

THE ACCESSIBILITY HIERARCHY OF RELATIVIZATION IN SECOND LANGUAGE ACQUISITION

Richard Madsen

Aalborg University, Denmark

Article History:

Submitted: 10.06.2015

Accepted: 22.06.2015

Abstract

The accessibility hierarchy of relativization (Keenan and Comrie 1977) describes the restrictions that the grammar of a language imposes on the relativizability of clause and phrase constituents. This paper explores the applicability and validity of the accessibility hierarchy in second language acquisition and production.

It has been noticed that even Danes who are fairly proficient in English (university students) seem to have difficulties with relativizing possessors despite the fact that Danish has the exact same rules for relativization as English. All the elements listed in Keenan and Comrie's hierarchy can be relativized, and several of the relativizers in the two languages are cognates. On the one hand, the apparent difficulties of Danes defy common sense and theories on contrastivity and cross-linguistic influence (Ellis 2009, 2012, Jarvis 2011, Lado 1957), according to which Danes should not have problems with the formation of English relative clauses. On the other hand, they lend the accessibility hypothesis support since Danes seem to be challenged by the relativization of constituents that are low on the accessibility hierarchy, suggesting that the hierarchy is not only relevant for the static differences between language systems, but also for the dynamic interlanguage of language learners (Selinker 1972).

This study investigates the nature of the abovementioned difficulties and attempts to place the accessibility hierarchy subsequently in the context of second language acquisition by analysing several types of data stemming from Danish students studying English Business Communication. Essays and summaries in English, translations from Danish into English and vice versa, as well as gap-filling tests and tests concerning the construction of relative clauses by merging independent clauses both in English and Danish are analysed.

Key words: relativization, second language acquisition

1. Introduction

The impetus for this study was the informal noticing that Danish university students of English seemed to have trouble with the use of *whose* as a relative pronoun. They often did not use it when the antecedent was a possessor in the relative clause, but erroneously replaced it by for instance *which*. It was even more surprising as Danish has the cognate pronoun *hvis*, which is used in exactly the same way as *whose*.¹ According to the contrastivity hypothesis put forward by Lado (1957), Danes should therefore have no difficulties at all with using *whose*.

One possible explanation for the apparent difficulties that has availed itself is the accessibility hierarchy in relativization (Keenan and Comrie 1977). According to this hypothesis, relativizing the possessor – precisely the function of *whose/hvis* – is somehow more difficult than relativizing most other syntactic positions as it is not allowed by all languages, and if allowed, then only if the other syntactic functions can be relativized as well. If one assumes that the relative rarity of languages that allow relativizing the possessor is a sign of the relativization of the possessor requiring more cognitive power than the relativization of most other syntactic functions, then it is conceivable that learning the relativization of the possessor is also more challenging even if the learner's mother tongue allows it. From the above trail of thought, the following hypothesis is posited:

The level of precision that Danes exhibit when rendering different syntactic positions in English relative clauses correlates with the accessibility hierarchy, namely in decreasing order of expected precision: subject, direct object, indirect object, oblique object and possessor (aka genitive).

Relativizing the object of comparison, which is the lowest in Keenan and Comrie's hierarchy, was not tested in this study.

2. Theory and method

The theoretical standpoint of this study is that cross-linguistic variation has a cognitive basis, namely that linguistic phenomena (be they syntactic structures, individual sounds or combination of sounds) that are infrequent in the languages of the world are somehow more demanding cognitively than phenomena that are attested in many languages. (The present study does not concern itself with the question why this might be so.) Similarly, it is assumed that phenomena that are used less frequently within one language tend to be more taxing cognitively than phenomena that are used more routinely. As a logical extension of these assumptions, it is presumed that phenomena which are more arduous to use are also

harder to learn. This is why the accessibility hierarchy may be relevant for second language acquisition (SLA) even when the second language is very similar syntactically to the mother tongue, as in the case of English and Danish.

For testing the hypothesis outlined above, a group of freshmen of English Business Communication at Aalborg University, Denmark have served as informants. Two types of data have been gathered: results of tests specifically developed for this study and error analysis of texts that the students had written independently of this study (Corder 1981). The tests were of two subtypes: clause-combining tests and gap-filling tests. In the clause-combining test, the students were given pairs of independent clauses with one common referent, and had to insert the second clause into the first one as a relative clause attached to the common referent:

This exercise is intriguing. I investigate the accessibility hierarchy with **this exercise**.

→ **This exercise**, *with which I investigate the accessibility hierarchy*, is intriguing.

In the gap-filling tests, the students had to insert the appropriate relative pronoun into matrix clauses. The reason for administering gap-filling tests as well, after the clause-combining tests, was that despite detailed instructions, quite a few students had not done the clause-combining test in the intended manner. Many a times the students disregarded the common element in the clauses and relativized another element instead, they swapped the clauses and inserted clause one into clause two instead of the other way around, or they rephrased the relative clause in such a way that the relativizer did not have the intended function. In this way, the students managed to avoid using the structure and the relativizer that the tests were meant to investigate. The gap-filling tests, on the other hand, forced the informants to consider the structures to be investigated. Nevertheless, the parts of the clause-combining tests that were not done in the intended manner by the informants are not considered lost, but actually revealing of the presupposed differences in the cognitive load of relativizing certain syntactic elements. For it is assumed that the students resorted to the above mentioned evasive actions when these produced cognitively less demanding structures than the ones intended by the tests.

The tests were done both in English and Danish; also in Danish in order to see whether the students resort to similar evasive strategies in their mother tongue too as in their L2. If so, it will corroborate the assumption that some syntactic positions are harder to relativize even in languages that allow such relativization.

In order also to have a textual base for the study, a body of texts written by freshmen in the last three academic years has been analysed for errors in the use of relative clauses with

special focus on relativizing the possessor, i.e. the relativizer serving as possessor in the relative clause. The informants participating in the tests described above form a subset of the informants contributing with texts. The texts were composed in the course Production of Written Texts and are within four genres: short compositions (e.g. business letters, ads) in English, summarising in English of an English original, translation from Danish into English and translation from English into Danish.

3. Analysis

Let the analysis start with a brief description of the Danish relativizers (Table 1). It is disputed whether all or in fact any of them can be called relative *pronouns* (Lehmann 1984, Tøgeby 2003); however, that discussion is beside the point of this study.

Relativizer	Antecedent	Syntactic function in relative clause
<i>som</i>	any except a clause	any except possessor
<i>der</i>	any except a clause	only subject
<i>hvilket</i>	a clause	any except possessor
<i>hvad</i> <i>d</i>	a clause	any except possessor and subject
<i>hva</i> <i>d der</i>	a clause	only subject
<i>hvilken</i> <i>ken</i>	inanimate except a clause	any except possessor
<i>hvem</i> <i>m</i>	animate	any except possessor
<i>hvis</i>	any	only possessor

Table 1: Danish relativizers

Hvilken and *hvem* (cognates of *which* and *who(m)*, respectively) are very seldom used as relativizers in modern Danish, but almost exclusively as interrogative pronouns, except in

specialised cases as described below. If *hvilken* is indeed used, it agrees with its antecedent in gender and number. *Hvilket* is the neuter singular of *hvilken*; however, in modern Danish it is almost only used with a clause as antecedent. *Hvis* is – as mentioned earlier – the genitive of *hvem* (the original nominative being *hvo*); however, it can – just as the English *whose* – also be used with inanimate antecedents. It has a substandard, yet especially in spoken discourse widely used alternative form *hvems*. Danish does not distinguish between restrictive and non-restrictive relative clauses as far as the relativizer itself is concerned. *Som* and *der*, the most common relativizers in modern Danish, are also translation equivalents of *as* and *there*, respectively.

3.1. Results of the clause-combining tests

Each syntactic position of the relativizer was tested by two pairs of sentences. As correct were accepted not only responses which were impeccable, but also responses that contained minor orthographic or morphological mistakes not concerning the relativizer, and/or in which the relative clause was extraposed, i.e. did not follow its antecedent immediately, but in which the extraposition could not possibly result in misinterpreting the antecedent (for instance *She misses her grandma very much, who died a couple of weeks ago* instead of *She misses her grandma, who died a couple of weeks ago, very much*). Rephrasing and reordering of the clauses were not accepted as correct no matter whether they were grammatically correct or not in and of themselves. Nor were accepted responses containing syntactic disorders, for instance pronominal repetition of the antecedent in the relative clause, or no visible attempts at relativization.

3.1.1. Clause-combining test in English

Table 2 shows the aggregated results of the clause-combining test in English. This test was performed by 54 informants.

Syntactic function of relativizer	Average correctness
Oblique object	69.4%
Direct object	68.5%
Subject	56.5%
Possessor	39.8%

Indirect object	9.3%
-----------------	------

Table 2: Aggregated results of the clause-combining test in English

This test does confirm the informal notice serving as the impetus to this study, namely that relativizing the possessor is rather problematic; however, it does not confirm the relevance of the accessibility hypothesis for SLA. The singularly miserable result for the indirect object is caused by the almost uniform lack of use of the preposition *to* by the informants. In Danish, the relativizer can function as the indirect object without being marked by a preposition, although the use of the cognate of *to*, *til*, is allowed. The picture is even more confusing when the test items are taken individually as shown in Table 3.

	Sequential position of antecedent in clause 1	Function of antecedent in clause 1	Function of relativizer	Level of correctness
	initial	subject	oblique object	90.7%
	mid	direct object	subject	87.0%
	final	direct object	direct object	77.8%
	final	direct object	possessor	61.1%
	initial	subject	direct object	59.3%
	final	direct object	oblique object	48.1%
	mid	direct object	subject	25.9%
	initial	subject	possessor	18.5%
	final	subject complement	indirect object	13.0%
0	initial	subject	indirect object	5.6%

Table 3: Individual test items in English

It has been noted by Keenan & Comrie (1977) that the syntactic function and sequential position of the antecedent may interact with the use of the relativizer even to the degree of case assimilation, in languages that employ case (Tortzen 1993). This may explain some of the variation between the members of each pair of test items; however, the picture seems more chaotic than that. For instance, item 1 and 5 are alike with respect to the antecedent, yet the informants – contrary to expectations – score significantly higher in no. 1 than in no. 5. Conceivably, also the content of the clauses in the test items may play a role. Further research is necessary to determine whether it is so.

3.1.2. Clause-combining test in Danish

Table 4 shows the aggregated results of the clause-combining test in Danish. This test was performed by 29 informants.

Syntactic function of relativizer	Average correctness
subject	93.1%
oblique object	74.1%
possessor	74.1%
direct object	72.4%
indirect object	67.2%

Table 4: Aggregated results of the clause-combining test in English

Again, relativizing the possessor is relatively problematic although not so much as in the informants L2, English; and again the relevance of the accessibility hypothesis for SLA is not corroborated. Moreover, as Table 5 shows it, there seem to be haphazard differences between the test items concerning the same syntactic function of the relativizer.

	Sequential position of antecedent in clause 1	Function of antecedent in clause 1	Function of relativizer	Level of correctness
	final	direct object	subject	100%

	final	direct object	subject	86.2%
	final	direct object	oblique object	86.2%
	initial	subject	possesso r	86.2%
	initial	subject	indirect object	75.9%
	initial	subject	direct object	75.9%
	final	direct object	direct object	69.0%
	final	direct object	possesso r	62.1%
	initial	subject	oblique object	62.1%
0	final	oblique object	indirect object	58.6%

Table 5: Individual test items in Danish

3.2. Results of the gap-filling test

The gap-filling test was used to see if the informants were able to choose the right (form of the) relativizer. It was taken by 40 informants. The focus was on relativizing the possessor, so this test was not designed to compare the relativization of different syntactic functions with each other, but to see whether the students chose *whose/hvis* when these were called for. Three test items in either language required the use of *whose/hvis*; its level of precision is shown in Table 6.

Danish		English	
Position and function of antecedent	Level of precision	Position and function of antecedent	Level of precision
initial, subject	95%	initial, subject	80%
final, subject complement	90%	initial, subject	55%

initial, subject	80%	initial, subject	35%
------------------	-----	------------------	-----

Table 6: Level of precision of the use of *whose/hvis*

It is clear that the students are challenged by the relativization of the possessor, especially of course in English, but to some extent even in Danish. Again, there is no obvious reason for the variation among the test items.

3.3. Results of the error analysis

The error analysis of the corpus was used to see to what extent the relativization of the possessor is an issue in actual practice. 860 texts in English containing some 225,000 words have been analysed. Altogether 15001 mistakes have been detected, of which 163 (1.09%) have to do with relativization. However, only 2 of these mistakes, both in short compositions, are the non-use of *whose*. Seen in this perspective, the improper relativization of the possessor is not a big issue in practise. However, if one considers that altogether only 7 attempts were made in the analysed texts to relativize the possessor, then getting 2 (29%) of them wrong constitutes a major source of errors. It must also be noted that *whose* is often misspelled in both the texts and the tests (as *who's*, *whos*, *whoes*, *whoms*, *whims*), which underlines the observation that relativizing the possessor in English is a challenge for Danes. However, it must be added that this is not the main challenge for Danes as many more mistakes with, for instance, selecting the right relativizer with respect to the antecedent (*who* vs *which*) or using *whom* for relativizing the subject have been noticed.

No attempts of and consequently no problems with relativizing the possessor have been detected in the 144 translations from English into Danish, worth nearly 38,000 words.

4. Conclusion

It seems fair to conclude from the present study that the hypothesized relevance of the accessibility hierarchy for SLA is very little, at least for the L1-L2 pair of Danish and English. Even though it has been documented that relativizing the possessor is indeed on average more challenging for students of English than relativizing most other syntactic functions, the relativization of other syntactic function does not follow the accessibility hierarchy. Notably, the relativization of oblique objects seems unexpectedly easy for the students, even surpassing the relativization of the subject and direct object, which were expected to be the easiest of all. Nevertheless, this study may be useful for teachers of

English, as it has ascertained that the relativization of the possessor is indeed difficult for Danes, and its successful acquisition cannot be taken for granted just because Danish employs the exact same strategy with a cognate relativizer. The study has also revealed other areas of relativization that seem even more problematic for Danes, and which will be further investigated in a future study.

¹ If one considers all the forms of the animate interrogative/relative pronoun, it is more conspicuous that *hvis* and *whose* are indeed cognates: *who, whom, whose* vs. *hvo, hvem, hvis*. Although *hvo* only appears in a couple of proverbs in modern Danish, replaced by *hvem* in all syntactic position except that of the possessor, Danes do seem to be aware that *who(m)* and *hvem* are related (see Section 3.3.).

References

- Corder, P. (1981). *Error Analysis and Interlanguage*. Oxford University Press.
- Ellis, R. (2009). *Implicit and explicit knowledge in second language learning, testing and teaching*. Buffalo: Multilingual Matters.
- Ellis, R. (2012). *Second Language Acquisition*. Oxford University Press.
- Jarvis, S. (2011). "Conceptual transfer: Crosslinguistic effects in categorization and construal" in *Bilingualism: Language and Cognition* 14 (1), 2011, 1–8.
- Keenan, E. L. and Comrie, B. (1977). "Noun Phrase Accessibility and Universal Grammar". *Linguistic Inquiry*, Vol. 8, No. 1, pp. 63-99.
- Lado, R. (1957). *Linguistics across Cultures*. Ann Arbor: The University of Michigan Press.
- Lehmann, C. (1984). *Der Relativsatz*. Tübingen: Gunter Narr Verlag.
- Selinker, L. (1972). *Interlanguage*. *International Review of Applied Linguistics*, 10, 209–241.
- Togeb, O. (2003). *Fungererdennesætning? Funktioneldanskspøglære*. [Does this sentence work? A functional grammar of Danish]. Copenhagen: Gads Forlag.
- Tortzen, C.G. (1993). *ΒΑΣΙΣ. Attiskgrammatik* [Grammar of Attic]. Elsinore: Helsingør Gymnasium.