Editorial

Recent Advances in Research on Island Phenomena

Anne Mette Nyvad * and **Ken Ramshøj Christensen** *

Department of English, School of Communication and Culture, Aarhus University, 8000 Aarhus C, Denmark
* Correspondence: amn@cc.au.dk (A.M.N.); krc@cc.au.dk (K.R.C.)

In natural languages, syntactic elements can, in principle, be linked across an unbounded distance, as exemplified by filler-gap dependencies (also known as extractions or movement operations). However, while distance is in itself not a constraint, there are a number of structures or constructions that to varying degrees hinder such long-distance dependencies. Since Ross (1967), the term "island" has been used to describe syntactic structures from which extraction is impossible or impeded, and the constraints on such dependencies have typically been assumed to be universal properties of language and to be innate, given the lack of negative evidence during language acquisition (see, e.g., Newmeyer 1991).

English has been the prototypical object of study in accounts trying to establish what is possible and impossible with respect to long-distance filler-gap dependencies, e.g., across clausal boundaries, and it is still ubiquitous in the literature on island structures. However, counterexamples in the Mainland Scandinavian languages were first brought to the attention of the linguistic community as early as the 1970s (Erteschik-Shir 1973; Engdahl and Ejerhed 1982), and had in fact been recorded by the Danish grammarian Kristian Mikkelsen almost a century before (Mikkelsen 1894, e.g., pp. 322, 442). Nonetheless, such counterexamples have repeatedly been dismissed as illusory and, instead, alternative accounts of the underlying structure of such cases have been proposed (e.g., Chomsky 1982; Kush et al. 2013).

In fact, extractions from island structures appear to be pervasive in spoken Mainland Scandinavian (Lindahl 2017; Nyvad et al. 2017), and recent experimental island research on Swedish (Müller 2019), Norwegian (Kush et al. 2018, 2019; Bondevik et al. 2020) and Danish (Christensen and Nyvad 2014) have found empirical evidence to suggest that adjunct clauses and relative clauses may not actually be strong (absolute) islands in these languages. This recent island research has highlighted the roles played by the matrix verb, information structure, and the faciliatory effect of a supporting context in the acceptability of extraction from island environments. In addition, recent research suggests that extraction from certain types of island structures in English might not be as unacceptable as previously assumed either (e.g., Müller 2019; Chaves and Putnam 2020; Sprouse et al. 2016). These findings break new empirical ground, question perceived knowledge, and may indeed have substantial ramifications for syntactic theory.

The purpose of this Special Issue is to provide an overview of the state-of-the-art research on island phenomena in English and the Mainland Scandinavian languages, as well any other languages where such island structures can be found. An explicit objective is to investigate how other languages compare to English with respect to the acceptability of extractions from island structures in order to shed light on the nature of the constraints on filler-gap dependencies and the syntactic primitives that form the basis of such structures.

Each of the ten contributions of this Special Issue play a part in highlighting the need to operationalize our tools for the investigation into the extra-syntactic factors that affect the acceptability of traditional island structures. However, each of the ten contributions approach island phenomena from a distinctive angle. While some take a more theoretical approach (Culicover et al. 2022; Kehl 2022), others provide new corpus data (Müller and

Eggers 2022; Engdahl and Lindahl 2022) or new experimental data (Chaves 2022; Engdahl and Lindahl 2022; Kobzeva et al. 2022; Nyvad et al. 2022; Snyder 2022; Vincent et al. 2022).

In order to investigate the nature of island constraints in the Mainland Scandinavian languages, the Insular Scandinavian languages could be of special interest, since these languages share a number of typological and syntactic features, but appear to be different when it comes to the escapability of island environments. Along this line of reasoning, Engdahl and Lindahl (2022) argue that the extractions from relative clauses attested in the Mainland Scandinavian languages could conceivably be connected to the tendency in these languages to prepose unstressed object pronouns as a way of establishing coherent discourse. In order to test this hypothesis, they examine the extent to which pronoun preposing is employed in the Mainland Scandinavian language Swedish on the one hand, and the Insular Scandinavian languages Faroese and Icelandic on the other. Their findings suggest a connection between the frequency with which a language employs pronoun preposing in order to establish coherent discourse and the willingness of its speakers to accept long extractions. In addition, some Icelandic speakers appear to find extraction from complement clauses natural, but extraction from relative clauses (RC) unnatural, which suggests that there is a syntactic constraint blocking movement from RCs in Icelandic. While the Mainland Scandinavian languages seem to share a property facilitating long extraction, corpus data suggest that such extraction is not used productively in the Insular Scandinavian languages.

Building on these new insights about fronting conditions in Mainland and Insular Scandinavian languages, Lindahl (2022) examines extraction from relative clauses in Icelandic and Swedish in parallel with an acceptability judgment study in order to compare island structures when information structure and context are controlled for. She found substantial differences between the two languages: Participants judged extraction from relative clauses and embedded questions unacceptable in Icelandic, while these island structures were largely considered natural by Swedish speakers. In her data, there appears to be no cost of extraction in local fronting, extraction from complement clauses, or from 'existential/presentational' RCs, i.e., RCs embedded under existential or presentational main verbs, corresponding to, e.g., *be* or *know*. While extractions from RCs under semantically richer matrix predicates were generally considered less natural in Swedish, extraction from RCs was invariably unacceptable in Icelandic.

However, there is often a mismatch between informal and formal judgments. Island structures tend to receive relatively low scores in acceptability judgment studies, while highly acceptable examples are frequently attested in naturally occurring speech. As already mentioned, speakers of Mainland Scandinavian languages find at least some extractions from relative clauses and adjuncts acceptable, and the finding in Müller and Eggers (2022) is that this is matched in naturally occurring speech: island violations can be attested in corpora "at a non-trivial rate". The combined data from corpus and acceptability studies strongly suggest that extraction from relative clauses and adjunct clauses is possible in Danish, or at least that they are not the strong islands that they have traditionally been assumed to be. However, Müller and Eggers also found examples of extraction from RCs and adjunct clauses in English, albeit on a substantially smaller scale. In other words, the data suggest that the Mainland Scandinavian languages are more liberal than, e.g., English when it comes to island extraction, and that RCs and adjunct clauses may not be strong islands in English either. The data also show that extraction from RCs is not restricted to constructions involving existential/presentational matrix verbs, although there seems to be a strong preference (echoing Lindahl 2022). In addition, while relativization from RCs and adjunct clauses was attested in both English and Danish, none of the examples involve *wh*-extraction.

In Müller and Eggers (2022), extraction from adjunct clauses was most frequent from *if*-clauses and unattested from *because*-clauses in both Danish and English. These results echo the experimental results by Nyvad et al. (2022), who investigated the acceptability of relativization from three types of English finite adjunct clauses (headed by *if*, *when* and

because) with a facilitating context and found a quite non-uniform pattern: extraction from *if*-clauses received unexpectedly high ratings, on a par with extraction from complement *that*-clauses, and significantly higher than extraction from *when*- and *because*-clauses. The authors interpret these results as suggesting that adjunct clauses are not invariably strong islands in English and that extra-syntactic factors must be key in understanding the variation in these island phenomena.

Similarly, Vincent et al. (2022) argue that English is more like the Mainland Scandinavian languages than previously thought. It has been suggested that island constraints need to be parameterized in order to account for cross-linguistic differences, but a substantial part of the research presented in this Special Issue suggests that island extraction appears to be facilitated in similar environments across the languages under investigation. This conclusion is also reached in Vincent et al. (2022), based on experimental data indicating that extraction from a relative clause is possible or at least more acceptable in English in environments and contexts where an existential, non-presuppositional interpretation of the DP containing the relative clause is supported.

Kobzeva et al. (2022) examine extractability in Norwegian. They used an acceptability judgment task to test relativization and *wh*-extraction from nominal subjects, embedded questions, conditional adjunct clauses, and existential relative clauses in Norwegian. The results reveal different effects for different dependency types across the island environments, as *wh*-extraction from embedded questions and conditional adjunct clauses induce small but significant island effects, while the corresponding relativizations do not. They interpret the results as calling for a fine-grained account of factors influencing the acceptability of island extractions that goes beyond the basic division between focus and background, as suggested by Abeillé et al. (2020).

Culicover et al. (2022) propose the Extended Radical Unacceptability Hypothesis (ERUH) for extraction phenomena and argue that the reduced acceptability found in locally well-formed structures are not created by violations of syntactic constraints, but rather by non-syntactic factors. They assume that prior exposure leads to the emergence of probabilistic expectations that can be described as symbolic local well-formedness conditions (LWFCs), and that the level of acceptability is related to the degree of surprisal triggered by a linguistic form, such that low surprisal corresponds to high acceptability and vice versa. Hence, they argue, the unacceptability of classical island structures may just be a reflection of the level of surprisal that they yield, and what has been described as syntactic island constraints are in fact simply generalizations concerning the structures that produce a high level of surprisal related to their frequency. The frequency with which a given construction occurs is affected by both processing factors and information structure mismatches. A problem for non-syntactic accounts is the cross-linguistic variation that we see in terms of island strength. Culicover et al. suggest that the variation is the result of differences in construction frequencies.

In a similar vein, Kehl (2022) argues that it may not be necessary to make syntactic operations sensitive to semantic factors in accounts of participial adjunct islands. According to him, theory development in the realm of syntax should take into account relative acceptability differences in the underlying declaratives before positing licensing mechanisms for interrogative island structures. The declarative structures have traditionally been viewed as grammatical in a binary, categorical sense, and as such, "[d]ifferences in processing complexity, semantic compatibility and pragmatic characteristics" of the declaratives have not been taken into account in the comparison with the interrogative counterparts when it comes to island structures, but acceptability differences in the declarative constructions might explain at least some of the variation found in the extraction counterparts. Kehl argues that among the factors that may play a role in acceptability variation are transitivity, event structure of the main verb, and the encoding of an incremental measure scale in the matrix predicate.

Snyder (2000) presented experimental evidence that syntactic satiation can be induced for certain island structures. That is, speakers find such sentences more acceptable as a

function of repeated exposure. This is notable, given that satiation effects can potentially help shed light on the fundamental questions relating to the nature of island constraints in particular and the nature of our internal grammars in general. In this Special Issue, Snyder (2022) presents three new studies indicating (i) that only a subset of sentence types satiates, (ii) that the satiation of one sentence type may affect other syntactically related sentence types, and (iii) that satiable sentence types vary in terms of the number of exposures required in order for acceptability to increase. Finally, it is shown that experimentally induced satiation may persist over a certain period of time. Snyder (2022) concludes by suggesting that satiation can be used as a diagnostic test in that the underlying principle leading to initial unacceptability in different sentence types may not be the same if they differ in their behavior in terms of satiability.

Chaves (2022) points out that it is still unclear what the precise nature of syntactic satiation is, i.e., whether it is task adaptation, syntactic adaptation, or both. He stresses that certain island structures may combine categorical (competence) effects and contextual or expectation-based (performance) factors, which may be difficult to separate. However, across studies, it has been found that coordinate structure violations, subject islands, adjunct islands, factive islands, and RCs share a common property in being more acceptable when the construction expresses an assertion, rather than backgrounded or non-at-issue content. In addition to complexity and plausibility as important factors in gradient acceptability, Chaves (2022) presents a new factor that may also play a role in the adaptation to islands and other complex constructions, namely "predicted reward" (i.e., some sort of bonus for accurate performance in an experiment). Based on new experimental data, he suggests that the variation found when it comes to research on satiation effects may be due to differences in motivation and focus among the participants, something which may be manipulated in future research on islands.

In conclusion, based on mounting evidence, and not least the data and analyses presented in this Special Issue, English and the Mainland Scandinavian languages may be more similar when it comes to island phenomena than previously assumed. Across these languages, extraction seems to increase in acceptability (to varying degrees) when the matrix predicate is existential or presentational, when facilitated by context, when the embedded structure is asserted, or when the dependency type is relativization (or topicalization) rather than *wh*-movement. Furthermore, syntactic constraints on extraction, such as the Condition on Extraction Domain (CED, Huang 1982) and the Complex NP Constraint (CNPC, Ross 1967) may need to be re-evaluated, as recent studies have found a wide variation in acceptability that may not prima facie be easily compatible with a binary constraint in core syntax. While little doubt remains that it is more difficult to extract from some domains than others, whether these patterns are the result of competence or performance factors is still an open question.

Author Contributions: Writing—orginal draft, A.M.N. Writing—review and editing, A.M.N. and K.R.C. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

References

Abeillé, Anne, Barbara Hemforth, Elodie Winckel, and Edward Gibson. 2020. Extraction from Subjects: Differences in Acceptability Depend on the Discourse Function of the Construction. *Cognition* 204: 104293. [CrossRef] [PubMed]

Bondevik, Ingrid, Dave Kush, and Terje Lohndal. 2020. Variation in Adjunct Islands: The Case of Norwegian. *Nordic Journal of Linguistics* 44: 223–54. [CrossRef]

Chaves, Rui P. 2022. Sources of Discreteness and Gradience in Island Effects. *Languages* 7: 245. [CrossRef]

Chaves, Rui P., and Michael T. Putnam. 2020. *Unbounded Dependency Constructions: Theoretical and Experimental Perspectives*. Oxford: Oxford University Press.

Chomsky, Noam. 1982. Some concepts and consequences of the theory of government and binding. In *Linguistic Inquiry Monographs*. Cambridge: MIT Press, p. 6.

Christensen, Ken Ramshøj, and Anne Mette Nyvad. 2014. On the Nature of Escapable Relative Islands. *Nordic Journal of Linguistics* 37: 29–45. [CrossRef]

Culicover, Peter W., Giuseppe Varaschin, and Susanne Winkler. 2022. The Radical Unacceptability Hypothesis: Accounting for Unacceptability without Universal Constraints. *Languages* 7: 96. [CrossRef]

Engdahl, Elisabet, and Eva Ejerhed, eds. 1982. *Readings on Unbounded Dependencies in Scandinavian Languages*. Acta Universitatis Umensis 43. Umeå and Stockholm: Universitetet i Umeå, Almqvist & Wiksell International [distributor].

Engdahl, Elisabet, and Filippa Lindahl. 2022. Extraction and Pronoun Preposing in Scandinavian. *Languages* 7: 128. [CrossRef]

Erteschik-Shir, Nomi. 1973. On the Nature of Island Constraints. Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, MA, USA.

Huang, Cheng-Teh James. 1982. Logical Relations in Chinese and the Theory of Grammar. Ph.D. dissertation, MIT, Cambridge, MA, USA.

Kehl, Andreas. 2022. Extraction from Present Participle Adjuncts: The Relevance of the Corresponding Declaratives. *Languages* 7: 177. [CrossRef]

Kobzeva, Anastasia, Charlotte Sant, Parker T. Robbins, Myrte Vos, Terje Lohndal, and Dave Kush. 2022. Comparing Island Effects for Different Dependency Types in Norwegian. *Languages* 7: 197. [CrossRef]

Kush, Dave, Akira Omaki, and Norbert Hornstein. 2013. Microvariation in Islands? In *Experimental Syntax and Island Effects*. Edited by Jon Sprouse and Norbert Hornstein. Cambruidge: Cambridge University Press, pp. 239–265.

Kush, Dave, Terje Lohndal, and Jon Sprouse. 2018. Investigating Variation in Island Effects: A Case Study of Norwegian Wh-Extraction. *Natural Language & Linguistic Theory* 36: 743–79. [CrossRef]

Kush, Dave, Terje Lohndal, and Jon Sprouse. 2019. On the Island Sensitivity of Topicalization in Norwegian: An Experimental Investigation. *Language* 95: 393–420. [CrossRef]

Lindahl, Filippa. 2017. *Extraction from Relative Clauses in Swedish*. Gothenburg: University of Gothenburg.

Lindahl, Filippa. 2022. Extraction from Relative Clauses in Icelandic and Swedish: A Parallel Investigation. *Languages* 7: 163. [CrossRef]

Mikkelsen, Kristian. 1894. *Dansk Sproglære, Med Sproghistoriske Tillæg: Haandbog for Lærere Og Viderekomne*. Copenhagen: Lehman & Stages Forlag.

Müller, Christiane. 2019. *Permeable Islands. A Contrastive Study of Swedish and English Adjunct Clause Extractions*. Lund: Lund University.

Müller, Christiane, and Clara Ulrich Eggers. 2022. Island Extractions in the Wild: A Corpus Study of Adjunct and Relative Clause Islands in Danish and English. *Languages* 7: 125. [CrossRef]

Newmeyer, Frederick J. 1991. Functional Explanation in Linguistics and the Origins of Language. *Language & Communication* 11: 3–28. [CrossRef]

Nyvad, Anne Mette, Christiane Müller, and Ken Ramshøj Christensen. 2022. Too True to Be Good? The Non-Uniformity of Extraction from Adjunct Clauses in English. *Languages* 7: 244. [CrossRef]

Nyvad, Anne Mette, Ken Ramshøj Christensen, and Sten Vikner. 2017. CP-Recursion in Danish: A *c*P/CP-Analysis. *The Linguistic Review* 34: 449–77. [CrossRef]

Ross, John Robert. 1967. Constraints on Variables in Syntax. Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, MA, USA.

Snyder, William. 2000. An Experimental Investigation of Syntactic Satiation Effects. *Linguistic Inquiry* 31: 575–82. [CrossRef]

Snyder, William. 2022. On the Nature of Syntactic Satiation. *Languages* 7: 38. [CrossRef]

Sprouse, Jon, Ivano Caponigro, Ciro Greco, and Carlo Cecchetto. 2016. Experimental Syntax and the Variation of Island Effects in English and Italian. *Natural Language & Linguistic Theory* 34: 307–44. [CrossRef]

Vincent, Jake W., Ivy Sichel, and Matthew W. Wagers. 2022. Extraction from English RCs and Cross-Linguistic Similarities in the Environments That Facilitate Extraction. *Languages* 7: 117. [CrossRef]