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Against the Small Clause Hypothesis: Evidence from Swedish relative clause extractions

Christiane Müller

On the basis of data from Swedish, this paper examines the Small Clause Hypothesis (Kush & Lindahl 2011, Kush, Omaki & Hornstein 2013) proposed to account for relative clause (RC) extractions in Mainland Scandinavian. The hypothesis predicts that extraction possibilities differ for relative clauses in the complement of verbs which select and verbs which do not select a small clause (SC), and that the possibility of RC extraction hinges on the ability of the matrix verb to select SCs involving the predicational operator *som*. I report results from an acceptability judgment experiment on RC extraction in Swedish manipulating three conditions: (a) SC-selecting verbs compatible with *som*, (b) SC-selecting verbs incompatible with *som*, and (c) verbs that are incompatible with SCs. The results show no significant difference between these conditions, thus offer no support in favor of the Small Clause Hypothesis. Additional problems are posed by the possibility of extraction from object RCs and by extraction possibilities in the absence of *som*.

Keywords acceptability judgments, extraction, island constraints, locality, relative clauses, small clauses, Swedish, syntax

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1. INTRODUCTION

Swedish and the other Mainland Scandinavian languages (Danish and Norwegian) allow extraction from relative clauses such as in example (1), a phenomenon that appears very rare cross-linguistically (Erteschik-Shir 1973, Andersson 1982, Maling & Zaenen 1982, Taraldsen 1982, Engdahl 1997).

(1) [De blommorna]$_i$ känner jag [$_{DP}$ en man [$_{CP}$ som säljer []$_i$]].
those flowers know I a man who sells
(Allwood 1982:24)

Relative clauses (RCs) are standardly classified as syntactic ISLANDS, structures that do not allow extraction. From a theoretical point of view, movement operations out of

islands are considered to be blocked by universal locality constraints. Relative clause extractions thus appear to violate these island constraints, in particular the Complex NP Constraint, introduced by Ross (1967). In subsequent work, the Complex NP Constraint was proposed to be derivable from more general locality principles: the Subjacency Condition (Chomsky 1973, 1986) and the Phase Impenetrability Condition, introduced in Phase Theory (Chomsky 1993, 2000, 2001); see Boeckx (2012) for an overview of generative approaches to locality. The possibility of extraction from relative clauses in certain languages is equally problematic for the general locality conditions underlying the Complex NP Constraint, since these principles maintain the island status of noun phrases embedding a relative clause. According to Phase Theory, the embedded relative clause in (1) constitutes a CP and thus a locality domain (PHASE). The constituent *de blommorna*, which originates inside the relative clause, can hence only move out of the phase if it passes through an escape hatch, i.e. through a specifier in the phase edge. However, this possibility is blocked in the present case, since SpecCP of the relative clause is already occupied by an operator (or by the head noun, in a head raising analysis of relative clauses) and thus is not accessible as an escape hatch. Relative clause extractions therefore pose a challenge for syntactic theories of locality; this warrants an explanation.

In a recent proposal, called the SMALL CLAUSE HYPOTHESIS, Kush, Omaki & Hornstein (2013) (following Kush & Lindahl 2011) suggest that the possibility of extraction from relative clauses in some languages is conditioned by the type of matrix predicate, i.e. RC extractions are subject to a PREDICATE RESTRICTION. Specifically, the proposal is that only verbs which can also select small clause (SC) complements can select an NP embedding a relative clause from which extraction is possible, because in that case the parser can reanalyze the relative clause as a small clause. Since small clauses are not islands for extraction (as opposed to relative clauses), such a reanalysis is expected to enhance extraction. The proposal is interesting because – if correct – it can explain the exceptionality of Mainland Scandinavian RC extractions, which have posed a problem for locality theories since they were first noticed.

In essence, Kush et al.'s (2013) proposal builds on the following two observations (the implications of which will be scrutinized in this article):

(i) In Swedish, the relative complementizer *som* is lexically identical to the predicational operator *som*, which occurs in Swedish small clauses. Therefore, relative clauses in Swedish are argued to be structurally ambiguous between a relative clause structure and a small clause structure. According to Kush et al. (2013), this ambiguity facilitates a reanalysis of relative clauses into small clauses, yielding the possibility of extraction, because small clauses are not islands. Language variation regarding extraction possibilities is hence claimed to be derivable from different properties of the relative pronoun.

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(ii) The possibility of RC extraction has been claimed to be restricted to subject relative clauses (e.g. Chung & McCloskey 1983, Engdahl 1997, Platzack 1999). Since small clauses are inherently 'subject-oriented' according to Kush et al. (2013:254) and a small clause analysis is thus only possible for subject RCs (not object RCs), this observation makes the right predictions for the SC Hypothesis.

Since not all verbs can select small clauses, the proposal also generates a prediction on the type of predicate involved in RC extraction: RC extraction should only be possible if the matrix predicate is an SC-selecting verb. Kush et al. (2013) claim that we see effects of this predicate restriction also in languages which do not allow RC extraction, e.g. in English. In four acceptability judgment experiments, they investigate the acceptability of RC extractions in English embedded under four matrix verbs, three of which are SC-selecting (*be*, *see* and *know*) and one is non-SC-selecting (*meet*). The results imply a partial amelioration in the judgments of RC extractions that are embedded under SC-selecting verbs, compared to the same constructions under non-SC-selecting predicates, as demonstrated in (2).

(2) This is [the battle$_i$] that I {?saw/?knew/*met} [$_{DP}$ many historians [$_{CP}$ who studied []$_i$]].

While this sentence containing an extraction is rejected with *met* (non-SC-selecting) as matrix verb, it can be judged marginally acceptable with one of the SC-selecting matrix predicates *saw* or *knew*, which is in line with the SC Hypothesis (Kush et al. 2013:244). Kush & Lindahl (2011) provide further data, from Swedish, in favor of the hypothesis: In an acceptability judgment study testing Swedish sentences, extraction from relative clauses embedded under the SC-selecting verbs *vara* 'be' and *se* 'see' was judged significantly better than under *träffa* 'meet', which cannot select an SC.

Recently, Christensen & Nyvad (2014) tested the predicate restriction proposed by Kush et al. (2013) in an acceptability judgment experiment on relative clause extraction in Danish. However, the results of this investigation showed no statistically significant effect of the ability of the matrix verb to take a small clause complement on the acceptability of RC extraction in Danish and therefore lend no support for the predicate restriction (and hence for the Small Clause Hypothesis).

The experimental investigation of Kush et al.'s (2013) hypothesis in different languages thus yields conflicting results with respect to the proposed predicate restriction. One potential problem in the design of previous experiments (which may have caused the conflicting results) is the small number of verbs that were investigated. This is particularly the case with Kush et al. (2013), where only four matrix predicates were tested, and Kush & Lindahl (2011), who based their study on three verbs. It is not clear that the differences observed across the predicates in these two studies reflect the distinction between SC-selecting and non-SC-selecting verbs, since the acceptability contrast could in principle be due to any factor; see Christensen

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& Nyvad (2014) (who themselves included seven verbs of each condition in their experiment) for similar arguments.

The main aim of the present paper is thus to replicate Christensen & Nyvad's (2014) study of Danish on Swedish data, and to provide more statistical power by investigating a larger set of verbs than in the previous studies. In Section 2 below, I present Kush et al.'s (2013) proposal. In Section 3, I report the outcome of an acceptability judgment experiment on Swedish relative clause extraction and show that testing the predicate restriction for Swedish by using a relatively high number of matrix verbs yields results that are in line with Christensen & Nyvad's (2014) findings for Danish: Swedish does not show the effects expected by the predicate restriction and hence lends no support for the SC Hypothesis. In Section 4, I discuss two further problems for the SC Hypothesis that are connected to the predictions following from observations (i) and (ii) above: The expected complementizer restriction (RC extraction is tied to the presence of a relative complementizer that is syncretic with a predicational operator appearing in small clauses) and the subject restriction (extraction is only possible from subject relative clauses). I present evidence that none of these two restrictions actually hold, which poses further problems for the plausibility of the SC Hypothesis. In conclusion, Swedish (in addition to Danish) lends no support for the Small Clause Hypothesis.

2. THE SMALL CLAUSE HYPOTHESIS

2.1 The predicate restriction

The most central prediction of the Small Clause Hypothesis concerns the type of matrix predicate involved in RC extraction. The idea of a predicate restriction in these cases is not new: Semantic restrictions on the matrix verb in RC extraction have been suggested by e.g. Erteschik-Shir (1973), Erteschik-Shir & Lappin (1979), Allwood (1982) and Hofmeister & Sag (2010). For a discussion of these proposals, see Heinat & Wiklund (2015). The Small Clause Hypothesis proposed by Kush et al. (2013) (see also Kush & Lindahl 2011) predicts that extraction from relative clauses should only be possible if the matrix predicate is a verb that can select a small clause complement. The matrix verb's ability to license SC complements is supposed to enhance the possibility of extraction from a relative clause, because it gives the parser the possibility to analyze the relative clause as a small clause instead, from which extraction is not blocked since small clauses are not islands. The proposal thus predicts that SC-selecting verbs can take NPs embedding a relative clause from which extraction is possible in Swedish, whereas non-SC-selecting verbs cannot, because reanalysis is not possible in that case. As mentioned above, Kush et al. (2013) argue that this predicate restriction shows an effect also in English in terms of a relative

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amelioration for island violations in the complement of SC-selecting verbs. This relative amelioration is, according to Kush et al. (2013), due to a grammatical illusion that the parser creates in order to repair the ungrammatical input. The mechanism is illustrated by means of the following example, representing an extraction that is judged ungrammatical with *met* (non-SC-selecting) as matrix verb, and relatively better with *saw* (SC-selecting).

(3) That was [the bill]$_i$ that he {?saw/*met} [$_{DP}$ many senators [$_{CP}$ who supported []$_i$ at the congress]].

According to Kush et al.'s (2013:257) proposal, the sentence is processed in the following way. When encountering the filler *the bill*, the parser will start to search for the corresponding gap. Upon encountering *saw*, the parser could either expect the gap corresponding to *the bill* in the direct object position of *saw*, or – since the verb *see* can select a small clause such as in *I saw her leave* – the gap could be inside the small clause complement. However, the former option is disconfirmed upon seeing the NP *many senators* in the direct object position of *saw* and the latter option is disconfirmed by the appearance of the relative pronoun *who*, since – in contrast to the Swedish relative pronoun – *who* can never be used as predicational operator in a small clause. In order to assign an interpretation to this sentence, the parser will now employ repair strategies which involve a re-adoption of the formerly abandoned small clause analysis and a disregard of the relative pronoun *who*, which only leads to a marginal acceptability of this sentence in English. However, the acceptability rating in that case is still better than for the plain ungrammatical version with *met* as matrix verb, because the verb *meet* cannot select a small clause complement and the parser could thus at no point of the processing hypothesize a small clause analysis in order to complete the filler–gap dependency. Therefore, the parser has to conclude that the sentence with *met* as matrix verb is ungrammatical, in contrast with the version with *saw*, were a small clause analysis could be assumed temporarily and therefore retrieved later on in order to interpret the input.

For the Swedish parser, the small clause analysis with *saw* as matrix verb is supposed to be even more easily available: Since the Swedish relative complementizer *som* is lexically identical to a predicational operator that can head small clauses, RC extraction in Swedish is argued to be in fact structurally ambiguous between a relative clause structure and a small clause structure. Therefore, the structural reanalysis of the relative clause as a small clause results in full acceptability of the extraction in Swedish (if the matrix predicate is a SC-selecting one), as opposed to English, where the parser has to disregard the relative pronoun in order to assign a small clause structure to the sentence with *saw*, which only leads to a partial amelioration compared to the same sentence with *met* as matrix predicate.

The example in (4) illustrates the prediction that the predicate restriction generates for Swedish: According to Kush et al.'s (2013) account, the relative clause

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extraction in (4a) is predicted to be acceptable with *kände* 'knew' as matrix verb, but not with *träffade* 'met', because the former verb can select a small clause in Swedish, as seen in (4b), whereas *träffa* 'meet' cannot, as seen in (4c).

(4) a. De blommorna {kände/träffade} jag en man som säljer.
those flowers knew/met I a man who sells

b. Jag **kände** honom som en erfaren skådespelare.
I knew him as an experienced actor

c. *Jag **träffade** honom som en erfaren skådespelare.
I met him as an experienced actor

This prediction is tested in detail below. Prior to this, I provide an overview of SC-selecting verbs in Swedish and a discussion of some examples of RC extraction retrieved from the literature on the topic.

2.2 Small clauses in Swedish

The types of small clauses that are relevant for this investigation (small clauses that are selected by a verb) typically consist of two constituents, XP and YP, which enter into a predication relation, where the predicate YP contains an adjective phrase, a noun phrase, a prepositional phrase, or an uninflected verb phrase (see the definition in Basilico 2003:3).[1] The examples given below demonstrate typical small clause constructions in Swedish.

(5) a. Jag [$_{VP}$ hörde [$_{SC}$ Lisa sjunga]].
I heard Lisa sing

b. Han [$_{VP}$ ansåg [$_{SC}$ henne dum]].
he considered her stupid

c. Vi [$_{VP}$ målade [$_{SC}$ huset rött]].
we painted house.the red

The small clause types relevant here are sometimes classified as either ECM-constructions (also referred to as object-with-infinitive constructions) or Object Predicative constructions (e.g. Teleman, Hellberg & Andersson 1999:Vol. 3; Lundin 2003). Since a distinction between these two groups is not relevant for the present study, I will not elaborate on these terms.

Furthermore, one can distinguish between argument and adjunct small clauses (see Starke 1995 for a detailed analysis), with argument small clauses (selected) exemplified in (5a–c) above and adjunct small clauses (not selected) in (6).

(6) Jag [$_{VP}$ [$_{VP}$ träffade honom] [$_{SC}$ PRO full]].
I met him PRO drunk

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The adjunct SC has a null subject PRO, and, in contrast with argument small clauses, it can be omitted, as is illustrated by the pair of examples in (7). This is usually not possible with selected (argument) small clauses, as is shown in (8).

(7) a. Jag träffade honom full.
I met him drunk

b. Jag träffade honom.
I met him

(8) a. Han anser henne vara intelligent.
he considers her to.be intelligent

b. *Han anser henne.
he considers her

Adjunct SCs will not be relevant to the present study, because the Small Clause Hypothesis only refers to verbs that SELECT SC complements, thus excluding adjunct SCs. If we took adjunct SCs into consideration, there could be no predicate restriction, because all verbs can in principle be combined with an adjunct small clause (since adjuncts are not selected by any element in the matrix clause). An analysis based on a predicate restriction would be impossible if no difference could be made between verbs that are compatible and verbs that are incompatible with SCs. I will therefore disregard adjunct small clauses and treat only argument small clauses as possible models for a small clause reanalysis of RC extraction.

To identify those verbs in Swedish that select argument small clauses, I follow the categorization in Teleman et al. (1999:Vol. 3, pages 366–374, 576–580), where the following groups of SC-selecting verbs in Swedish are discerned:

(a) Perception verbs: e.g. *se* 'see', *känna* 'feel', *höra* 'hear'
(b) Verbs of thought and consideration: e.g. *anse* 'consider', *påstå* 'claim', *hävda* 'argue', *anta* 'assume', *bedöma* 'judge', *finna* 'find', *misstänka* 'suspect', *uppge* 'declare', *visa* 'show'
(c) Causative verbs: e.g. *göra* 'do', *få* 'get'
(d) Resultative verbs: e.g. *måla* 'paint', *skriva* 'write'
(e) Verbs that give the object referent a special status: e.g. *välja* 'chose', *utse* 'elect'
(f) LET: *låta* 'let'

Hence, if the proposal by Kush et al. (2013) is on the right track, only matrix verbs of the type in (a)–(f) should appear in Swedish relative clause extractions. In Section 2.3, this prediction is examined in light of a selection of extraction examples found in the literature on the topic and then, in Section 3, tested in detail in an acceptability judgment experiment.

2.3 Extraction examples

Considering a collection of examples of Swedish RC extraction that other authors have identified in corpus studies or conversations (Wellander 1948; Allwood 1982;

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Andersson 1982; Engdahl 1982, 1997; Teleman et al. 1999:Vol. 4; Lindahl 2010), we find that many of the extractions discussed in the literature turn out to be problematic for the predicate restriction and hence for the SC Hypothesis. For instance, the following sentences involve extractions in the complement of matrix verbs that cannot select a small clause in Swedish, viz. *hitta på* 'make up', *delta* 'take part' and *lyssna* 'listen'.

(9) a. Ja, det$_i$ kan vi **hitta på** en sång som heter []$_i$.
yes that can we make up a song that is.called
'Yes, we can make up a song that is called like that.'
(Engdahl 1997:25)

b. Akupunktur$_i$ brukar det **delta** en läkare som kan []$_i$ vid våra seminarier.
Acupuncture uses there to.attend a Doctor who can at our seminars
'There is usually a doctor attending our seminars who knows acupuncture.'
(Teleman et al. 1999:Vol. 4, page 423)

c. Regnskogarna$_i$ har jag **lyssnat** hela förmiddagen på en som pratade om []$_i$.
rainforests.the have I listened whole morning.the to one who talked about
'I have been listening all morning to someone who was talking about rainforests.'
(Teleman et al. 1999:Vol 4, page 423)

As shown in (10) and (11), these verbs cannot select a SC as their complement in Swedish, neither a verbal small clause (the a-examples), nor an adjectival one (the b-examples), and therefore constitute clear counterexamples to the SC Hypothesis.

(10) a. *Vi **hittar på** en sång låta roligt.
we make up a song sound funny

b. *Vi **hittar på** en sång (som) rolig.
we make up a song as funny

(11) a. *Han **deltar** vid ett seminarium upplysa alla.
he takes.part in a seminar enlighten everyone

b. *Han **deltar** vid ett seminarium (som) intressant.
he takes.part in a seminar as interesting

Additional counterexamples can be found in Teleman et al. (1999:Vol. 4, page 423), who note that extraction from relative clauses is possible in the complement of (among others) the following matrix verbs: *få syn på* 'catch sight of', *hitta* 'find',

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sakna 'miss', *förlora* 'lose', *längta efter* 'long for', *söka upp* 'seek out', *ta reda på* 'find out' and *komma* 'come'. Again, none of these verbs may select a small clause complement by the tests given in (10) and (11). Kush et al. (2013) use *träffa* 'meet' as a typical example of a non-SC-selecting verb, which is correct, considering (12).

(12) *Jag **träffade** honom resa till Oslo.
I met him travel to Oslo

However, as shown by examples like (13), RC extraction is unproblematic with *träffa* as a matrix verb (confirmed by my Swedish informants' informal acceptability judgments, six out of six speakers), again challenging the prediction of the SC Hypothesis.[2]

(13) Det$_i$ hade jag aldrig **träffat** någon som hade gjort []$_i$.
that have I never met someone who has done
'I have never met someone who has done that.'
(Wellander 1948:507)

The Swedish data given in this section already pose a problem for the proposed predicate restriction and therefore also for the SC Hypothesis, since they represent examples of relative clause extraction in the complement of matrix predicates that are not SC-selecting verbs. To find more reliable data, I have conducted a controlled acceptability judgment experiment, which allows registering subtle differences in acceptability between different matrix predicates that are perhaps not identifiable in the examples already found in the literature, while controlling for factors such as sentence length, syntactic complexity and information structure. The results of this study are presented in Section 3.

3. ACCEPTABILITY JUDGMENT EXPERIMENT

The acceptability judgment experiment presented here had the form of an online questionnaire containing sentences with relative clause extractions that were embedded under matrix predicates varied for the following three conditions:

condition a: SC pred. + *som* (the predicate can select a small clause containing *som*; coded SmallClause_Som for the purposes of the statistical analysis)
condition b: SC pred. – *som* (the predicate can select a small clause, but not with *som*; SmallClause_NoSom)[3]
condition c: Non-SC pred. (the predicate cannot select a small clause complement; NoSmallClause)

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The informants (45 monolingual Swedish native speakers) were asked to judge sentences varied for the above conditions for their acceptability in Swedish.[4] A distinction was made between conditions a and b to investigate potential effects of the matrix verb's ability to select SCs that can or cannot occur with *som*, since the presence of *som* is used as a further argument in Kush et al.'s (2013) account of RC extraction. Section 4.1 below discusses the alleged complementizer restriction to RCs with *som*, whereas in this section, the focus is on the predicate restriction, i.e. potential acceptability contrasts between extractions in the complement of SC-selecting verbs in general (conditions a and b) and non-SC-selecting verbs (condition c). The SC Hypothesis predicts that extractions in condition a and b will be judged more acceptable than in condition c.

The stimuli consisted of 24 sets of constructed sentences of the type shown in (14), each set consisting of three sentences corresponding to the three conditions (condition a = SC pred. + *som*; condition b = SC pred. – *som*; condition c = Non-SC pred.). For a complete list of stimuli sentences, see Müller (2014).

(14) a. Sådana blommor **såg** jag en man som sålde.
such flowers saw I a man who sold
'I saw a man who sold such flowers.'

b. Sådana sånger **hörde** jag en man som sjöng.
such songs heard I a man who sang
'I saw a man who sang such songs.'

c. Sådana blommor **talade** jag med en man som sålde.
such flowers talked I with a man who sold
'I talked to a man who sold such flowers.'

The head noun phrase was indefinite in all sentences, and the matrix predicate was in the past tense in most of the items. If possible, only the matrix verb was varied in the three sentences, but in some cases, like (14) above, the extracted lexeme had to be varied as well in order to create felicitous sentences. The sentences from each of the 24 sets were distributed over three lists, with only one sentence from each set appearing in each list, respectively. Each of the three lists thus contained eight instances of each condition (yielding 24 test items in total in each list) and was furthermore complemented with twice as many fillers as test sentences.[5] The order of sentences on each list was randomized to counterbalance for potential priming or learning effects. Each of the three lists was tested in the form of an online questionnaire on 15 informants, respectively. Prior to answering the questionnaire, the participants received detailed instructions about the criteria according to which they should judge the sentences, with the aim to minimize any influence from extragrammatical factors (such as prescriptive rules or semantic/pragmatic factors) on the ratings. Judgments were given on a seven-point Likert scale (1 = *dålig* 'bad'; 7 = *bra* 'good') to permit

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Experimental condition	Average rating	Normalized ratings	SD	SE	CI
SmallClause_Som (condition a)	3.32	3.32	2.26	0.12	0.23
SmallClause_NoSom (condition b)	3.11	3.11	2.04	0.11	0.21
NoSmallClause (condition c)	2.96	2.96	1.97	0.10	0.20

SD = Standard Deviation, SE = Standard Error, CI = confidence interval

Table 1. Average acceptability ratings in the experimental conditions.

Filler condition	Rating average
Bad Filler	2.53
Good Filler	6.34

Table 2. Average acceptability ratings for filler sentences.

the registration of fine-grained differences regarding acceptability. The design of the experiment differs from that of Christensen & Nyvad (2014) in that more matrix verbs were tested. Furthermore, extractions were tested separately under two types of SC-selecting verbs: those that can select an SC with the operator *som* and those that cannot occur with *som* in the SC.

The average ratings of the test sentences of each condition as well as of the grammatical and ungrammatical filler sentences are given in Table 1 and 2. The average ratings for the three test conditions are illustrated in Figure 1. Overall, the ratings for all test sentences were rather low (between 2.96 and 3.32 on average), compared to the mean value of the good filler sentences (6.34). The relatively low scores of the bad fillers (average 2.53) and the high scores that the good fillers received (average 6.34) indicate that the participants understood the task and are generally able to discriminate different levels of acceptability.

Figure 1 indicates a slight difference in the ratings across the three conditions, in line with the prediction of the SC Hypothesis: Extractions in the complement of predicates that can select a small clause containing *som* (SmallClause_Som) are on average rated slightly better than in the complement of predicates that can select a small clause, but which cannot occur with the operator *som* in the SC (SmallClause_NoSom). These in turn receive slightly better ratings than extractions embedded under predicates which cannot select a small clause at all (NoSmallClause). A statistical analysis on these results was carried out by performing a linear mixed models analysis using R and lme4. Prior to the analysis, the ratings by each participant were transformed using a z-score transformation in order to correct some of the potential scale bias that can occur in experiments with Likert rating scales. As a fixed factor, the matrix predicate condition was entered into the model with the three

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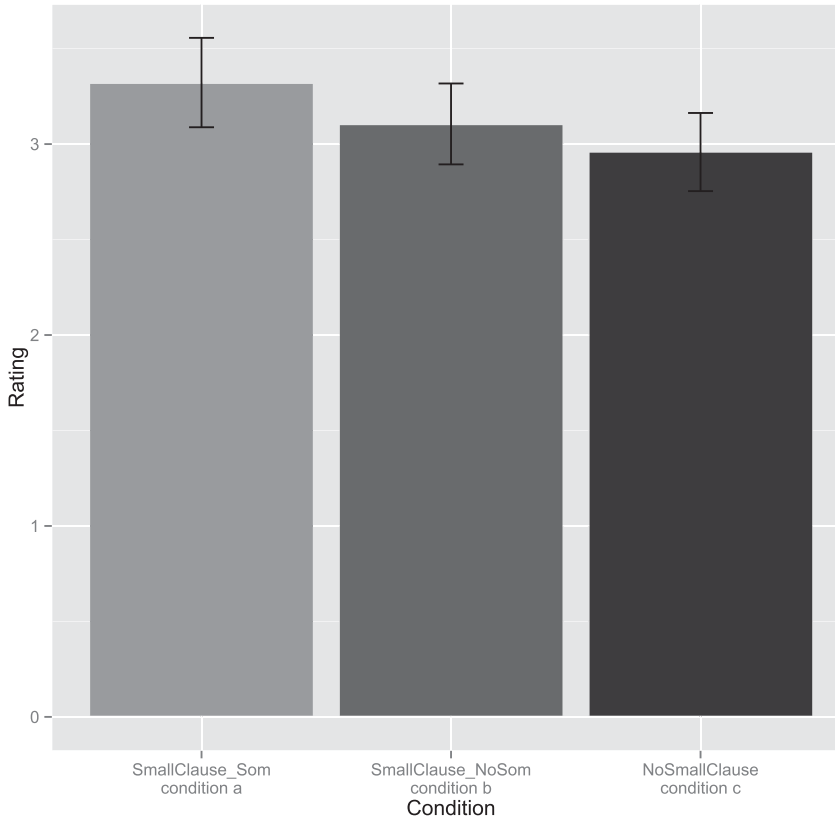

Figure 1. The three experimental conditions by average acceptability rating.

levels 'SmallClause_Som' (condition a), 'SmallClause_NoSom' (condition b), and 'NoSmallClause' (condition c). SUBJECT and ITEM were used as random factors, including intercepts for subject and item as well as random slopes for subject and item. This model fit was significant ($p < .001$).

The fixed effects are given in Table 3 and Table 4 below, with model a and model b being the same maximal model, however once with the intercept for condition c and once for condition b as reference point (in order to compare all three conditions to each other). 'Estimate' reflects the predicted difference in acceptability ratings between the reference level of the matrix verb condition (which is represented by the (Intercept) parameter) and the remaining two levels, respectively. The *p*-values were estimated using the Satterthwaite approximation.

The findings indicate that none of the contrasts between the matrix verb conditions described above is statistically significant, though the contrast (SmallClause_Som > NoSmallClause) (a > c) can be said to be trending towards

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Coefficients	Estimate	SE	*t*-value	*p*-value
(Intercept) NoSmallClause	0.78	0.06	13.38	.00
Condition: SmallClause_NoSom	0.05	0.05	1.02	.32
Condition: SmallClause_Som	0.13	0.07	1.78	.09

SE = Standard Error

Table 3. Fixed effects of the linear mixed models analysis, model a.

Coefficients	Estimate	SE	*t*-value	*p*-value
(Intercept) SmallClause_NoSom	0.83	0.07	12.61	.00
Condition: SmallClause_Som	0.07	0.06	–1.15	.26
Condition: NoSmallClause	–0.05	0.05	–1.02	.32

SE = Standard Error

Table 4. Fixed effects of the linear mixed models analysis, model b.

significance ($t = 1.78$, $p = .09$).[6] Altogether, the results show no clear significant contrast between extractions in the complement of SC-selecting and non-SC-selecting matrix predicates, in contradiction to the supposed predicate restriction. The experiment thus does not provide any statistical support for the main prediction of the SC Hypothesis, in parallel to the findings of Christensen & Nyvad (2014).

Kush & Lindahl (2011) report contrary results from an acceptability judgment experiment in Swedish. In their study, RC extraction yielded significantly better judgments with the SC-selecting matrix verbs *vara* 'be' and *se* 'see' than with the non-SC-selecting predicate *träffa* 'meet', which they take as evidence corroborating the SC Hypothesis. As mentioned in Section 1 above, the conflicting results of my study and Kush & Lindahl's (2011) experiment are most likely due to a crucial difference in the test design, specifically in the number of verbs tested. While my experiment tested at least 14 verbs for each condition, Kush & Lindahl (2011) restricted their study to three verbs: *vara* 'be', *se* 'see' and *träffa* 'meet'. It is thus quite possible that the results of Kush & Lindahl's (2011) study are due to what Christensen & Nyvad (2014:17) refer to as SELECTION BIAS: The differences in acceptability ratings that Kush & Lindahl (2011) have observed across three verbs might be a result of the sampling method that led to the selection of these particular verbs, rather than being an effect of the SC-compatibility of these verbs.

Finally, one might conclude that the relatively low ratings that the sentences with relative clause extraction received in the experiment presented here (average scores between 2.96 for condition c and 3.32 for condition a) stand in contrast with the generally assumed acceptability of Swedish RC extraction. These results may be explained by adopting Christensen, Kizach & Nyvad's (2013a) processing account that relates degraded acceptability of Scandinavian island extraction to the

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increased processing cost that extraction entails in general. Specifically, Christensen et al. (2013a) base their account on the DEPENDENCY LOCALITY THEORY (Gibson 1998, 2000), according to which the complexity of a sentence involving an extraction depends on the number of discourse referents that intervene between the extracted element and its source position. Therefore, the integration of the phrase *de blommorna* 'those flowers' into the current structure is more costly in (15a) (extraction from an embedded relative clause) than, for instance, the integration of *vilka blommor* 'which flowers' in (15b) (movement within an embedded clause): In (15a), the dependency between the extracted element and the embedded verb crosses two new discourse referents, namely *känner* 'know' and *en man* 'a man', while in (15b), *han* 'he' is the only intervening discourse referent (see Christensen, Kizach & Nyvad 2013a, b).[7]

(15) a. [De blommorna]$_i$ känner jag [$_{DP}$ en man [$_{CP}$ som säljer []$_i$]].
those flowers know I a man who sells
(Allwood 1982:24)

b. Jag vet [$_{CP}$ [vilka blommor]$_i$ han säljer []$_i$].
I know which flowers he sells

The increased processing cost of extraction from embedded clauses can equally be accounted for in terms of intervening nodes (Hawkins 1994, 2004), or in terms of intervening clause boundaries: Movement across a clause boundary, as in (15a), is associated with a higher degree of complexity and processing cost than movement within the same clause, as in (15b), which is consistent with the view that every clause (CP) not only constitutes a syntactic phase, but also a processing unit (Christensen et al. 2013b).

The complexity of a relative clause extraction sentence like (15a) is additionally increased by the fact that the parser has to keep track of two filler–gap dependencies simultaneously, one holding between the extracted element *de blommorna* 'those flowers' and its source position, and one between the head noun of the relative (*en man* 'a man') and its subcategorizer (the embedded verb *säljer* 'sell'), both of which are adding to the processing load (Hawkins 2004).[8]

The parsing of sentences involving relative clause extraction thus consumes a large amount of processing resources (caused by the movement across a clause boundary in combination with the twofold dependency relation, as described above). This substantial processing complexity can in turn be assumed to impinge on acceptability ratings, as increased processing difficulty is reflected in decreased acceptability ratings in general (Kluender 1992, 2004; Gibson 1998; Fanselow & Frisch 2006; Hofmeister & Sag 2010; Christensen et al. 2013a). For an overview of further factors that generally have an influence on the acceptability of complex structures (and thus might cause the patterns of graded acceptability observed here), see Heinat & Wiklund (2015) and Christensen & Nyvad (2014); for influencing factors related to discourse and information structure, see for instance the discussion in Engdahl (1997) on the relevance of context.

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However, reduced acceptability ratings do not necessarily imply ungrammaticality, as Christensen et al. (2013a, b) and Christensen & Nyvad (2014) note. Observing training effects (i.e. a correlation between acceptability and order of presentation) for extractions from relative clauses and from embedded questions in Danish (under the assumption that these training effects can only be found for grammatical sentences), they conclude that extraction from relative clauses and embedded questions in Danish gives rise to island EFFECTS rather than island VIOLATIONS, hence that island extraction is grammatical (though degraded) in Danish. Crucially, these training effects have been reported to be absent in island extraction in English (Sprouse 2007) and in the clearly ungrammatical control items in Christensen et al.'s (2013a) experiment. Although tests like these remain to be carried out for Swedish, there is reason to believe that the same situation holds for Swedish relative clause extraction: While some sentences involving extraction might be degraded due to the factors listed above, removal of those factors that interfere with acceptability judgments (as far as this is possible) reveals that there is still a clear contrast between Swedish and e.g. English in that RC extraction in English is considerably worse than the Swedish counterpart (Heinat & Wiklund 2015). Moreover, there is a difference between Swedish and other languages (first observed by Engdahl 1997) in that the insertion of a resumptive pronoun at the gap site improves an otherwise ungrammatical extraction in e.g. English (16a–b), whereas the resumption strategy clearly decreases the Swedish counterpart (16c) (examples from Engdahl 1997:54).

(16) a. *?[Those flowers]$_i$ I know someone who sells []$_i$.

b. ?[Those flowers]$_i$ I know someone who sells **them**$_i$.

c. *[De blommorna]$_i$ känner jag en man som säljer **dem**$_i$.
those flowers know I a man who sells them

Since this type of resumptive occurs in English typically to repair island violations (Kroch 1981, Creswell 2002, Ferreira & Swets 2005, Asudeh 2012, Boeckx 2012), one has to conclude that extraction in Swedish is more acceptable without any island repair mechanisms, suggesting that in fact no island violation has occurred in the case of Swedish RC extraction, as already proposed for island extraction in Danish.

The view advocated here thus differs crucially from the parsing account presented in Kush et al. (2013) in that RC extraction in Swedish is assumed to be allowed due to some (currently poorly understood) structural property of Swedish relative clauses (or complex noun phrases more generally) which enables apparent island violations, a property that e.g. English relative clauses do not have. In the account of Kush et al. (2013), in contrast, island extraction is in principle not assumed to be grammatical in Swedish; only certain cases of extraction from relative clauses are ameliorated due to a grammatical illusion that the parser creates in order to repair the ungrammatical

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sentence. The creation of this grammatical illusion is in Swedish facilitated by a lexical accident, due to which the relative complementizer *som* is identical to a small clause operator. On my analysis, no such illusion or reanalysis is necessary to complete the long-distance dependency created by sub-extraction from a relative clause in Swedish: On the assumption that relative clauses in Swedish do not form islands for extraction, as suggested above, it is perfectly possible for the parser to connect the extracted element to its regular gap (the source position inside the relative clause). This option is excluded in the account of Kush et al. (2013), since the parser's dependency completion is assumed to be constrained by island constraints, which is why gap filling does not take place inside an RC.

In conclusion, the acceptability judgment study presented here and the results from Christensen & Nyvad's (2014) experiment in Danish demonstrate that RC extractions involving SC predicates are not judged significantly better than those involving non-SC predicates for Mainland Scandinavian speakers, as was already indicated by the extraction examples retrieved from the literature (Section 2.3 above). This must be seen as counterevidence against the SC Hypothesis, as its main prediction, the predicate restriction, is not borne out.

It should be noted that, although the experimental investigation of the predicate restriction provides more systematic fine-grained results, the extraction data obtained from the literature in Section 2.3 are informative in their own right, since they make it possible to study the production of RC extraction (as opposed to an acceptability judgment study, which only tests comprehension). Production data in turn are equally relevant for the predicate restriction, because Kush et al.'s (2013) proposal implicitly presupposes that Swedish native speakers produce the relevant sentences involving RC extraction in order for the suggested reanalysis to take place. If production data from Swedish (such as the extraction examples examined above) indicate that RC extractions are produced even with non-SC-selecting matrix verbs, this is problematic for the SC Hypothesis, since an SC reanalysis cannot take place in these cases.

In the following, I discuss further problems for the Small Clause Hypothesis, which are connected to the predictions that the hypothesis makes with regard to the relative complementizer and the relativization gap.

4. FURTHER PROBLEMS

4.1 The complementizer restriction

Any analysis of the rare phenomenon of relative clause extraction will have to account for the cross-linguistic differences regarding extraction possibilities, i.e. the contrast between English, for example, where extraction – even in the complement of SC-selecting predicates – is at best marginally acceptable, and Mainland Scandinavian

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languages such as Swedish, where extraction (at least if the matrix clause contains a SC-selecting verb) is fully acceptable. Kush et al. (2013) derive these cross-linguistic differences from different properties of the relative complementizer: The Swedish relative complementizer *som* is lexically identical to the predicational operator *som*, which can head small clauses in Swedish, see (17) (example from Kush et al. 2013:254).

(17) Jag betraktar honom **som** en idiot.
I consider him as an idiot

Kush et al. (2013) argue that, because of this syncretism, Swedish RC extractions are in fact structurally ambiguous between a relative clause structure and a small clause structure. Therefore, the parser can easily analyze the relative clause as a SC structure, yielding the possibility of extraction, because small clauses are not islands. Since the English relative pronoun can never be used as a predicational operator in a small clause (neither *who* nor *which*, nor *that*), English speakers do not have this option.

According to this argumentation, full acceptability of RC extraction in a language is tied to the presence in that language of syncretism between a relative pronoun/complementizer and a predicational operator that heads small clauses. Kush & Lindahl (2011:9) state explicitly that languages that lack syncretism between a relative pronoun and a predicational operator will not allow island extraction. Although this implicational relation is left vague in Kush et al. (2013), it follows logically from their argumentation, since the syncretism of Swedish *som* is taken to account for the acceptability of Swedish RC extraction in contrast with English extraction. If this syncretism was not relevant for the possibility of extraction from RCs, the contrast between Swedish and English in this regard would remain unexplained and an important part of the argumentation in Kush et al. (2013) would vanish.

However, data from the Scandinavian languages provide several counterarguments to the relevance of an ambiguous relative complementizer for the possibility of RC extraction: As shown by Christensen & Nyvad (2014), subject relative clauses in Danish can be introduced by the complementizer *der* (as an alternative to *som*), which – in contrast to *som* – is unambiguously a relative pronoun. *Der* cannot head a small clause as a predicational operator (Christensen & Nyvad 2014). Nevertheless, extraction from relative clauses introduced by *der* in Danish is possible, as is shown in (18).

(18) Det_i kender jeg mange **der** kan lide $[]_i$. (Danish)
that know I many who can like
'I know many who like this.'

(Erteschik-Shir 1982:176)

Christensen & Nyvad (2014) demonstrate that there is no significant difference in the acceptability ratings between RC extractions embedded under *som* and those

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embedded under *der*. Hence, Danish provides a counterexample to the suggestion that the syncretism of *som* with a predicational operator is a necessary condition for full acceptability of relative clause extraction.

Icelandic constitutes the inverse case of Danish, further weakening the importance of *som* in the case of RC extraction. Icelandic has a relative clause introducer *sem*, seen in (19a), which is syncretic with a predicative operator, as seen in (19b). However, Icelandic – in contrast to Swedish – does not allow relative clause extraction, see (19c).

(19) a. Ég þekki mann **sem** selur þessi blóm. (Icelandic)
I know a.man who sells those flowers
'I know a man who sells those flowers.'

b. Ég tel hann **sem** bróðir minn.
I consider him as brother mine
'I consider him as my brother.'

c. *Þessi blóm$_i$ þekki ég mann, sem selur []$_i$.
those flowers know I a.man who sells
(Maling & Zaenen 1982:232)

These data speak against the proposed connection between a syncretic relative complementizer and the possibility of extraction from relative clauses, and hence weaken the SC Hypothesis.

The dependency of Kush et al.'s (2013) proposal on the syncretism of *som* is problematic not only from a cross-linguistic point of view. Counterevidence to the complementizer restriction exists in Swedish as well: SC-selecting verbs in Swedish differ with respect to their selectional properties. A closer look at the verb groups taking SC complements (see Section 2 above) reveals that not all SC-selecting verbs in Swedish can have an SC predicate headed by *som*. Kush et al. (2013:254) exemplify the use of *som* in small clauses only in combination with three verbs: *betrakta* 'consider', *se* 'see' and *känna* 'know'. To investigate whether also other SC-selecting predicates can be combined with *som*, I have constructed examples of the SC verbs listed in Teleman et al. (1999:Vol. 3, pages 366–374, 576–580) with small clause complements involving different predicational operators and then presented the sentences to three native speakers of Swedish.[9] The informal judgments provided by the speakers reveal that, for instance, in the group of consideration and perception verbs, *höra* 'hear' and *finna* 'find' cannot take SC complements involving *som*, as is shown in (20). Yet, both *höra* and *finna* are able to appear with RC extraction, see (21).

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(20) a. *Jag hör honom **som** en begåvad musiker.
I hear him as a talented musician
b. *Han fann henne **som** trevlig.
he found her as nice

(21) a. Sådana sånger **hörde** jag en man som sjöng.
such songs heard I a man who sang
'I heard a man who sang such songs.'
b. De blommorna **fann** han en man som sålde.
those flowers found he a man who sold
'He found a man who sold those flowers.'

Furthermore, most of the causative and resultative SC-selecting verbs do not take a small clause complement with *som*, but have an unintroduced predicative, as in (22a), or a predicative headed by *till* 'to', as in (22b). In contrast to *som*, *till* cannot introduce a relative clause in Swedish.

(22) a. Den här filmen gör mig (*som) ledsen.
this here movie makes med as sad
'This movie makes me sad.'
b. Jag skrev ihop några ord {**till**/*som} en dikt.
I wrote together some words to/as a poem
'I arranged some words into a poem.'

Nevertheless, some of these SC-selecting verbs can in principle occur with RC extraction, as demonstrated here for *göra* 'make' and *skriva* 'write':

(23) a. Bensinförbrukning **skrev** jag ett datorprogram som räknar ut.
gas.consumption wrote I a computer.program that calculates
'I wrote a software that calculates gas consumption.'
b. Kubakrisen **gjorde** han en film som handlade om.
Cuban.crisis.the made he a movie that dealt with
'He made a movie that dealt with the Cuban crisis.'

Thus, upon scrutiny, only a few SC-selecting verbs in Swedish may in fact occur with *som* in the small clause.[10] Consequently, if the possibility to reanalyze a relative clause as a small clause is tied to the relative complementizer being identical to the predicational operator that heads the respective small clause, this kind of reanalysis should only be possible in the context of a very limited set of matrix predicates. As we have seen, this is not the case.

This is further confirmed by the results of the acceptability judgment experiment that was presented in Section 3 above. As mentioned there, RC extraction was tested separately with SC-selecting matrix verbs that can appear with *som* in the

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small clause and those that cannot have a small clause involving *som*, showing no statistically significant difference between the two groups. Thus, it is evident also from Swedish data that the presence of the syncretic relative complementizer *som* is irrelevant for the possibility of extraction from relative clauses.

4.2 The subject restriction

A further prediction connected to the SC Hypothesis concerns the grammatical function of the relativization gap. Kush et al. (2013:242) postulate a subject restriction on the head noun of the RC as another factor determining the acceptability of relative clause extraction in Swedish: Only 'subject RCs allow extraction while object RCs do not'. Hence, extraction in e.g. (24) (example from Engdahl 1997) is said to be illicit because the relativization gap is not in the subject position of the relative clause in this sentence.

(24) *[Den här lingvisten]$_i$ finns det [$_{DP}$ ingen teori$_j$ [$_{CP}$ som []$_i$ tror
the here linguist exists it no theory that believes
på []$_j$]].
in
'There is no theory that this linguist believes in.'

This is considered as support for the SC Hypothesis, because SCs are inherently 'subject-oriented' according to Kush et al. (2013:254), and an SC interpretation is thus ruled out for object RCs; i.e. only subject RCs are structurally ambiguous and can hence be reanalyzed as small clauses (yielding the possibility of extraction). In contrast, a small clause analysis of an object RC is not possible, because it requires 'abstraction over an internal argument position, which is not possible with SCs' (Kush et al. 2013:254). This assumption is used by Kush et al. (2013) to account for the acquisition problem related to the ambiguity of *som* and island extractions.

However, as Heinat & Wiklund (2015) show, the apparent subject restriction is in fact a reflection of a *that*–trace restriction in Swedish, constraining subject extraction after an overt complementizer (see also Engdahl 1997:9; Lohndal 2009). Once the *that*–trace effect is controlled for, e.g. by using a ditransitive verb, as in (25a), or adjunct instead of argument extraction, as in (25b), RC extraction is possible even when the relativization gap is in the object and not in the subject position (Heinat & Wiklund 2015).

(25) a. Lisa$_i$ vet jag tre saker som han vill ge []$_i$.
Lisa know I three things that he wants.to give
'I know three things that he wants to give Lisa.'

b. [I Paris]$_i$ vet jag två grejer som man bör göra []$_i$.
in Paris know I two things that one should do
'I know two things that one should do in Paris.'

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Thus, RC extraction in Swedish is not restricted to subject RCs; extraction from object RCs is in principle possible too. These findings are problematic for the Small Clause Hypothesis because Kush et al. (2013) rule out a SC analysis for sentences like (26a–b), where the object is relativized, due to the subject-orientation of SCs. The proposal loses much of its explanatory power if the Small Clause Hypothesis can only account for extraction from subject relative clauses.

A further potential problem related to these facts is that the relative complementizer *som* can be omitted in object relative clauses, even in RC extraction contexts, such as (26). Since the relative complementizer *som* plays such a crucial role in Kush et al.'s (2013) argumentation, this is again problematic for the alleged complementizer restriction that was discussed in Section 4.1 above.

(26) a. Lisa$_i$ vet jag tre saker (som) han vill ge []$_i$.
Lisa know I three things that he wants.to give
'I know three things that he wants to give Lisa.'

b. [I Paris]$_i$ vet jag två grejer (som) man bör göra []$_i$.
in Paris know I two things that you should do
'I know two things that one should do in Paris.'

5. CONCLUSION

In this paper I have shown that the Small Clause Hypothesis proposed by Kush et al. (2013) to account for relative clause extraction in Mainland Scandinavian encounters serious problems when its predictions are scrutinized against data from Swedish. The hypothesis by Kush et al. (2013) is supposed to offer an explanation for the apparent violation of island constraints that relative clause extraction constitutes. In detail, the proposal predicts that the possibility of extraction from relative clauses is restricted to cases where the matrix clause contains a small-clause–selecting verb, because in that case the parser can reanalyze the apparent relative clause as a small clause, from which extraction is not blocked, since small clauses are not islands. This prediction was tested in an acceptability judgment experiment carried out on 45 monolingual native speakers of Swedish. The results showed no statistically significant contrast in the ratings between extractions from the complement of different types of matrix predicates; hence, the main prediction of a predicate restriction on relative clause extraction was not borne out. This is in line with similar findings from an acceptability judgment study in Danish, presented in Christensen & Nyvad (2014). Furthermore, I have shown that many of the Swedish extraction examples present in the literature on the topic involve non-SC-selecting predicates and thus constitute further counterevidence to the claim that relative clause extraction is restricted to SC-selecting matrix verbs.

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The acceptability judgment experiment also tested potential effects of the matrix verb's ability to select SCs that can or cannot occur with the operator *som*, since Kush et al.'s (2013) proposal predicts that the acceptability of RC extraction in Swedish crucially depends on the presence of the relative complementizer *som*, which is lexically identical to a predicational operator used in small clauses. This syncretism is supposed to facilitate an SC reanalysis of relative clauses, yielding the possibility of extraction. However, the experimental results showed no statistically significant difference in the ratings between extractions from the complement of SC-selecting verbs compatible with *som* and SC-selecting verbs incompatible with *som*.

Cross-linguistic data support the conclusion that the presence of a syncretic relative complementizer is in fact irrelevant for extraction possibilities. Specifically, Danish disproves such a connection by allowing RC extraction even if the relative clause introducer is *der*, which is not syncretic with any predicational operator used in small clauses. Conversely, Icelandic disallows extraction from relative clauses even though the Icelandic relative complementizer *sem* is syncretic with a predicational operator (just as in Swedish). Finally, extraction in Swedish is also possible from object relative clauses, where the relative complementizer *som* can be omitted. The facts outlined in Section 4.1 demonstrate that the lexical ambiguity of the relative complementizer *som* is evidently not a necessary condition for the possibility of RC extraction. Hence, the syncretism of *som* cannot account for the possibility of RC extraction in the Mainland Scandinavian languages.

Finally, Kush et al.'s (2013) subject restriction on the relativization gap does not hold, since extraction is in principle possible also from object RCs. However, the proposed small clause analysis is not applicable to object RCs due to the inherent subject-orientation of SCs, according to Kush et al.'s (2013) own argumentation, which again casts doubt on the plausibility of the SC Hypothesis.

In sum, upon closer scrutiny of Swedish data, none of the crucial predictions generated by the proposal are borne out. Considering these findings altogether and taking Christensen & Nyvad's (2014) counterevidence from Danish into account, we have to conclude that the Small Clause Hypothesis can hardly be maintained as an explanation for the possibility of extraction from relative clauses in the Mainland Scandinavian languages. Another, more consistent explanation to the phenomenon must be sought by investigating factors beyond the type of matrix predicate involved. If relative clause extraction in Swedish is in fact to be attributed to structural properties, an adequate account has to be based on a careful analysis of the components of movement that are involved in Swedish RC extraction and an examination of the options of the external systems to handle potentially island-violating structures (see Boeckx 2012 for suggestions along these lines). I leave this for future research.

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NOTES

1. In contrast to Kush et al.'s (2013) classification, small clauses in the complement of existential verbs such as *finnas* 'there is' and *vara* 'be' are not considered here due to their status as existential/presentational constructions or cleft sentences, which differ from other relative clauses in being liberal with regard to extraction also in other languages, see Heinat & Wiklund (2015), or, as in the case of cleft sentences, are not analyzed as 'true' relative clauses and therefore are not relevant to the discussion of relative clause extraction.
2. All of the verbs above, classified as non-SC-selecting verbs, can in principle appear with an adjunct small clause (not selected):

   (i) Jag träffade honom [PRO full].
   I met him PRO drunk

   However, these cases are irrelevant for the reasons noted above.
3. SC-selecting verbs are mainly taken from Teleman et al. (1999:Vol. 3, pages 366–374, 576–580), see Section 2.1. For a more detailed list of SC-selecting verbs in Swedish and their selectional properties, see Müller (2014).
4. By monolingual Swedish native speakers, I refer to speakers that have only one native language: Swedish.
5. The filler sentences were construed such that they were comparable in complexity to the test sentences, many of them involving one or two levels of embedding. However, only very few extractions were used in the fillers in order to prevent priming or learning effects. An example of a good filler item used in the test is given in (ia), bad fillers (which varied in their degree of ungrammaticality) are exemplified in (ib) and (ic).

   (i) a. Jag lovade honom att jag aldrig skulle berätta för någon
   I promised him that I never would tell for someone
   vad som hade hänt. (good filler)
   what that had happened
   'I promised him to never tell anyone what had happened.'

   b. Torget på de säljer päron varje dagarna. (bad filler)
   market.the on they sell pears every day.the
   Intended meaning: 'In the marketplace, they sell pears every day.'

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c. Han lånades de två viktigaste böckerna tills han var
he loaned.pass the two most.important books.the until he was
klar med uppsatsen. (bad filler)
done with thesis.the
Intended meaning: 'The two most important books were loaned to him until he was done with the thesis.'

6. As an anonymous reviewer correctly points out, one factor potentially affecting the results (which might have caused the trending effect for the contrast between conditions a and c) is plausibility, i.e. the varying degree of semantic/pragmatic compatibility of the matrix verb with the extracted lexeme. As determined in informal judgements, the matrix verb in the test sentences was compatible with the extracted item less often in sentences of condition c than in the other two conditions, potentially giving rise to decreased ratings for some of the c-sentences (which involved extraction in the complement of non-SC-selecting predicates) and thus contributing to the difference observed across the conditions. Future studies should therefore take this factor into consideration and include it as a predictor in the model.
7. Within Dependency Locality Theory, new discourse referents include lexical verbs (which indicate a new discourse event), but exclude first and second person pronouns (Gibson 1998:17, 2000:107).
8. As Hawkins (2004:171, 195) shows, the filler–gap dependency in relative clauses is processed by linking the head noun of the relative to the word that subcategorizes for it (i.e. the embedded verb) rather than connecting the head noun to the gap associated with it (i.e. the position relativized on), since full interpretation of the gap ultimately requires processing of the verb.
9. Additionally, Teleman et al. (1999:Vol. 3, pages 366–374) provide information on the selectional properties regarding the predicational operator for some of the Swedish small clause verbs.
10. Specifically, these verbs are: *se* 'see', *känna* 'know', *anse* 'consider', *bedöma* 'judge', *uppge* 'declare', *uppfatta* 'consider', *tänka* 'think', *betrakta* 'consider', *rapportera* 'report', *stämpla* 'mark', *beteckna* 'denote', *räkna* 'count', *ta* 'take', *ha* 'have', *hålla* 'keep', *bevara* 'preserve', *sätta* 'set', *använda* 'use', *välja* 'elect', *utse* 'chose', *insätta* 'appoint', *föreslå* 'suggest' and *nominera* 'nominate'.

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