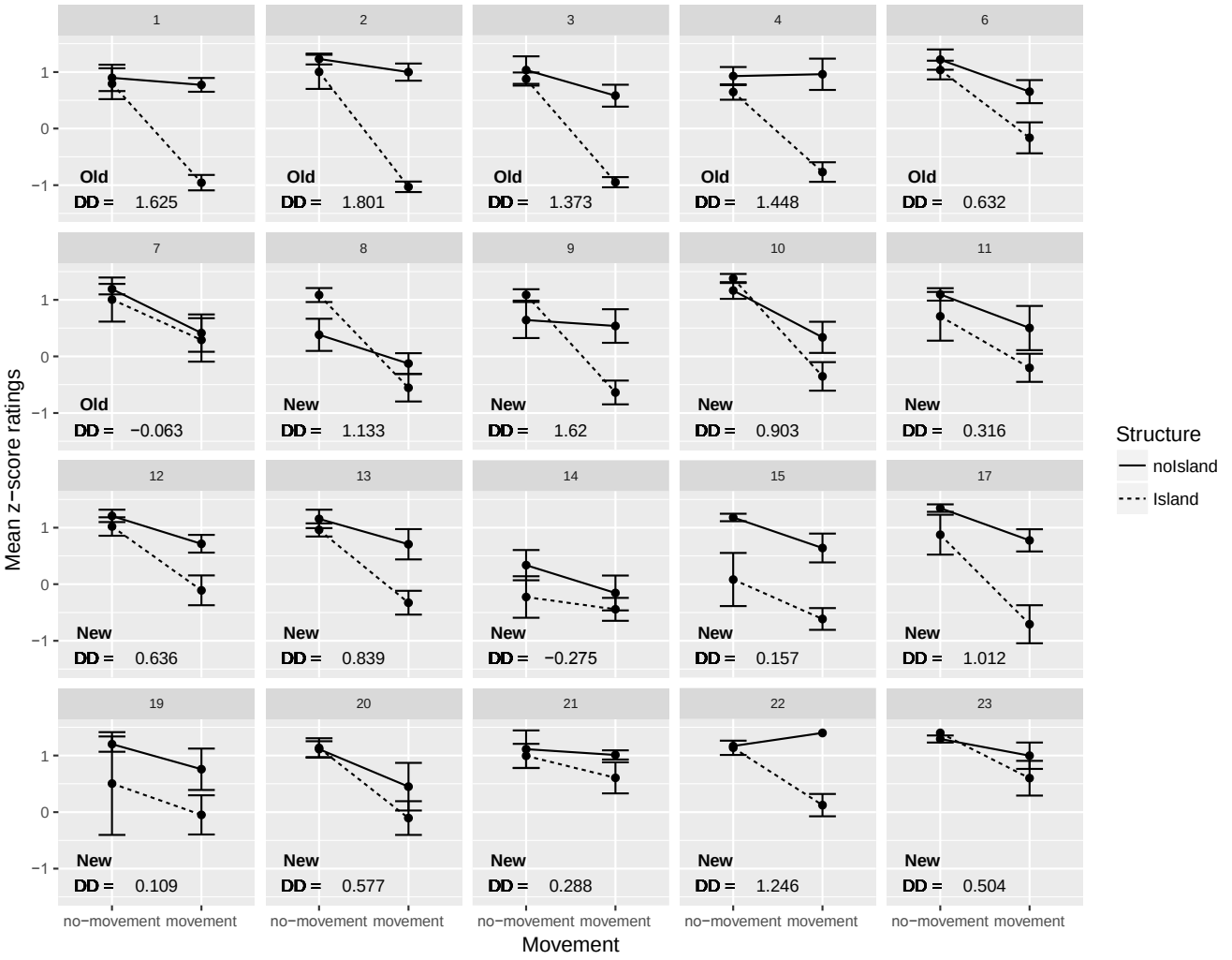
Appendix B. *Interaction plot and DD-score for the subject-island in experiment 1. Due to a miscode at the experiment-setup-stage, the "no-movement, island"-condition for items 25 and 27 merged with the "no-movement, island"-condition, which is why the DD-score is not possible to calculate. This means that the ratings for the "no-movement, no-island"-condition might be slightly underestimated in these items. However, the interesting take-away from this plot is the average score for the "movement, island"-condition and this is not affected by this minor coding mishap.*



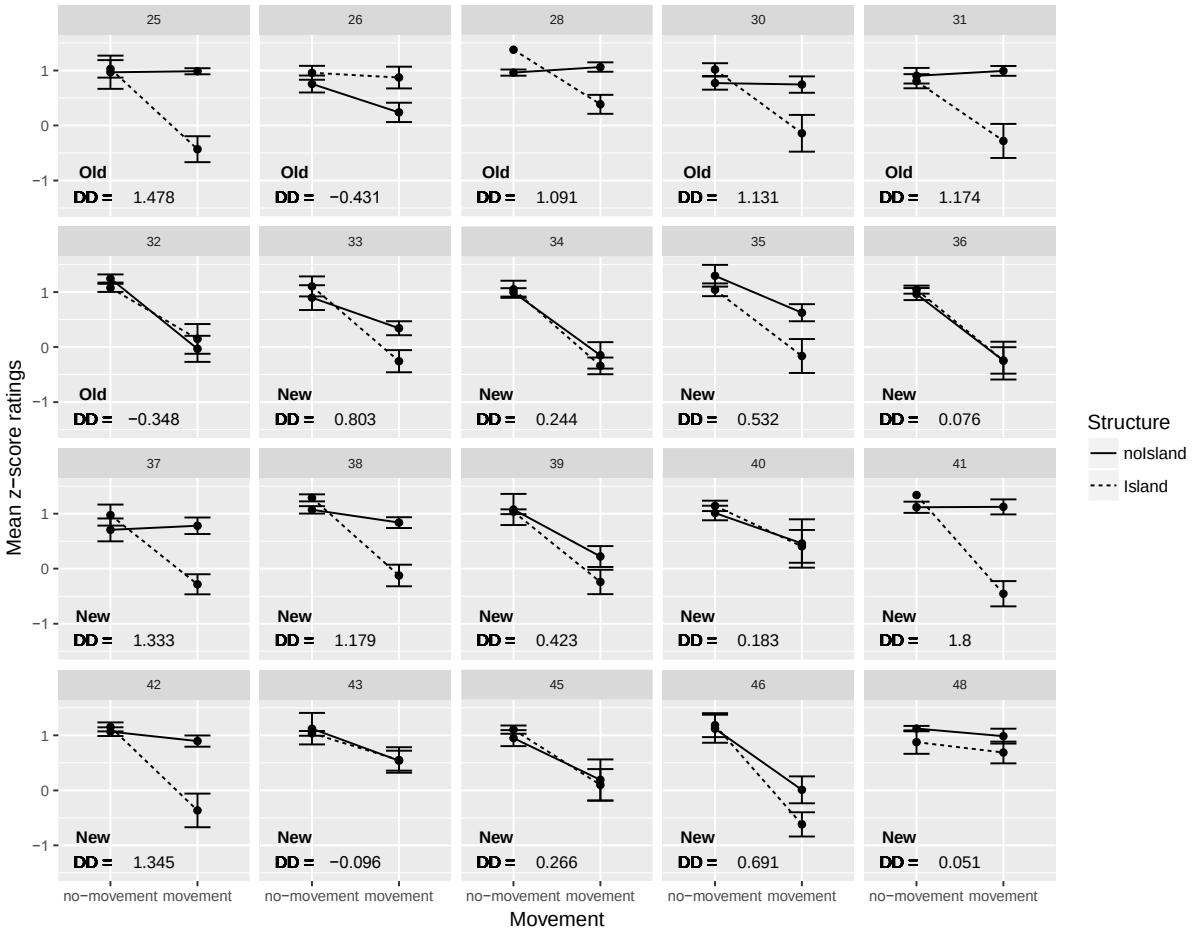
Appendix C. *Interaction plot with DD-scores for the* whether-*items in experiment 1.*



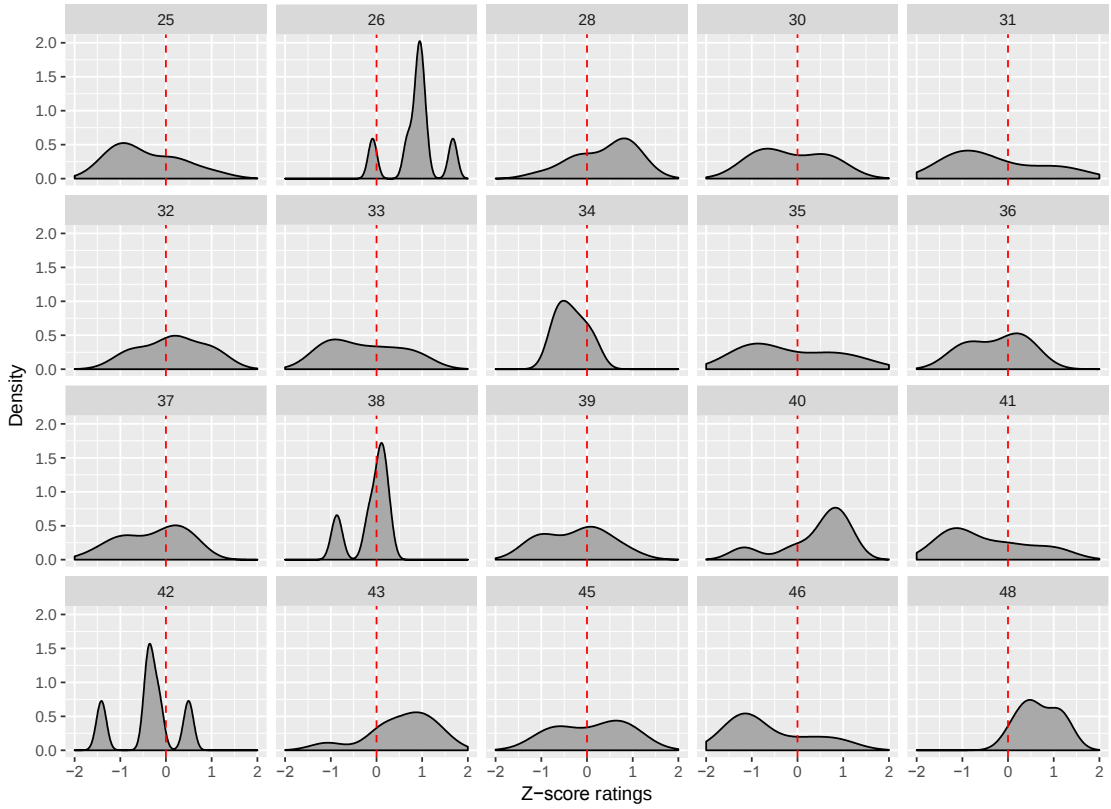
Appendix D. *Interaction plots for* fordi*-items in experiment 2a.*



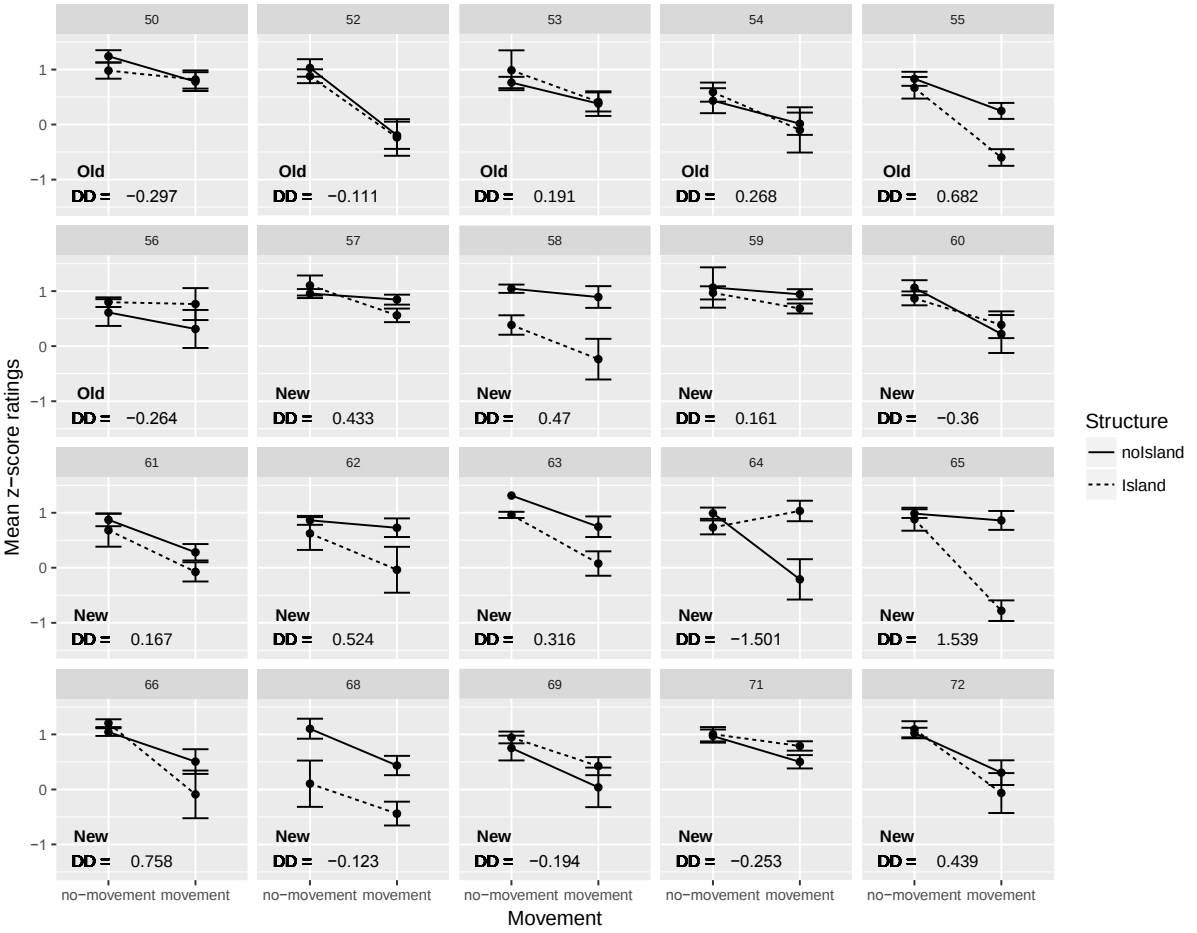
Appendix E. *Interaction plots for* når*-items in experiment 2b.*



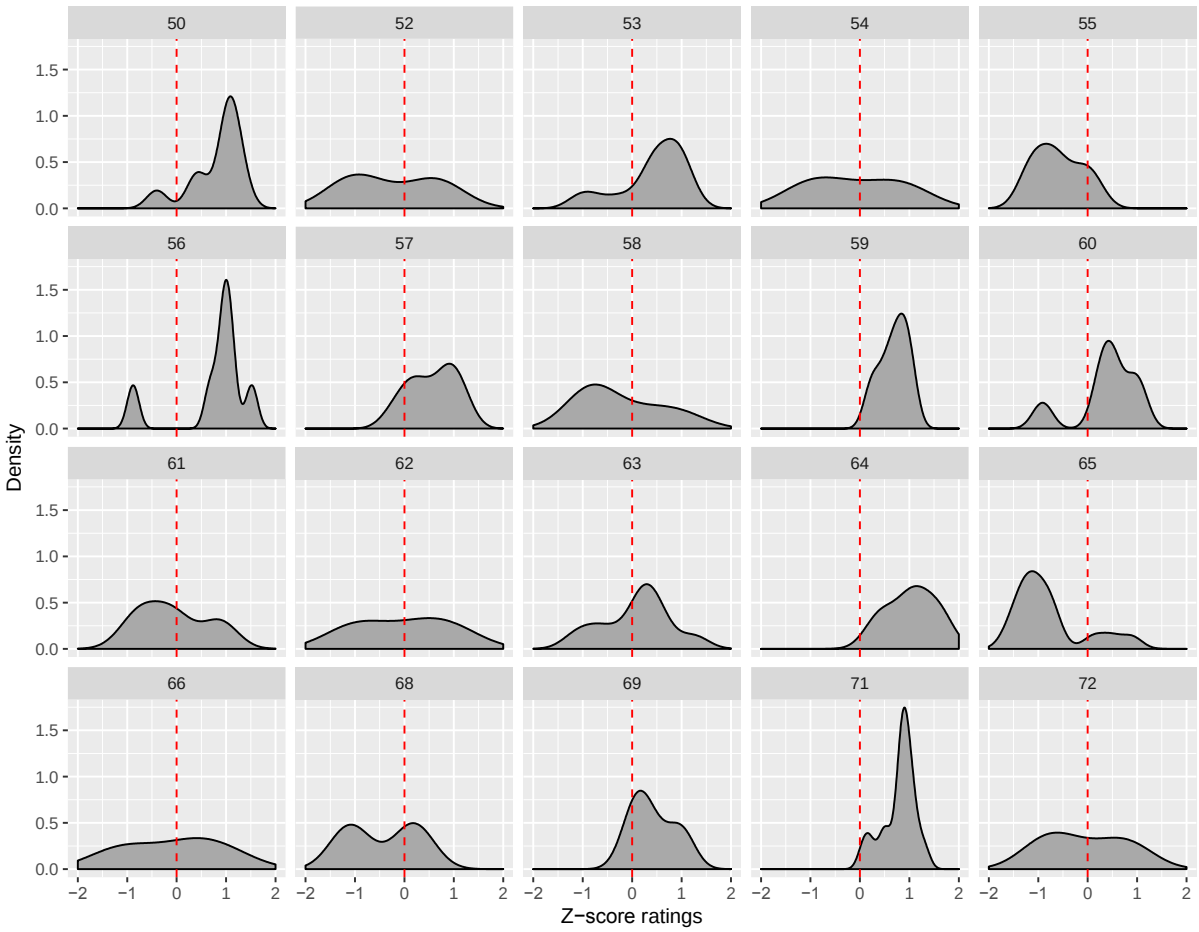
Appendix F. *Distribution of z-score ratings for the* når*-items the island-condition ("movement, island") in experiment 2b.*



Appendix G. *Interaction plots for* om-*items in experiment 2b.*



Appendix H. *Distribution of z-score ratings for the* om-*items the island-condition ("movement, island") in experiment 2b.*



Appendix I. *Overview of the test-items for experiment 1, 2a and 2b. The item-numbers are the same as in the various plots. The second number that is provided for certain items is the number that particular item was given in experiment 1.*

***Fordi*-items**
Item 1
Bonden forventer at kona vil slutte å dyrke dill og basilikum,... men han håper at de kan fortsette å dyrke persille.
Bonden forventer at kona vil slutte å dyrke dill og basilikum,... men persille håper han at de kan fortsette å dyrke.
Bonden forventer at kona vil slutte å dyrke dill og basilikum,... men han er nervøs fordi kona vil slutte å dyrke persille.
Bonden forventer at kona vil slutte å dyrke dill og basilikum,... men persille er han nervøs fordi kona vil slutte å dyrke.
Item 2
Mette er ikke fornøyd med sommertemperaturene i Nord-Norge,... men hun sier at hun liker vintertemperaturene.
Mette er ikke fornøyd med sommertemperaturene i Nord-Norge,... men vintertemperaturene sier hun at hun liker.
Mette er ikke fornøyd med sommertemperaturene i Nord-Norge,... men hun blir boende fordi hun liker vintertemperaturene.
Mette er ikke fornøyd med sommertemperaturene i Nord-Norge,... men vintertemperaturene blir hun boende fordi hun liker.
Item 3
Moren til Jon forventer ikke mye av han,... men hun mener at han burde fått karakteren 4 på eksamen.
Moren til Jon forventer ikke mye av han,... men karakteren 4 mener hun at han burde fått på eksamen.
Moren til Jon forventer ikke mye av han,... men hun ble skuffet fordi han hadde fått karakteren 2 på eksamen.
Moren til Jon forventer ikke mye av han,... men karakteren 2 ble hun skuffet fordi han hadde fått på eksamen.
Item 4
Friluftsmannen reagerte ikke da han ble stukket av mygg,... men han synes det er vondt å bli stukket av klegg.
Friluftsmannen reagerte ikke da han ble stukket av mygg,... men klegg synes han det er vondt å bli stukket av.
Friluftsmannen reagerte ikke da han ble stukket av mygg,... men han fikk vondt fordi han ble stukket av klegg.
Friluftsmannen reagerte ikke da han ble stukket av mygg,... men klegg fikk han vondt fordi han ble stukket av.
Item 5
Naboene blir ikke sinte når Sigurd øver på fiolin,... men de misliker at han spiller trommer.
Naboene blir ikke sinte når Sigurd øver på fiolin,... men trommer misliker de at han spiller.
Naboene blir ikke sinte når Sigurd øver på fiolin,... men de ble sinte fordi han spiller trommer.

Naboene blir ikke sinte når Sigurd øver på fiolin,... men trommer ble de sinte fordi han spiller.
Item 6
Sportsentusiasten var glad for at han rakk å se semifinalen,... men han frykter at han vil gå glipp av den spennende finalen.
Sportsentusiasten var glad for at han rakk å se semifinalen,... men den spennende finalen frykter han at han vil gå glipp av.
Sportsentusiasten var glad for at han rakk å se semifinalen,... men han var skuffet fordi han gikk glipp av den spennende finalen.
Sportsentusiasten var glad for at han rakk å se semifinalen,... men den spennende finalen var han skuffet fordi han gikk glipp av.
Item 7
Gjestene brydde seg ikke om at servitøren hadde glemt te,... men de likte ikke at han hadde glemt kaffe.
Gjestene brydde seg ikke om at servitøren hadde glemt te,... men kaffe likte de ikke at han hadde glemt.
Gjestene brydde seg ikke om at servitøren hadde glemt te,... men de var sinte fordi han hadde glemt kaffe.
Gjestene brydde seg ikke om at servitøren hadde glemt te,... men kaffe var de sinte fordi han hadde glemt.
Item 8
Sykkelturisten ville bruke google maps i planlegginga av sykkelturen,... men hun trodde at hun ville bli tvunget til å bruke den gamle kartboka.
Sykkelturisten ville bruke google maps i planlegginga av sykkelturen,... men den gamle kartboka trodde hun at hun ville bli tvunget til å bruke.
Sykkelturisten ville bruke google maps i planlegginga av sykkelturen,... men hun ble frustrert fordi hun ble tvunget til å bruke den gamle kartboka.
Sykkelturisten ville bruke google maps i planlegginga av sykkelturen,... men den gamle kartboka ble hun frustrert fordi hun ble tvunget til å bruke.
Item 9
Butikksjefen tenkte ikke over at leverandøren hadde glemt å levere ananas... men han likte dårlig at de hadde glemt å levere eplene.
Butikksjefen tenkte ikke over at leverandøren hadde glemt å levere ananas... men eplene likte han dårlig at de hadde glemt å levere.
Butikksjefen tenkte ikke over at leverandøren hadde glemt å levere ananas... men han var frustrert fordi de hadde glemt eplene.
Butikksjefen tenkte ikke over at leverandøren hadde glemt å levere ananas... men eplene var han frustrert fordi de hadde glemt.
Item 10
Tannlegen var skuffet over pasientene fordi de hadde glemt å bruke munnskyll... men hun likte at de hadde husket tanntråd.
Tannlegen var skuffet over pasientene fordi de hadde glemt å bruke munnskyll... men tanntråd likte hun at de hadde husket.
Tannlegen var skuffet over pasientene fordi de hadde glemt å bruke munnskyll... men hun var fornøyd fordi de hadde husket tanntråd.
Tannlegen var skuffet over pasientene fordi de hadde glemt å bruke munnskyll... men tanntråd var hun fornøyd fordi de hadde husket.

Item 11
Kapteinen var glad for at han slapp å krysse det grunne stredet… men han mislikte at han måtte manøvrere skipet inn i den smale fjorden.
Kapteinen var glad for at han slapp å krysse det grunne stredet… men den smale fjorden mislikte han at han måtte manøvrere skipet inn i.
Kapteinen var glad for at han slapp å krysse det grunne stredet… men han var bekymret fordi han måtte inn i den smale fjorden.
Kapteinen var glad for at han slapp å krysse det grunne stredet… men den smale fjorden var han bekymret fordi han måtte inn i.
Item 12
Medlemmene i komiteen var skuffet fordi de måtte avslå en god søknad… men ingen var skuffet over at de hadde avslått den dårlige søknaden.
Medlemmene i komiteen var skuffet fordi de måtte avslå en god søknad… men den dårlige søknaden var ingen skuffet over at de hadde avslått.
Medlemmene i komiteen var skuffet fordi de måtte avslå en god søknad… men ingen ble skuffet fordi de hadde avslått den dårlige søknaden.
Medlemmene i komiteen var skuffet fordi de måtte avslå en god søknad… men den dårlige søknaden ble ingen skuffet fordi de hadde avslått.
Item 13
Medstudentene er ikke sure på Trine fordi hun legger igjen bøkene sine på lesesalen… men de synes det er irriterende at hun legger igjen matrester.
Medstudentene er ikke sure på Trine fordi hun legger igjen bøkene sine på lesesalen… men matrester synes de det er irriterende at hun legger igjen.
Medstudentene er ikke sure på Trine fordi hun legger igjen bøkene sine på lesesalen… men de er sure fordi hun legger igjen matrester.
Medstudentene er ikke sure på Trine fordi hun legger igjen bøkene sine på lesesalen… men matrester er de sure fordi hun legger igjen.
Item 14
Samleren blir fornøyd hvis han kommer over lysestaker i gull ... men han har også blitt glad for at han har funnet lysestaker i sølv.
Samleren blir fornøyd hvis han kommer over lysestaker i gull... men lysestaker i sølv har han også blitt glad for at han har funnet.
Samleren blir fornøyd hvis han kommer over lysestaker i gull... men han har også blitt glad fordi han har funnet lysestaker i sølv.
Samleren blir fornøyd hvis han kommer over lysestaker i gull... men lysestaker i sølv har han også blitt glad fordi han har funnet.
Item 15
Treneren påstår at han ikke blir sint hvis spillerne pådrar seg gult kort under kamp… men han synes det er unødvendig at spillerne får rødt kort.
Treneren påstår at han ikke blir sint hvis spillerne pådrar seg gult kort under kamp… men rødt kort synes han det er unødvendig at spillerne får.
Treneren påstår at han ikke blir sint hvis spillerne pådrar seg gult kort under kamp… men han har blitt rasende fordi spillerne har fått rødt kort.
Treneren påstår at han ikke blir sint hvis spillerne pådrar seg gult kort underkamp… men rødt kort har han blitt rasende fordi spillerne har fått.

Item 17
Klesdesigneren bruker mye tid på å designe gensere… men hun har sluttet å si at hun kan designe bukser.
Klesdesigneren bruker mye tid på å designe gensere… men bukser har hun sluttet å si at hun kan designe.
Klesdesigneren bruker mye tid på å designe gensere… men hun er lettet fordi hun slipper å designe bukser.
Klesdesigneren bruker mye tid på å designe gensere… men bukser er hun lettet fordi hun slipper å designe.
Item 19
Foreldrene til Malin hadde ikke møtt den forrige kjæresten hennes… men de håpet at de kunne få møte den nye kjæresten.
Foreldrene til Malin hadde ikke møtt den forrige kjæresten hennes… men den nye kjæresten håpet de at de kunne få møte.
Foreldrene til Malin hadde ikke møtt den forrige kjæresten hennes… men de var spente fordi de skulle få møte den nye kjæresten.
Foreldrene til Malin hadde ikke møtt den forrige kjæresten hennes… men den nye kjæresten var de spente fordi de skulle få møte.
Item 20
Astrofysikeren er fornøyd med jobben fordi han får bruke tid på forskningen sin… men han misliker at han også må bruke tid på undervisning.
Astrofysikeren er fornøyd med jobben fordi han får bruke tid på forskningen sin… men undervisning misliker han at han også må bruke tid på.
Astrofysikeren er fornøyd med jobben fordi han får bruke tid på forskningen sin… men han er irritert fordi han også må bruke mye tid på undervisning.
Astrofysikeren er fornøyd med jobben fordi han får bruke tid på forskningen sin… men undervisning er han irritert fordi han også må bruke mye tid på.
Item 21
Anne var glad for at hun fikk med seg den første delen av tv-serien... men hun var oppgitt over at hun gikk glipp av den andre delen.
Anne var glad for at hun fikk med seg den første delen av tv-serien… men den andre delen var hun oppgitt over at hun gikk glipp av.
Anne var glad for at hun fikk med seg den første delen av tv-serien… men hun var oppgitt fordi hun ikke fikk sett den andre delen.
Anne var glad for at hun fikk med seg den første delen av tv-serien… men den andre delen var hun oppgitt fordi hun ikke fikk sett.
Item 22
Moren syntes det var helt greit at ungene tråkket på løvetann i hagen… men hun ville at de skulle holde seg langt unna rosebedet.
Moren syntes det var helt greit at ungene tråkket på løvetann i hagen… men rosebedet ville hun at de skulle holde seg langt unna.
Moren syntes det var helt greit at ungene tråkket på løvetann i hagen… men hun ble lei seg fordi de hadde tråkket i rosebedet.
Moren syntes det var helt greit at ungene tråkket på løvetann i hagen… men rosebedet ble hun lei seg fordi de hadde tråkket i.
Item 23

Mia liker ikke å høre på nyhetene... men hun sier at hun blir i godt humør av å høre på morsomme radioprogram.
Mia liker ikke å høre på nyhetene... men morsomme radioprogram sier hun at hun blir i godt humør av å høre på.
Mia følte seg skremt fordi hun hadde hørt på nyhetene... men hun ble i godt humør av å høre på morsomme radioprogram.
Mia følte seg skremt fordi hun hadde hørt på nyhetene... men morsomme radioprogram ble hun i godt humør av å høre på.

***Når*-items**
Item 25 / 9
Jon føler seg i god form når han drikker øl,... men han blir ofte dårlig av å drikke whisky.
Jon føler seg i god form når han drikker øl,... men whisky blir han ofte dårlig av å drikke.
Jon føler seg i god form når han drikker øl,... men han blir dårlig når han drikker whisky.
Jon føler seg i god form når han drikker øl,... men whisky blir han dårlig når han drikker.
Item 26 / 10
Håndballtreneren interesserer seg ikke spesielt i fotballkampene på NRK,... men han blir ivrig av å se håndballkampene på TV2.
Håndballtreneren interesserer seg ikke spesielt i fotballkampene på NRK,... men håndballkampene på TV2 blir han ivrig av å se.
Håndballtreneren interesserer seg ikke spesielt i fotballkampene på NRK,... men han blir ivrig når han ser håndballkampene på TV2.
Håndballtreneren interesserer seg ikke spesielt i fotballkampene på NRK,... men håndballkampene på TV2 blir han ivrig når han ser.
Item 27 / 11
Petter vet ikke alltid hvor pengeboka ligger,... men han synes det er irriterende å miste mobilen.
Petter vet ikke alltid hvor pengeboka ligger,... men mobilen synes han det er irriterende å miste.
Petter vet ikke alltid hvor pengeboka ligger,... men har blir irritert når han mister mobilen.
Petter vet ikke alltid hvor pengeboka ligger,... men mobilen blir han irritert når han mister.
Item 28 / 12
Jubilanten insisterer på at han ikke vil ha gaver til feiringen,... men han håper at han får bursdagskort.
Jubilanten insisterer på at han ikke vil ha gaver til feiringen,... men bursdagskort håper han at han får.
Jubilanten insisterer på at han ikke vil ha gaver til feiringen,... men han blir rørt når han får bursdagskort.
Jubilanten insisterer på at han ikke vil ha gaver til feiringen,... men bursdagskort blir han rørt når han får.
Item 29 / 13
Søstrene er overbevist om at bringebærsaft skal lages på gamlemåten,... men de tror at de kan improvisere når de lager ripssaft.
Søstrene er overbevist om at bringebærsaft skal lages på gamlemåten,... men ripssaft tror de at de kan improvisere når de lager.

Søstrene er overbevist om at bringebærsaft skal lages på gamlemåten,... men de improviserer når de lager ripssaft.
Søstrene er overbevist om at bringebærsaft skal lages på gamlemåten,... men ripssaft improviserer de når de lager.
Item 30 / 14
Seksåringen leker aldri stille med leketoget sitt,... men moren håper at han vil leke stille med den nye legoen.
Seksåringen leker aldri stille med leketoget sitt,... men den nye legoen håper moren at han vil leke stille med.
Seksåringen leker aldri stille med leketoget sitt,... men han er alltid stille når han bygger med den nye legoen.
Seksåringen leker aldri stille med leketoget sitt,... men den nye legoen er han alltid stille når han bygger med.
Item 31 / 15
Læreren forventer at elevene trenger hjelp med eksamen,... men hun synes at de skal klare leksene alene.
Læreren forventer at elevene trenger hjelp med eksamen,... men leksene synes hun at de skal klare alene.
Læreren forventer at elevene trenger hjelp med eksamen,... men hun blir overrasket når de ikke klarer leksene alene.
Læreren forventer at elevene trenger hjelp med eksamen,... men leksene blir hun overrasket når de ikke klarer alene.
Item 32 / 16
Kontorsjefen synes korte kaffepauser er ok,... men hun misliker at de ansatte tar lange lunsjpauser.
Kontorsjefen synes korte kaffepauser er ok,... men lange lunsjpauser misliker hun at de ansatte tar.
Kontorsjefen synes korte kaffepauser er ok,... men hun blir sur når de ansatte tar lange lunsjpauser.
Kontorsjefen synes korte kaffepauser er ok,... men lange lunsjpauser blir hun sur når de ansatte tar.
Item 33
Bartenderen ser at kundene føler seg i god form når de drikker vin fra Italia… men han ser at mange blir dårlige av å drikke vin fra Polen.
Bartenderen ser at kundene føler seg i god form når de drikker vin fra Italia… men vin fra Polen ser han at mange blirdårlige av å drikke.
Bartenderen ser at kundene føler seg i god form når de drikker vin fra Italia… men han ser at mange blir dårlige når de drikker vin fra Polen.
Bartenderen ser at kundene føler seg i god form når de drikker vin fra Italia… men vin fra Polen ser han at mange blir dårlige når de drikker.
Item 34
Matematikkstudenten liker å investere tid i de vanskelige oppgavene… men han misliker at han også må bruke tid på å regne lette mattestykker.
Matematikkstudenten liker å investere tid i de vanskelige oppgavene… men lette mattestykker misliker han at han også må bruke tid på å regne.
Matematikkstudenten liker å investere tid i de vanskelige oppgavene… men han blir irritert når han må regne lette mattestykker.
Matematikkstudenten liker å investere tid i de vanskelige oppgavene… men lette mattestykker blir han irritert når han må regne.

Item 35
Barna interesserer seg ikke for de små byggeklossene... men de er veldig glade for at de får bygge med de store klossene.
Barna interesserer seg ikke for de små byggeklossene... men de store klossene er de veldig glade for at de får bygge med.
Barna interesserer seg ikke for de små byggeklossene... men de blir ivrige når de får bygge med de store klossene.
Barna interesserer seg ikke for de små byggeklossene… men de store klossene blir de ivrige når de får bygge med.
Item 36
Den unge studenten synes Meny er den fineste butikken… men han tror at han kan spare penger på å handle på KIWI.
Den unge studenten synes Meny er den fineste butikken… men KIWI tror han at han kan spare penger på å handle på.
Den unge studenten synes Meny er den fineste butikken… men han tror at han sparer penger når han handler på Kiwi.
Den unge studenten synes Meny er den fineste butikken… men Kiwi tror han at han sparer penger når han handler på.
Item 37
Gartneren ser frem til å klippe hekken hvert år… men han har innrømmet at han gruer seg til å beskjære rosebuskene.
Gartneren ser frem til å klippe hekken hvert år… men rosebuskene har han innrømmet at han gruer seg til å beskjære.
Gartneren er i godt humør når han klipper hekken hver vår… men han er misfornøyd når han må beskjære rosebuskene.
Gartneren er i godt humør når han klipper hekken hver vår… men rosebuskene er han misfornøyd når han må beskjære.
Item 38
Bibliotekaren elsker å arrangere stille lesestunder… men hun har sagt at hun blir sliten av å arrangere diskusjonskvelder.
Bibliotekaren elsker å arrangere stille lesestunder… men diskusjonskvelder har hun sagt at hun blir sliten av å arrangere.
Bibliotekaren elsker å arrangere stille lesestunder... men hun blir sliten når hun må arrangere diskusjonskvelder.
Bibliotekaren elsker å arrangere stille lesestunder... men diskusjonskvelder blir hun sliten når hun må arrangere.
Item 39
Koristene er ivrige etter å synge sanger på norsk… men dirigenten synes at de mangler entusiasme for å synge engelske sanger.
Koristene er ivrige etter å synge sanger på norsk… men engelske sanger synes dirigenten at de mangler entusiasme for å synge.
Koristene er ivrige etter å synge sanger på norsk… men de blir usikre når de skal synge engelske sanger.
Koristene er ivrige etter å synge sanger på norsk… men engelske sanger blir de usikre når de skal synge.

Item 40
Gutten godtar at søstrene låner fotballen hans… men han har sagt ifra at han misliker at de låner volleyballen.
Gutten godtar at søstrene låner fotballen hans… men volleyballen har han sagt ifra at han misliker at de låner.
Gutten godtar at søstrene låner fotballen hans… men han blir sur når de låner volleyballen.
Gutten godtar at søstrene låner fotballen hans… men volleyballen blir han sur når de låner.
Item 41
Kjæresteparet synes det er interessant å diskutere politikk… men de er enige om at de skal unngå å diskutere religion.
Kjæresteparet synes det er interessant å diskutere politikk… men religion er de enige om at de skal unngå å diskutere.
Kjæresteparet synes det er interessant å diskutere politikk… men stemningen blir amper når de diskuterer religion.
Kjæresteparet synes det er interessant å diskutere politikk… men religion blir stemningen amper når de diskuterer.
Item 42
Pedagogikkstudenten synes det er vanskelig å diskutere matematikkdidaktikk… men hun er tydelig på at hun liker å diskutere språkdidaktikk.
Pedagogikkstudenten synes det er vanskelig å diskutere matematikkdidaktikk… men språkdidaktikk er hun tydelig på at hun liker å diskutere.
Pedagogikkstudenten synes det er vanskelig å diskutere matematikkdidaktikk… men hun blir lettet når hun får diskutere språkdidaktikk.
Pedagogikkstudenten synes det er vanskelig å diskutere matematikkdidaktikk… men språkdidaktikk blir hun lettet når hun får diskutere.
Item 43
Fotballspilleren er stolt over straffesparkene han har tatt i karrieren … men han sier at han prøver å fortrenge selvmålene.
Fotballspilleren er stolt over straffesparkene han har tatt i karrieren … men selvmålene sier han at han prøver å fortrenge.
Fotballspilleren er stolt over straffesparkene han har tatt i karrieren … men han blir flau når han tenker på selvmålene.
Fotballspilleren er stolt over straffesparkene han har tatt i karrieren … men selvmålene blir han flau når han tenker på.
Item 45
Hunden Iver klynker hvis han blir servert gulerøtter... men eieren sier at Iver elsker å få kjøttstykker.
Hunden Iver klynker hvis han blir servert gulerøtter... men kjøttstykker sier eieren at Iver elsker å få.
Hunden Iver klynker hvis han blir servert gulerøtter... men han logrer når han får kjøttstykker.
Hunden Iver klynker hvis han blir servert gulerøtter... men kjøttstykker logrer han når han får.
Item 46
Seks år gamle Lars synes det er veldig gøy å leke sjørøver… men han misliker at søstrene vil at de skal leke mor-far-barn.

Seks år gamle Lars synes det er veldig gøy å leke sjørøver… men mor-far-barn misliker han at søstrene vil at de skal leke.
Seks år gamle Lars synes det er veldig gøy å leke sjørøver… men han klager når søstrene foreslår at de skal leke mor-far-barn.
Seks år gamle Lars synes det er veldig gøy å leke sjørøver… men mor-far-barn klager han når søstrene foreslår at de skal leke.
Item 48
Sondre blir sur når de han bor med arrangerer fester… men han liker at de arrangerer spillekvelder.
Sondre blir sur når de han bor med arrangerer fester… men spillekvelder liker han at de arrangerer.
Sondre blir sur når de han bor med arrangerer fester… men han blir glad når de arrangerer spillekvelder.
Sondre blir sur når de han bor med arrangerer fester… men spillekvelder blir han glad når de arrangerer.

***Om*-items**
Item 49 / 33
Kollegaene forventer at advokaten vil huske å ta med kofferten til rettssalen, ... men de tror at han vil glemme mappene igjen på kontoret.
Kollegaene forventer at advokaten vil huske å ta med kofferten til rettssalen, ... men mappene tror de at han vil glemme igjen på kontoret.
Kollegaene bryr seg ikke om at advokaten antageligvis vil glemme kofferten sin, ... men de blir sinte om han glemmer mappene igjen på kontoret.
Kollegaene bryr seg ikke om at advokaten antageligvis vil glemme kofferten sin, ... men mappene blir de sinte om han glemmer igjen på kontoret.
Item 50 / 34
Auksjonariusen vil ikke selge maleriet av Picasso,... men han håper at noen kjøper maleriet av Van Gogh.
Auksjonariusen vil ikke selge maleriet av Picasso,... men maleriet av Van Gogh håper han at noen kjøper.
Auksjonariusen vil ikke selge maleriet av Picasso,... men han blir glad om noen kjøper maleriet av Van Gogh.
Auksjonariusen vil ikke selge maleriet av Picasso,... men maleriet av Van Gogh blir han glad om noen kjøper.
Item 51 / 35
Vaktmesteren tror at folk låser vinduene før de drar,... men han mistenker at de lar bakdøren stå ulåst.
Vaktmesteren tror at folk låser vinduene før de drar,... men bakdøren mistenker han at de lar stå ulåst.
Vaktmesteren tror ikke at det er nødvendig å låse alle vinduene,... men han blir nervøs om folk lar bakdøren stå ulåst.
Vaktmesteren tror ikke at det er nødvendig å låse alle vinduene,... men bakdøren blir han nervøs om folk lar stå ulåst.
Item 52 / 36
Kvinnen synes det er greit når mannen hennes åpner vinduet om natten, ... men hun misliker at han skrur på den store viften.

Kvinnen synes det er greit når mannen hennes åpner vinduet om natten, ... men den store viften misliker hun at han skrur på.
Kvinnen synes det er greit når mannen hennes åpner vinduet om natten, ... men hun protesterer om han skrur på den store viften.
Kvinnen synes det er greit når mannen hennes åpner vinduet om natten, ... men den store viften protesterer hun om han skrur på.
Item 53 / 37
Kontorsjefen synes at de fleste epostene ikke bør slettes,... men hun foreslår at assistenten skal slette personlige eposter.
Kontorsjefen synes at de fleste epostene ikke bør slettes,... men personlige eposter foreslår hun at assistenten skal slette.
Kontorsjefen synes at de fleste epostene bør slettes,... men hun blir sint om assistenten sletter enkelte eposter.
Kontorsjefen synes at de fleste epostene bør slettes,... men enkelte eposter blir hun sint om assistenten sletter.
Item 54 / 38
Moren var glad for at brudeparet husket å sende ut invitasjoner i tide,... men hun forventer at de kommer til å glemme å sende ut takkekortene med en gang.
Moren var glad for at brudeparet husket å sende ut invitasjoner i tide,... men takkekortene forventer hun at de kommer til å glemme å sende ut med en gang.
Moren var ikke sint på at brudeparet glemte å sende ut invitasjoner i tide,... men hun blir skuffet om de glemmer å sende ut takkekortene med en gang.
Moren var ikke sint på at brudeparet glemte å sende ut invitasjoner i tide,... men takkekortene blir hun skuffet om de glemmer å sende ut med en gang.
Item 55 / 39
Mannen er ikke enig i at jobbsøkere kan spørres om sine personlige liv,... men han tror at de nok kan spørres om tidligere jobberfaringer.
Mannen er ikke enig i at jobbsøkere kan spørres om sine personlige liv,... men tidligere jobberfaringer tror han at de nok kan spørres om.
Mannen er enig i at jobbsøkere nok kan spørres om tidligere jobberfaringer,... men han protesterer om de blir spurt om sine personlige liv.
Mannen er enig i at jobbsøkere nok kan spørres om tidligere jobberfaringer,... men sine personlige liv protesterer han om de blir spurt om.
Item 56 / 40
Kuratoren vet at turister ikke er interesserte i de fleste gjenstander på utstillingen, ... men hun tror at de vil fotografere de uvurderlige smykkene.
Kuratoren vet at turister ikke er interesserte i de fleste gjenstander på utstillingen, ... men de uvurderlige smykkene tror hun at de vil fotografere.
Kuratoren bryr seg ikke når turister fotograferer de fleste gjenstandene på utstillingen, ... men hun blir sint om de fotograferer de uvurderlige smykkene.
Kuratoren bryr seg ikke når turister fotograferer de fleste gjenstandene på utstillingen, ... men de uvurderlige smykkene blir hun sint om de fotograferer.
Item 57
Steinsamleren blir mest fornøyd hvis han finner kalkstein... men han synes også at det er gøy å finne sandstein.

Steinsamleren blir mest fornøyd hvis han finner kalkstein… men sandstein synes han også at det er gøy å finne.
Steinsamleren blir mest fornøyd hvis han finner kalkstein… men han blir også glad om han finner sandstein.
Steinsamleren blir mest fornøyd hvis han finner kalkstein… men sandstein blir han også glad om han finner.
Item 58
Fysioterapeuten forteller at han er bekymret for hoftene til den gamle dama… men han tviler på at hun kommer til å slite med knærne.
Fysioterapeuten forteller at han er bekymret for hoftene til den gamle dama… men knærne tviler han på at hun kommer til å slite med.
Fysioterapeuten forteller at han er bekymret for hoftene til den gamle dama… men han blir overrasket om hun vil slite med knærne.
Fysioterapeuten forteller at han er bekymret for hoftene til den gamle dama… men knærne blir han overrasket om hun vil slite med.
Item 59
De miljøbevisste ungdommene har ingen forventninger til forbedring av togtilbudet… men de håper at regjeringen vil forbedre busstilbudet.
De miljøbevisste ungdommene har ingen forventninger til forbedring av togtilbudet… men busstilbudet håper de at regjeringen vil forbedre.
De miljøbevisste ungdommene har ingen forventninger til forbedring av togtilbudet… men de blir sinte om regjeringen ikke forbedrer busstilbudet.
De miljøbevisste ungdommene har ingen forventninger til forbedring av togtilbudet… men busstilbudet blir de sinte om regjeringen ikke forbedrer.
Item 60
Barna venter alltid rolig på at moren skal serve middag… men moren påstår at hun aldri har sett dem vente tålmodig på dessert.
Barna venter alltid rolig på at moren skal serve middag… men dessert påstår moren at hun aldri har sett dem vente tålmodig på.
Barna venter alltid rolig på at moren skal serve middag… men de blir utålmodige om de må vente på dessert.
Barna venter alltid rolig på at moren skal serve middag… men dessert blir de utålmodige om de må vente på.
Item 61
Roar sier at det er greit hvis kjæresten velger at de skal se en komedie… men han sier at han vil protestere mot å se en kjærlighetsfilm.
Roar sier at det er greit hvis kjæresten velger at de skal se en komedie… men en kjærlighetsfilm sier han at han vil protestere mot å se.
Roar sier at det er greit hvis kjæresten velger at de skal se en komedie… men han vil protestere om hun velger at de skal se en kjærlighetsfilm.
Roar sier at det er greit hvis kjæresten velger at de skal se en komedie… men en kjærlighetsfilm vil han protestere om hun velger at de skal se.
Item 62
Samboerparet ønsker seg ikke krus i innflytningsgave… men de sier til alle de kjenner at de ønsker seg glass.

Samboerparet ønsker seg ikke krus i innflytningsgave… men glass sier de til alle de kjenner at de ønsker seg.
Samboerparet ønsker seg ikke krus i innflytningsgave… men de ville blitt fornøyde om de hadde fått noen glass.
Samboerparet ønsker seg ikke krus i innflytningsgave… men noen glass ville de blitt fornøyde om de hadde fått.
Item 63
Naboene synes ikke det er viktig at alle naboene deltar på møtet i velforeningen... men de synes at det er viktig at alle deltar på dugnad.
Naboene synes ikke det er viktig at alle naboene deltar på møtet i velforeningen... men dugnad synes de at det er viktig at alle deltar på.
Naboene synes ikke det er viktig at alle naboene deltar på møtet i velforeningen... men de blir sinte om noen naboer nekter å delta på dugnad.
Naboene synes ikke det er viktig at alle naboene deltar på møtet i velforeningen... men dugnad blir de sinte om noen naboer nekter å delta på.
Item 64
Ungkaren er opptatt av å få med seg alle fotballkampene som Liverpool spiller… men han sier at han gladelig dropper alle Manchester United-kampene.
Ungkaren er opptatt av å få med seg alle fotballkampene som Liverpool spiller… men alle Manchester United-kampene han sier at han gladelig dropper.
Ungkaren er opptatt av å få med seg alle fotballkampene som Liverpool spiller… men han blir glad om han kan droppe en Manchester United-kamp.
Ungkaren er opptatt av å få med seg alle fotballkampene som Liverpool spiller… men en Manchester United kamp blir han glad om han kan droppe.
Item 65
Den gammeldagse kokken er fornøyd med at restauranten hans serverer pizza... men han har tidligere sagt at han vil protestere mot å servere sushi.
Den gammeldagse kokken er fornøyd med at restauranten hans serverer pizza... men sushi har han tidligere sagt at han vil protestere mot å servere.
Den gammeldagse kokken er fornøyd med at restauranten hans serverer pizza... men han ville ha sluttet om de skulle ha begynt å servere sushi.
Den gammeldagse kokken er fornøyd med at restauranten hans serverer pizza... men sushi ville han ha sluttet om de skulle ha begynt å servere.
Item 66
Den reisevante studenten synes det er dårlig service hos lavprisflyselskapene... men han må innrømmme at han har for lav inntekt til å reise med de dyre flyselskapene.
Den reisevante studenten synes det er dårlig service hos lavprisflyselskapene... men de dyre flyselskapene må han innrømmme at han har for lav inntekt til å reise med.
Den reisevante studenten synes det er dårlig service hos lavprisflyselskapene… men han hadde raskt blitt blakk om han skulle reist med de dyre flyselskapene.
Den reisevante studenten synes det er dårlig service hos lavprisflyselskapene… men de dyre flyselskapene hadde han raskt blitt blakk om han skulle reist med.
Item 68
Passasjerene får lov til å spise brødmat i bussen … men bussjåføren sier at han vil nekte passasjerene å spise varm mat.

Passasjerene får lov til å spise brødmat i bussen … men varm mat sier bussjåføren at han vil nekte passasjerene å spise.
Passasjerene får lov til å spise brødmat i bussen … men bussjåføren blir sint om han ser at ser at noen spiser varm mat.
Passasjerene får lov til å spise brødmat i bussen … men varm mat blir bussjåføren sint om han ser at ser at noen spiser.
Item 69
Den unge jobbsøkeren har begynt å bli komfortabel i intervjusituasjonen… men han antyder at han misliker å snakke om sine sterke sider.
Den unge jobbsøkeren har begynt å bli komfortabel i intervjusituasjonen… men sine sterke sider antyder han at han misliker å snakke om.
Den unge jobbsøkeren har begynt å bli komfortabel i intervjusituasjonen… men han blir nervøs om han må snakke om sine sterke sider.
Den unge jobbsøkeren har begynt å bli komfortabel i intervjusituasjonen… men sine sterke sider blir han nervøs om han må snakke om.
Item 71
Sykepleieren har ikke noe i mot å jobbe kveldsvakter på sykehuset… men hun har sagt at hun vil prøve å unngå å ta helgevakter.
Sykepleieren har ikke noe i mot å jobbe kveldsvakter på sykehuset… men helgevakter har hun sagt at hun vil prøve å unngå å ta.
Sykepleieren har ikke noe i mot å jobbe kveldsvakter på sykehuset… men hun blir skuffet om hun må ta helgevakter.
Sykepleieren har ikke noe i mot å jobbe kveldsvakter på sykehuset… men helgevakter blir hun skuffet om hun må ta.
Item 72
Eline kjeder seg ofte når hun ser på film… men hun synes det kan være inspirerende å se dokumentarer.
Eline kjeder seg ofte når hun ser på film… men dokumentarer synes hun det kan være inspirerende å se.
Eline kjeder seg ofte når hun ser på film… men hun blir inspirert om hun ser dokumentarer.
Eline kjeder seg ofte når hun ser på film… men dokumentarer blir hun inspirert om hun ser.

***Whether*-island**
Item 17
Detektiven fikk beviset på at Gerda ikke stjal øredobben, ...men han var likevel sikker på at hun tok halskjedet.
Detektiven fikk beviset på at Gerda ikke stjal øredobben, ...men halskjedet var han likevel sikker på at hun tok.
Detektiven fikk beviset på at Gerda ikke stjal øredobben, ...men han lurte likevel på om hun tok halskjedet.
Detektiven fikk beviset på at Gerda ikke stjal øredobben, ...men halskjedet lurte han likevel på om hun tok.
Item 18
Bakeren vet ikke om Karoline elsker wienerbrød ..... men han tror at hun liker kanelboller.
Bakeren vet ikke om Karoline elsker wienerbrød ..... men kanelboller tror han at hun liker.
Bakeren vet at Karoline elsker wienerbrød ..... men han måtte spørre om hun liker kanelboller.

Bakeren vet at Karoline elsker wienerbrød ..... men kanelboller måtte han spørre om hun liker.
Item 19
Veilederen visste at Mariann ikke studerte biologi,... men han trodde at hun studerte matematikk.
Veilederen visste at Mariann ikke studerte biologi,... men matematikk trodde han at hun studerte.
Veilederen visste at Mariann studerte biologi,... men han lurte på om hun også studerte matematikk.
Veilederen visste at Mariann studerte biologi,... men matematikk lurte han på om hun også studerte.
Item 20
Servitøren antok at Christina ville nekte å drikke Farris ... men han trodde at hun ville drikke Bris i stedet.
Servitøren antok at Christina ville nekte å drikke Farris ... men Bris trodde han at hun ville drikke i stedet.
Servitøren visste at Christina ville foretrekke Farris ... men han lurte på om hun ville drikke Bris i stedet.
Servitøren visste at Christina ville foretrekke Farris ... men Bris lurte han på om hun ville drikke i stedet.
Item 21
Sjefen var ikke sikker på at Tina hadde solgt møblene,... men han kunne bekrefte at hun solgte datamaskinene.
Sjefen var ikke sikker på at Tina hadde solgt møblene,... men datamaskinene kunne han bekrefte at hun solgte.
Sjefen var sikker på at Tina hadde solgt møblene,... men han måtte spørre om hun solgte datamaskinene.
Sjefen var sikker på at Tina hadde solgt møblene,... men datamaskinene måtte han spørre om hun solgte.
Item 22
Kokken vet at Kristin hater saueost,... men han er sikker på at hun ville like geitost.
Kokken vet at Kristin hater saueost,... men geitost er han sikker på at hun ville like.
Kokken vet at Kristin hater saueost,... men han lurer på om hun ville like geitost.
Kokken vet at Kristin hater saueost,... men geitost lurer han på om hun ville like.
Item 23
Foreldrene lot Knut slutte å spille rugby,... men de insisterte på at han fortsatt skulle spille fotball.
Foreldrene lot Knut slutte å spille rugby,... men fotball insisterte de på at han fortsatt skulle spille.
Foreldrene visste at Knut ikke ville spille rugby lenger,... men de lurte på om han fortsatt ville spille fotball.
Foreldrene visste at Knut ikke ville spille rugby lenger,... men fotball lurte de på om han fortsatt ville spille.
Item 24
Gjestene sa at Hanne ikke burde lage fiskeboller, ... men de sa at hun burde bake kake.
Gjestene sa at Hanne ikke burde lage fiskeboller, ... men kake sa de at hun burde bake.
Gjestene var ikke interessert i om Hanne kunne lage fiskeboller, ... men de spurte om hun kunne bake kake.

Gjestene var ikke interessert i om Hanne kunne lage fiskeboller, ... men kake spurte de om hun kunne bake.

Subject-island
Item 97 / 25
Rådgiveren tror at den første avtalen var gunstig... men han tror den neste avtalen vil true den politiske enigheten.
Rådgiveren tror at den første avtalen var gunstig... men den neste avtalen tror han vil true den politiske enigheten.
Rådgiveren tror at avtalen med fagforeningene var gunstig,... men han tror avtalen med bankfolket vil true den politiske enigheten.
Rådgiveren tror at avtalen med fagforeningene var gunstig,... men bankfolket tror han avtalen med vil true den politiske enigheten.
Item 98 / 26
Reporterne sa at det første brevet ikke inneholdt noe,...men de tror det andre brevet inneholdt kritikk av den kontroversielle loven.
Reporterne sa at det første brevet ikke inneholdt noe,...men det andre brevet tror de inneholdt kritikk av den kontroversielle loven.
Reporterne sa at brevet fra nonnen ikke inneholdt noe,...men de tror brevet fra presten inneholdt kritikk av den kontroversielle loven.
Reporterne sa at brevet fra nonnen ikke inneholdt noe,...men presten tror de brevet fra inneholdt kritikk av den kontroversielle loven.
Item 99 / 27
Kunstneren forventet ikke at landskapsmaleriet ville være kontroversielt,... men han trodde portrettet nok kunne forårsake kontrovers.
Kunstneren forventet ikke at landskapsmaleriet ville være kontroversielt,... men portrettet trodde han nok kunne forårsake kontrovers.
Kunstneren forventet ikke at portrettet av kongen ville være kontroversielt,... men han trodde portrettet av dronningen nok kunne forårsake kontrovers.
Kunstneren forventet ikke at portrettet av kongen ville være kontroversielt,... men dronningen trodde han portrettet av nok kunne forårsake kontrovers.
Item 100 / 28
Vitenskapsmannen tror ikke at den gamle behandlingen er god,...men han synes den nye behandlingen fortjener Nobelprisen.
Vitenskapsmannen tror ikke at den gamle behandlingen er god,...men den nye behandlingen synes han fortjener Nobelprisen.
Vitenskapsmannen tror ikke at den gamle behandlingen er god,...men han synes den nye behandlingen mot kreft fortjener Nobelprisen.
Vitenskapsmannen tror ikke at den gamle behandlingen er god,...men kreft synes han den nye behandlingen mot fortjener Nobelprisen.
Item 101 / 29
Miljøaktivisten sa at den hvite røyken ikke var et miljøproblem,...men hun sa det faste avfallet forurenser sjøen.
Miljøaktivisten sa at den hvite røyken ikke var et miljøproblem,...men det faste avfallet sa hun forurenser sjøen.
Miljøaktivisten sa at den hvite røyken ikke var et miljøproblem,...men hun sa det faste avfallet fra fabrikken forurenser sjøen.

Miljøaktivisten sa at den hvite røyken ikke var et miljøproblem,...men fabrikken sa hun det faste avfallet fra forurenser sjøen.
Item 102 / 30
Helsesøsteren insisterte på at brevet ikke gjorde en forskjell,...men hun sa besøket inspirerte de syke barna.
Helsesøsteren insisterte på at brevet ikke gjorde en forskjell,...men besøket sa hun inspirerte de syke barna.
Helsesøsteren insisterte på at brevet ikke gjorde en forskjell,...men hun sa besøket fra fotballspillerne inspirerte de syke barna.
Helsesøsteren insisterte på at brevet ikke gjorde en forskjell,...men fotballspillerne sa hun besøket fra inspirerte de syke barna.
Item 103 / 31
Bibliotekaren sa at den originale artikkelen ikke blir publisert,...men hun tror at oversettelsen skal inkluderes i antologien.
Bibliotekaren sa at den originale artikkelen ikke blir publisert,...men oversettelsen tror hun skal inkluderes i antologien.
Bibliotekaren sa at oversettelsen av diktet ikke blir publisert,...men hun tror at oversettelsen av artikkelen skal inkluderes i antologien.
Bibliotekaren sa at oversettelsen av diktet ikke blir publisert,...men artikkelen tror hun at oversettelsen av skal inkluderes i antologien.
Item 104 / 31
Politikeren var sikker på at debatten ikke ville være effektiv,...men hun trodde at brevene ville overbevise opposisjonen.
Politikeren var sikker på at debatten ikke ville være effektiv,...men brevene trodde hun ville overbevise opposisjonen.
Politikeren var sikker på at brevene fra forskerne ikke ville være effektive,...men hun trodde at brevene fra velgerne ville overbevise opposisjonen.
Politikeren var sikker på at brevene fra forskerne ikke ville være effektive,...men velgerne trodde hun at brevene fra ville overbevise opposisjonen.
Item 106
Turgåerne vil helst overnatte i DNT-hyttene… men de synes også at Statsskoghyttene er gode å sove i.
Turgåerne vil helst overnatte i DNT-hyttene… men Statsskoghyttene synes de også at er gode å sove i.
Turgåerne vil helst overnatte i DNT-hyttene… men de synes også at hyttene til Statsskog er gode å sove i.
Turgåerne vil helst overnatte i DNT-hyttene… men Statsskog synes de også at hyttene til er gode å sove i.
Item 107
Miljøpolitikeren ser at mange små kleskjeder prøver å være miljøbevisste… men han tror at de store kleskjedene overser miljøfarene.
Miljøpolitikeren ser at mange små kleskjeder prøver å være miljøbevisste… men de store kleskjedene tror han at overser miljøfarene.
Miljøpolitikeren ser at mange små kleskjeder prøver å være miljøbevisste… men han er redd for at de store kjedene i motebransjen overser miljøfarene.

Miljøpolitikeren ser at mange små kleskjeder prøver å være miljøbevisste… men motebransjen er han redd for at de store kjedene i overser miljøfarene.
Item 108
Arkivaren tror ikke den gamle brevsamlingen er historisk viktig… men hun vet at den nye samlingen inneholder viktig informasjon.
Arkivaren tror ikke den gamle brevsamlingen er historisk viktig… men den nye samlingen vet hun at inneholder viktig informasjon.
Arkivaren tror ikke den gamle brevsamlingen er historisk viktig… men hun tror at noen av brevene i den nye samlingen kan inneholde viktig informasjon.
Arkivaren tror ikke den gamle brevsamlingen er historisk viktig… men den nye samlingen tror hun at noen av brevene i kan inneholde viktig informasjon.
Item 109
Lærerinna ville ikke røpe om de letteste oppgavene kunne være relevante for eksamen… men hun røpte at de vanskeligste oppgavene vil komme på eksamen.
Lærerinna ville ikke røpe om de letteste oppgavene kunne være relevante for eksamen… men de vanskeligste oppgavene røpte hun at vil komme på eksamen.
Lærerinna hintet til at oppgavene om mellomkrigstiden ikke ville være relevante for eksamen… men hun innrømte at oppgavene om krigen nok vil komme på eksamen.
Lærerinna hintet til at oppgavene om mellomkrigstiden ikke ville være relevante for eksamen… men krigen innrømte hun at oppgavene om nok vil komme på eksamen.
Item 110
Ingvild syntes ikke utvalget i den nye matbutikken virket interessant… men hun sa at det store kaffeutvalget hadde vekket interessen hennes.
Ingvild syntes ikke utvalget i den nye matbutikken virket interessant… men det store kaffeutvalget sa hun at hadde vekket interessen hennes.
Ingvild syntes ikke utvalget i den nye matbutikken virket interessant… men hun sa at det store utvalget i kaffehylla hadde vekket interessen hennes.
Ingvild syntes ikke utvalget i den nye matbutikken virket interessant… men kaffehylla sa hun at det store utvalget i hadde vekket interessen hennes.
Item 113
Arkeologen tror ikke at utgravingen av kirka vil endre teoriene om vikingtida… men han tror at gravplassen kan være av betydning.
Arkeologen tror ikke at utgravingen av kirka vil endre teoriene om vikingtida… men gravplassen tror han at kan være av betydning.
Arkeologen tror ikke at utgravingen av kirka vil endre teoriene om vikingtida… men han mener at de nye funnene fra gravplassen kan motsi enkelte teorier.
Arkeologen tror ikke at utgravingen av kirka vil endre teoriene om vikingtida… men gravplassen mener han at de nye funnene fra kan motsi enkelte teorier.
Item 116
Langrennsløperen er misfornøyd med den franske skiprodusenten… men han vet at den tyske skiprodusenten lager gode ski.
Langrennsløperen er misfornøyd med den franske skiprodusenten… men den tyske skiprodusenten vet han at lager gode ski.
Langrennsløperen er misfornøyd med den franske skiprodusenten… men han er sikker på at skiprodusentene i Tyskland lager gode ski.

Langrennsløperen er misfornøyd med den franske skiprodusenten… men Tyskland er han sikker på at skiprodusentene i lager gode ski.
Item 117
Fotografen synes ikke bildene fra skituren får frem stemningen på turen... men han synes at videoen beskriver stemningen bedre.
Fotografen synes ikke bildene fra skituren får frem stemningen på turen... men videoen synes han at beskriver stemningen bedre.
Fotografen synes ikke bildene fra skituren får frem stemningen i gjengen… men han synes bildene fra fotturen beskriver stemningen bedre.
Fotografen synes ikke bildene fra skituren får frem stemningen i gjengen... men fotturen synes han bildene fra beskriver stemningen bedre.
Item 118
Matjournalisten er usikker på om de utvikler nye retter på den spanske restauranten... men hun vet at den italienske restauranten lager eksperimentelle retter.
Matjournalisten er usikker på om de utvikler nye retter på den spanske restauranten... men den italienske restauranten vet hun at lager eksperimentelle retter.
Matjournalisten er usikker på om de utvikler nye retter på den spanske restauranten... men hun vet at kokkene på den italienske restauranten lager eksperimentelle retter.
Matjournalisten er usikker på om de utvikler nye retter på den spanske restauranten... men den italienske restauranten vet hun at kokkene på lager eksperimentelle retter.
Item 120
Barna synes ikke det er spennende å høre om prinser og prinsesser... men de synes at sjørøverhistorier er spennende.
Barna synes ikke det er spennende å høre om prinser og prinsesser… men sjørøverhistorier synes de at er spennende.
Barna synes ikke det er spennende å høre om prinser og prinsesser… men de synes historier om pirater er spennende.
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