

Chapter 3

Lexical variation in the double object construction in 19th and 20th century Swedish

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This article studies changes in the Swedish double object construction (DOC), focusing on fourteen verb-specific constructions (see Croft 2001). The study uses two frequency measures – *lexical variation* and *text frequency*. The former measures the type frequency of nouns in the direct object slot of these verb-specific constructions and can be taken as a rough measure of productivity, while the latter deals with the token frequency of the verb-specific constructions as well as of the verbs in general. Most of the verb-specific constructions undergo a decrease in text frequency, mirroring the general decrease in text frequency of the DOC. Four of them show a decrease in lexical variation, indicating a connection between a decrease in lexical variation and a decrease in text frequency.

Keywords: double object construction, ditransitives, Late Modern Swedish, present-day Swedish, language change, construction grammar, productivity, corpus-based

1 Introduction

There are several ways in which a syntactic construction can undergo change. By simply looking at the frequency of a certain construction in a diachronic corpus, we can determine, for example, whether the construction has become more frequent or more infrequent over a certain period of time. Such changes in so-called *text frequency* may or may not be accompanied by changes in the type frequency of the construction, i.e. changes in the range of lexical items that occur in the construction. Changes in type frequency often correlate with changes



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in the semantic range of a construction, thus affecting the contexts in which the construction is used. These frequency-related changes are often referred to as *constructional changes* within the framework of construction grammar (see Hilpert 2013).

The stage in Swedish known as Late Modern Swedish (1732–) is often referred to as a period in which no significant syntactic changes have occurred. Seen in the light of the quite dramatic changes that occurred during the centuries preceding the Late Modern Swedish period, such as the collapse of the case system and the loss of personal endings on verbs (see Delsing 2014; Mørck 2005: 1130–1132; Larsson 2005: 1276), this might seem a valid judgement. However, even if no revolutionary paradigmatic changes occurred in this latest stage of Swedish, the constructional changes that happened during this period constitute a rather understudied subject.

Another tendency often observed in diachronic studies on Late Modern Swedish concerns stylistic changes within different written genres. These changes can perhaps be seen most clearly in prose fiction, where the language since the early 19th century has become more paratactic, with shorter sentences, and generally becoming more similar to the spoken language in terms of both syntax and lexicon (see Johannisson 1971; Thelander 2011: 129–130).

In the present study, I address a grammatical phenomenon in Late Modern Swedish that may be seen as an instance of constructional change as well as of stylistic change. I focus on the use of the most common verbs occurring in the Swedish double object construction during the years 1800–1999. Developments in corresponding double object constructions have been investigated with regards to later stages of languages similar to Swedish, most notably English (Colleman & De Clerck 2008, 2011, 2008) and Dutch (Colleman 2011), but so far, we do not know much about the developments in the use of the Swedish double object construction. As shown in this paper, the Swedish double object construction has decreased in text frequency and lexical variation, suggesting a decrease in the productivity of the construction. This decreasing productivity makes the double object construction a particularly interesting case in point when it comes to unravelling changes occurring at different levels of the constructional network (see §3.1 below), as the process of reduced productivity of an argument structure construction is an understudied phenomenon in comparison with studies on argument structure constructions increasing in productivity.

The examples in (1–7) illustrate how the double object construction is used in present-day Swedish.¹

¹In all examples presented in this paper, the relevant part of the example is given in italics, and the ditransitive verb is in boldface.

- (1) Hon **gav** mig brevet.
she gave me letter:DEF
‘She gave me the letter.’ (1976–1999)
- (2) Hon **räckte** honom brödfatet.
she handed him bread_plate:DEF
‘She handed him the bread plate.’ (1976–1999)
- (3) så jag tyckte jag skulle **skicka** er brevet.
so I thought I should send you letter:DEF
‘so I thought I should send you the letter.’ (1976–1999)
- (4) Resterna av en ofruktbar och meningslös religion,
remains.DEF of a fruitless and pointless religion
som redan hade **vållat** honom idel elände
which already had caused him nothing_but misery
‘The remains of a fruitless and pointless religion, which had already
caused him nothing but misery’ (1976–1999)
- (5) Vore det kanske en triumf, tänkte hon bittert,
Were it perhaps a triumph pondered she bitterly
om jag i stället kunde **beröva** honom hans glädje?
if I in stead could deprive him his happiness
‘Would it perhaps be a triumph, she pondered bitterly, if instead I could
deprive him of his happiness?’ (1976–1999)
- (6) Mats planerar att **bygga** dem en ny villa
Mats plans to build them a new house
‘Mats is planning to build them a new house’ (1976–1999)
- (7) en familj härborta ska **visa** oss sin nya lägenhet
a family over_here will show us their new apartment
‘a family over here is going to show us their new apartment’ (1976–1999)

Throughout this paper, I will refer to the construction under investigation as the *double object construction*, often shortened to *DOC*. The verbs which allow this construction are referred to as *ditransitive verbs*. As explained more elaborately in §3.1, I refer to the use of a specific verb in the DOC as a *verb-specific construction* or a *verb-specific DOC*. The study employs three main ways of quantitatively measuring various aspects of the DOC. These are more thoroughly dealt with in the theory and method subsections in §3, but I will briefly mention them here as well for the sake of clarity. The main method in the study is what I refer

to simply as *lexical variation*. This is a measure reminiscent of the type-to-token ratio, but which is calculated from random samples of a certain number of tokens. I then use the term *text frequency* for the number of times a given construction occurs in a corpus, normalized to the number of occurrences found in 1,000,000 corpus tokens. Finally, *verb frequency relative to the construction as a whole* is used to signify the relative frequency of a ditransitive verb in the DOC out of all occurrences of the construction. This measure does not take corpus size into account, but is only measured relative to the construction.

The article is structured as follows. §2 reports on previous research on the Swedish double object construction, as well as on corresponding constructions in related languages. In §3, I introduce the methodology employed in the study, as well as the theoretical framework of the study (construction grammar). §4 introduces the corpus data, as well as the method of data retrieval. §5, which contains the main bulk of the article, presents the results of the study, and the article concludes with a summary and conclusions in §6.

2 Background

Over the last few decades, a quite substantial amount of research has been devoted to the use of double object constructions in the modern Germanic languages. The most extensively studied double object construction is the one in English, with Green (1974), Wierzbicka (1988), and Pinker (1989) constituting some of the seminal works on the semantics of the construction, and Goldberg (1995) bringing the construction into the heart of the theoretical enterprise of construction grammar. In more recent times, more attention has been paid to diachronic changes in the use of double object constructions in Germanic languages. Barðdal (2007) focuses on the semantic range of the double object construction in Icelandic but also extends her scope to the earliest stages of the Germanic languages as a whole, while Barðdal et al. (2011) are also concerned with the situation in archaic Swedish and Norwegian dialects. In addition to Icelandic, the most thoroughly studied languages, when it comes to the diachronic developments of the double object construction, are English (Colleman & De Clerck 2008, 2011, 2008; Zehentner 2018) and Dutch (Colleman 2011).

The most basic or prototypical meaning usually attributed to the double object construction is successful transfer from the subject referent to the referent of the indirect object (see for example Goldberg 1995: 33, 141). Further semantic specifications state that the referent of the indirect object should typically be animate and also constitute a “willing recipient” (see Goldberg 1995: 141). In present-day

English, as well as in present-day Dutch, the DOC can also be used with verbs expressing future transfer (e.g. *promise*), absence of transfer (e.g. *deny*), reverse transfer (albeit only with a couple of verbs, e.g. *cost*), communication (e.g. *tell*), and creation (e.g. *bake*). All these semantic categories can be seen as derived from the central sense of successful transfer to the referent of the indirect object (see Goldberg 1995: 38 for English; Geeraerts 1998 for Dutch).

The changes reported in the semantic range of the double object construction in English and Dutch, as reported in Coleman & De Clerck (2011) and Coleman (2011), are remarkably similar. In both languages, the use of so-called pure benefactives, of the kind *open someone the door*, i.e. where no actual transfer is involved, has decreased dramatically (in the case of Dutch) or disappeared completely (in the case of English). English has also seen the loss of verbs of manner of communication (e.g. *whisper*) as well as verbs of banishment (e.g. *banish someone the house*). As for communication verbs, a similar tendency can be discerned in Dutch, where the entire semantic category of communication has become less frequent compared to other semantic categories.

Recent research on the DOC in Late Modern and present-day Swedish indicates that the Swedish DOC has undergone changes reminiscent of those affecting the DOC in English and Dutch. Valdeson (submitted) shows that verbs of pure benefaction (e.g. *reda ngn ngt* ‘unravel something for someone’) and malefaction (e.g. *spärra ngn vägen* ‘block the way for someone’) occur marginally in 19th century Swedish, while the category is totally obsolete in present-day Swedish. Over the period 1800–2000, there were also several changes affecting the frequency of different semantic categories relative to each other. We find, for example, that the use of verbs of communication decreased significantly within the scope of the construction as a whole, with certain verbs of communication, like *beskriva* ‘describe’ and *skildra* ‘depict’, becoming completely obsolete in the DOC in present-day Swedish (Valdeson submitted). These changes are of the same nature as the tendencies identified for Dutch by Coleman (2011).

Another rather conspicuous change in the use of the DOC in 19th and 20th century Swedish observed by Valdeson (submitted) is the dramatic drop in text frequency, from 840 occurrences per one million tokens in the first half of the 19th century to 445 occurrences per one million tokens in present-day Swedish (see Table 1).

The next section introduces the methodology employed in the present study and also gives a brief introduction to construction grammar, focusing on the concept of argument structure constructions and on how the notion of productivity is viewed within the framework.

Table 1: Occurrences of the DOC per million tokens (Valdeson submitted)

Period	Frequency
P1 (1800–1844)	840
P2 (1898–1901)	691
P3 (1976–1999)	445

3 Method and theoretical assumptions

The aim of the present study is to explore and increase our knowledge of the DOC in 19th and 20th century Swedish, focusing on the construction as a whole as well as on fourteen verb-specific constructions (see below). This includes gaining a deeper understanding of the productivity of fourteen verbs within the DOC (referred to as *verb-specific constructions*; see §3.2).

Methodologically, the study offers a novel approach to the Swedish DOC, as well as to the study of double object constructions in general. I use various frequency measures and apply them to the DOC as a whole, as well as to fourteen verb-specific constructions. The fourteen verbs investigated are those that appear in the top ten list of ditransitive verbs in at least one of the three time periods studied (see Table 6, §5.1). The main focus is on the text frequency and lexical variation of the constructions, and the study seeks to find out whether there is any correlation between changes in the two measures, e.g., if a decrease in text frequency also entails a decrease in lexical variation, and vice versa.

3.1 Argument structure constructions in construction grammar

In terms of a theoretical framework, the present study is rooted within diachronic construction grammar (Barðdal & Gildea 2015). One of the main principles in construction grammar is that syntactic constructions are considered mappings of form and meaning. In accordance with this principle, there is no difference in kind between syntactic constructions and lexical items; they are simply positioned at different ends of the so-called syntax–lexicon continuum (see Croft & Cruse 2004: 264). This assumption has implications for the choice of methodology in the present study, since it allows for constructions and constructional change to be studied in the same way and on the same terms as individual words.

In recent years, constructional change has become increasingly well studied (see, in particular, Traugott & Trousdale 2013). It covers various changes in the

use of a construction, such as the widening or narrowing of its scope or changes in frequency. In the present study, I am mainly concerned with changes in frequency. The most central notions in the study are text frequency and type frequency. Text frequency simply refers to how many times a certain construction occurs in a corpus (see Hilpert 2013), while type frequency is a measure of the number of individual types that are found in a certain slot in the construction. In the study of argument structure constructions, type frequency is most often stated as the number of individual verbs that occur in the construction. §3.3 provides a more detailed account of the method employed in the study.

Another important feature of construction grammar is the way in which constructions are ordered in networks. The so-called constructicon is seen as a system of taxonomic networks, with more schematic (i.e., lexically open) constructions at the top and more lexically filled constructions towards the bottom. In the minds of speakers, information about a construction is thought to be stored at several levels of the taxonomic network, which means that information is often stored redundantly. Figure 1 (taken from Croft & Cruse 2004: 264) illustrates this hierarchy of constructions.

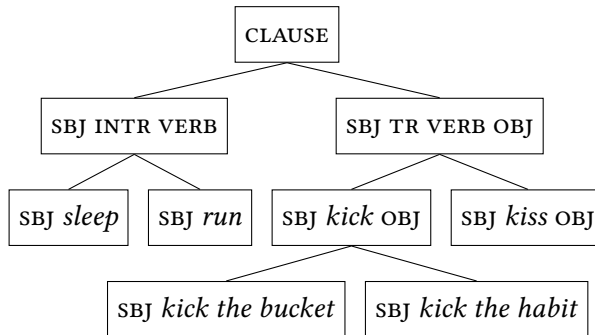


Figure 1: Taxonomic network of constructions (based on Croft & Cruse 2004: 264)

Figure 1 illustrates the intransitive and transitive constructions in English, with the schematic argument structure constructions on the second-highest level, below the clause level. The level below the argument structure construction constitutes the same construction but with the verb slot filled. Knowledge about the use of a certain verb in a certain construction may be stored both at the schematic level and at the verb-specific level. Croft (2001: 25) refers to the constructions in which the verb slot is filled as *verb-specific constructions*. This notion of verb-specific constructions is highly relevant for the present study, as my object of study is the fourteen most common such verb-specific constructions that

instantiate the more schematic double object construction. Taking the network illustrated in Figure 1 as a starting point, the idea is that when the verb *kick* is used in the transitive construction, it inherits properties from the general, superordinate transitive construction. However, the verb-specific transitive construction with *kick* may at the same time contain idiosyncratic properties not inherited from the general transitive construction. This becomes even clearer when we look at an expression like *kick the bucket*, which is linked to the verb-specific transitive construction with *kick*, but at the same time carries the idiosyncratic non-compositional meaning ‘die’. While sharing properties with the superordinate level in the taxonomic hierarchy, any idiosyncratic information stored at a lower level in the network overrides the more general information stored at a higher level (see Kemmer & Barlow 2000: ix–x).

3.2 Productivity

As will become clear, the results of the present study can readily be discussed in terms of constructional productivity. The notion of productivity refers to the ability of a construction to attract new types and is usually considered to be correlated with type frequency in one way or another. At its most basic level, productivity can be seen as directly correlated with the type frequency of the construction (see e.g. Bybee 2010). Applying this definition to an argument structure like the double object construction implies that the productivity of the construction can be estimated from the number of individual verbs occurring in the construction within a corpus.

In this study, I take the measure of lexical variation (i.e. a type frequency measure relative to the number of tokens) as an indication of productivity. Since I focus mainly on the lexical variation of direct objects in verb-specific constructions, the present study makes it possible to compare the productivity of these verb-specific constructions over time, as well as between the constructions themselves.

In the model of productivity presented by Barðdal (2008) and Barðdal & Gildea (2015), productivity is regarded as a combination of the type frequency and the semantic coherence of the construction. According to this model, a productive construction is usually characterized by either a large type frequency and a low degree of semantic coherence, or by a smaller type frequency and a larger degree of semantic coherence. The present study does not offer a fully-fledged analysis of the semantics of the verb-specific constructions involved. Nonetheless, the topic is repeatedly made relevant in the presentation of the results, as several of

the verb-specific constructions show a pattern in which a change in the direction of reduced lexical variation is cotemporal with a shift towards the semantic specialization of the direct object slot, with this slot becoming increasingly associated solely with abstract direct objects.

The next section gives an account of the quantitative method employed in the study.

3.3 Method

As already mentioned, one of the aims of the present study is to gain a better understanding of the productivity of some of the verb-specific constructions within the DOC. As stated in §3.2 above, the productivity of argument structure constructions is usually considered to be indicated, in one way or another, by the type frequency of the verb slot. If we move one step down in the taxonomic construction hierarchy, the productivity of verb-specific constructions can then, accordingly, be calculated by measuring the type frequency of the direct object slot.

While measuring the type frequency of a construction simply in absolute terms will render an accurate account of the actual type frequency of a specific corpus, it does not allow for comparison across corpora and is thus not a fully appropriate measure if we want to investigate diachronic change. A more reasonable way of measuring type frequency is to do it by means of the type-to-token ratio. Traditionally, this method works at the text level by measuring the quotient of individual types divided by the total number of tokens in the text. This method of measurement has often been employed in language acquisition studies, where a high type-to-token ratio is seen as indicative of a more highly developed language (see e.g. the overview in Richards 1987). It can be applied, however, to all tokens of a particular construction, rather than to all tokens in an entire text. The type-to-token ratio of a construction is then measured as the quotient of the number of individual types divided by the total number of instances of the construction (see e.g. Olofsson 2019).

While superior to measures of absolute frequency, the type-to-token ratio is still marred by a certain inaccuracy when applied to texts or corpora of greatly varying size. Since the number of new individual types decreases the longer the text or corpus is, the type-to-token ratio will normally be lower for a longer text than for a shorter one. This flaw can be counterbalanced by extracting samples of similar size from the texts measured (see e.g. Baayen 2008: 223–226; Covington & McFall 2010).

The method employed in the present study is an adaptation of the type-to-token ratio that works on samples of equal size from all corpora. This procedure is often referred to as standardized type-to-token ratio (see McEnery & Hardie 2012: 50), but in the present paper I will refer to this measure simply as *lexical variation*. For the DOC as a whole, the lexical variation (i.e. the variation in the verb slot) was measured by extracting ten random samples of 1,000 tokens from each of the three time periods that the diachronic study encompasses. The samples were created using the RAND function in Excel. For each of these samples, I counted the number of individual verb lemmas. The actual lexical variation is then taken to be the mean value of these ten samples. A similar procedure was undertaken for each of the fourteen verb-specific constructions studied, where the lexical variation of the direct object slot is in focus. For the verb-specific constructions, the samples varied in size between 20 and 100, depending on the lowest number of occurrences of the verb in question found in one of the corpora. Thus, for example, if a verb occurs 25 times in the first period, 40 times in the second and 150 times in the third period, ten random samples of 20 occurrences are drawn from each period. In each sample, the individual number of noun lemmas in the direct object slot was counted. Pronominal direct objects were not included in the study.

In order to obtain a comparable measure of lexical variation across the verb-specific constructions, it is given as a percentage, with 100% entailing the maximum level of lexical variation with each token consisting of an individual type. The sample size varies according to the number of occurrences of the verb in question in the subcorpora but is always set to a round number (20, 30, 40, 50, etc.). For each verb, the largest sample possible was used. A problem with this procedure is that the sample size differs between verbs, making it difficult to conduct a fully-fledged comparison between the different verb-specific constructions. More importantly, however, the method applied in the present study makes it possible to study the diachronic changes in lexical variation for each verb-specific construction individually across the three time periods. Subsequently, it is possible to compare the tendencies found with each verb-specific construction, i.e. whether the lexical variation increases, decreases, or remains relatively stable.

The other two frequency measures in the study are, perhaps, somewhat more straightforward. As mentioned in the introduction (§1), I apply the term *text frequency* to the normalized measure of occurrences per one million tokens. A similar frequency measure is employed by Coleman (2015) in a study of the Dutch *krijgen* passive construction. Finally, I also look at the frequency of the most

common verbs in the DOC relative to the total number of instances of the construction. For lack of a better term, I refer to this as *verb frequency relative to construction*.

4 Data

The present study is based on corpus data from various corpora from 1800 to 1999. All corpora consist mainly of prose fiction, making them comparable over time. The 19th century data are taken from the SPF corpus of Swedish prose fiction 1800–1900 (available in Korp, Borin et al. 2012), from which I extracted data from two timespans: 1800–1844 and 1898–1901.² The SPF corpus contains Swedish prose fiction data from the years 1800, 1820 etc. with continuing twenty-year intervals (including data from a few novels published in the years before or after the year in question). As the amount of data from the years 1800 and 1820 is highly limited, the data from the early 19th century cover a larger timespan than the data from the turn of the 20th century. The present-day Swedish data were gathered from three different corpora: *Bonniersromaner I* (1976–1977), *Bonniersromaner II* (1980–1981) and *Norstedtsromaner* (1999). All the corpora were searched using the corpus infrastructure Korp (Borin et al. 2012). Information about the corpora is summarized in Table 2.

Table 2: The corpora

Corpus	Timespan	No. tokens
<i>Svensk prosafiktion</i> ('Swedish prose fiction')	1800–1844	2 203 451
<i>Svensk prosafiktion</i> ('Swedish prose fiction')	1898–1901	9 837 169
<i>Bonniersromaner I</i> ('Bonnie novels I')	1976–1977	6 578 450
<i>Bonniersromaner II</i> ('Bonnie novels II')	1980–1981	4 304 271
<i>Norstedtsromaner</i> ('Norstedts novels')	1999	2 533 209
Total	1800–1999	25 456 350

In order to obtain a representative and sufficiently large amount of data, I searched the corpora using a search string designed to capture as many relevant results of the DOC as possible. For this, I employed the automatic part-of-speech tagger in Korp. This tagger is trained on present-day Swedish data, but studies

²<https://spraakbanken.gu.se/korp>

within computer linguistics have shown that it works with an accuracy of almost 90% even as far back as 18th century Swedish (see Adesam et al. 2016: 76). Considering this, there is no reason to doubt that the part-of-speech tagger is an efficient tool also for the 19th century corpora. The search string (which is illustrated in Table 3) was designed to capture all occurrences in the corpora of a verb followed by any personal pronoun in the object case, followed by three random words that are neither verbs nor prepositions, and with a noun as its final element.

The search method restricts the data to instances of the DOC with a pronominal indirect object and a full NP direct object. Limiting the search string to pronominal indirect objects leads to higher precision, i.e. the search does not generate too much noise. While at the same time this comes at the expense of lower recall, i.e. the search method limits the amount of data I can acquire, the method acknowledges the often reported fact from studies on the English double object construction that the prototypical indirect object is likely to be pronominal and to have an animate referent (see Bresnan et al. 2007; see also Coleman & De Clerck 2011 for the use of a similar method in a diachronic study of the English double object construction). This generalization most likely holds for Swedish as well (see Teleman et al. 1999/3: 315, who confirm that the indirect object in the Swedish DOC most often has an animate referent). Collecting instances of the DOC with direct objects consisting of full noun phrases only is also a prerequisite for the method employed in the study, since the verb-specific constructions are studied with regard to the lexical variation in the direct object slot. I excluded all instances of reflexive indirect objects, e.g. *köpa sig ngt* ‘buy something for oneself’. Reflexive indirect objects are extremely common in the Swedish DOC, especially with verbs of creation (see Teleman et al. 1999/3: 317), and might be considered a construction in their own right, being subject to their own semantic and pragmatic constraints (cf. the treatment by Barðdal et al. 2011 of a similar construction in Norwegian). The three random words between the pronoun in the object case and the full noun allows space for attributes and articles preceding the head of the noun phrase that constitutes the direct object. Finally, the data set was manually checked, and all irrelevant hits were excluded.

I divided the data into three periods – early 19th century Swedish (P1), turn-of-the-century Swedish (P2) and present-day Swedish (P3). The periodization is illustrated in Table 4, which also gives information on the number of instances of the DOC retrieved for each period.

Table 3: Search string

Part of speech	Word	Word	Part of speech
Verb	<i>mig</i> ‘me’ <i>dig</i> ‘you’ (OBJ.SG) <i>henne</i> ‘her’ <i>honom</i> ‘him’ <i>oss</i> ‘us’ <i>er</i> ‘you’ (OBJ.PL) <i>eder</i> ‘you’ (OBJ.PL) <i>dem</i> ‘them’	<any word except prepositions and verbs> <repeated 0–3 times>	Noun

Table 4: The data

Period	Corpus size	DOC instances
P1 (1800–1844)	2 203 451	1 850
P2 (1898–1901)	9 837 169	6 798
P3 (1976–1999)	13 415 930	5 871
Total	25 456 350	14 519

5 Results

In this section I present the results of the study. §5.1 gives an overview of the DOC as a whole, while §5.2 zooms in on the verb-specific tendencies. The verb-specific constructions are then treated in detail in §5.3, where the individual verbs are discussed one by one.

5.1 General overview of the double object construction

As Table 5 illustrates, the lexical variation in the verb slot in the Swedish DOC has been gradually decreasing over the last 200 years, with the lexical variation dropping around three percentage points between each measuring point, from 13.2% in P1 to 7.7% in P3. In plain language, this means that out of 1,000 random occurrences of the DOC in early 19th century prose fiction Swedish, 132 individual verb types can be found. A similar sample of 1,000 tokens in present-day Swedish prose fiction renders only 77 individual verb types. This indicates that

the DOC has become more specified in present-day Swedish, as the construction seems to be compatible with a more limited number of verbs. This narrowing of the lexical variation is paralleled by both a decrease in the text frequency of the DOC and a semantic specialization over time, as shown in Valdeson (submitted).

Table 5: Lexical variation of verbs in the DOC

Period	Types per 1,000 tokens	Lexical variation
1800–1844	132	13.2%
1898–1901	108	10.8%
1976–1999	77	7.7%

One aspect that clearly correlates with the decreased lexical variation of the DOC is the rise in relative frequency of the verb *ge* ‘give’ within the construction. This verb constitutes around 20% of all occurrences of the DOC in P1. In P3, the share has increased to almost 60%. This means that more than half of the occurrences of the DOC in present-day Swedish are instances of the verb *ge*. With one single verb being so dominant, it is of course more difficult to achieve a high lexical variation. Table 6 gives an overview of the ten most common verbs in the DOC in each of the three periods. The verbs appearing on the list in all three periods are printed in boldface in the table. These fourteen verbs were selected as the object of study for the investigation of lexical variation in the direct object slot of verb-specific constructions. Since the measure of lexical variation introduced in this paper concerns the lexical variation in the direct object slot, it is of importance that the verb-specific constructions studied are frequent enough across all three subcorpora for any quantitative changes to be discerned.

The verbs in the table pertain to a number of different semantic categories, including transfer (*ge* ‘give’, *räcka* ‘hand’), communication (*säga* ‘say, tell’, *visa* ‘show’), and dispossession (*beröva* ‘deprive’, *kosta* ‘cost’). I make no principled distinction between verbs for which the presence of an indirect object might be argued to be due to the valency of the verb, like *ge* ‘give’ and *kosta* ‘cost’, and verbs construed with what is often referred to as a free dative (or free indirect object), like *göra* ‘make, do’ (e.g. *göra ngn ett par stövlar* ‘make sb. a pair of boots’) and *skaffa* ‘obtain’ (e.g. *skaffa ngn ett hus* ‘obtain a house for sb.’). This is in line with studies on argument structure constructions from a construction grammar perspective, where the focus tends to be on the syntactic and semantic nature of the construction rather than the valency of the verb (see Goldberg 1995). Furthermore, the fact that a verb occurs frequently in the DOC indicates

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Table 6: Top ten verbs in each period

(a) P1 (1800–1844)			(b) P2 (1898–1901)		
Verb	Abs.	Rel.	Verb	Abs.	Rel.
<i>ge</i> ‘give’	369	19.9%	<i>ge</i> ‘give’	1 852	27.2%
<i>göra</i> ‘make, do’	188	10.2%	<i>göra</i> ‘make, do’	505	7.4%
<i>visa</i> ‘show’	109	5.9%	<i>räcka</i> ‘hand’	343	5.0%
<i>lämna</i> ‘hand’	106	5.7%	<i>visa</i> ‘show’	336	4.9%
<i>räcka</i> ‘hand’	75	4.1%	<i>lämna</i> ‘hand’	290	4.3%
<i>skänka</i> ‘give’	73	3.9%	<i>säga</i> ‘say, tell’	255	3.8%
<i>säga</i> ‘say, tell’	65	3.5%	<i>skänka</i> ‘give’	247	3.6%
<i>skaffa</i> ‘obtain’	46	2.5%	<i>skaffa</i> ‘obtain’	195	2.9%
<i>kosta</i> ‘cost’	33	1.8%	<i>bereda</i> ‘cause’	194	2.9%
<i>skicka</i> ‘send’	29	1.6%	<i>beröva</i> ‘deprive’	118	1.7%
(...)	(...)	(...)	(...)	(...)	(...)
Total	1,850	100.0%	Total	6 798	100.0%

(c) P3 (1976–1999)		
Verb	Abs.	Rel.
<i>ge</i> ‘give’	3 390	57.7%
<i>visa</i> ‘show’	346	5.9%
<i>räcka</i> ‘hand’	252	4.3%
<i>göra</i> ‘make, do’	181	3.1%
<i>erbjuda</i> ‘offer’	115	2.0%
<i>skänka</i> ‘give’	103	1.8%
<i>inge</i> ‘infuse’	86	1.5%
<i>skaffa</i> ‘obtain’	86	1.5%
<i>säga</i> ‘say, tell’	79	1.3%
<i>skicka</i> ‘send’	69	1.2%
(...)	(...)	(...)
Total	5 871	100.0%

that the presence of an indirect object is more likely to be a part of the lexical behaviour of the verb. For example, Nielsen (2019: 150–151) discusses the fact that the Danish verb *skaffe* ‘obtain’, which is usually not claimed to occur with a valency-governed indirect object, has properties that make it similar to verbs that are lexically ditransitive.

5.2 Overview of verb-specific tendencies

The use of the fourteen verb-specific constructions was investigated in three different ways: relative frequency (out of all instances of the DOC), text frequency, and lexical variation. The relative frequency is shown in Table 6 in the preceding section. Table 7 below presents the diachronic developments in text frequency for each of the fourteen verb-specific constructions. The table shows how many times the verb-specific DOC in question occurs per one million corpus tokens. The figures are thus not relative to the total number of instances of the DOC. It is worth noting, however, that, as shown in Table 1 (in §2), the text frequency of the construction as a whole is reduced by almost half, from 840 occurrences per one million tokens in P1 to 445 occurrences per one million tokens in P3. Considering this general tendency, the expected outcome for each verb-specific construction would be a similar decrease in text frequency. Any development in any other direction, or of another magnitude, thus indicates that the use of the verb-specific construction is changing in its own direction.

Table 7 shows the number of occurrences per one million corpus tokens of the fourteen verb-specific constructions (i.e. the number of occurrences of the verb used in the DOC). The figures in Table 7 clearly indicate that most verb-specific constructions are on the decrease. Some, like *kosta* ‘cost’ and *visa* ‘show’, are decreasing in use at roughly the same pace as the DOC in general, while others, like *göra* ‘make, do’ and *lämna* ‘hand’, manifest more dramatic drops. The only verb-specific construction that increases in use is the DOC with *ge* ‘give’, which has a text frequency going up from 168 to 253 occurrences per one million words. A conclusion that can be drawn from this is that the increase in relative frequency of *ge* that was revealed in the previous section is not just due to the other verbs becoming less common, but also to the fact that the use of *ge* has increased immensely, in stark contrast to the DOC as a whole.

Finally, Table 8 shows the lexical variation in the direct object slot for the fourteen verb-specific constructions, i.e., a standardized type-token ratio rendered as a percentage figure, where 100% means that all occurrences of the verb-specific construction in question have different nouns as their direct object. What counts as the direct object here is the lemma form of the noun constituting the head of

3 Lexical variation in double objects in 19th and 20th c. Swedish

Table 7: Occurrences of the verb-specific DOCs per million corpus tokens

Verb	P1 (1800–1844)	P2 (1898–1901)	P3 (1976–1999)
<i>bereda</i> ‘cause’	12.7	19.7	2.8
<i>beröva</i> ‘deprive’	12.3	12.0	2.0
<i>erbjuda</i> ‘offer’	9.5	6.1	8.6
<i>ge</i> ‘give’	167.5	188.3	252.7
<i>göra</i> ‘make, do’	85.3	51.3	13.5
<i>inge</i> ‘infuse’	10.9	8.5	6.4
<i>kosta</i> ‘cost’	15.0	11.7	5.1
<i>lämna</i> ‘hand’	48.1	29.5	3.1
<i>räcka</i> ‘hand’	34.0	34.9	18.8
<i>skaffa</i> ‘obtain’	20.9	19.9	6.4
<i>skicka</i> ‘send’	13.2	6.0	5.1
<i>skänka</i> ‘give’	33.1	25.1	7.7
<i>säga</i> ‘say, tell’	29.5	25.9	5.9
<i>visa</i> ‘show’	49.5	34.2	25.8

the noun phrase that forms the direct object. To explain how the figures in Table 8 were arrived at, we can use the verb *bereda* as an example. Ten random samples of 20 occurrences each were created for the verb in each of the three periods. The mean value of the individual number of noun lemmas in the direct object slot was then divided by 20 (i.e., the sample size), which provided the percentage figures presented in Table 8. §5.3 below presents a more detailed account of each verb-specific construction.

The figures presented in Table 8 indicate that there is a general tendency towards a lower rather than higher lexical variation in the direct object slot of the verb-specific constructions, with the most dramatic drops seen with the verbs *bereda* ‘cause’, *beröva* ‘deprive’, *göra* ‘make, do’ and *lämna* ‘hand’. However, most verbs show a relatively stable lexical variation, with two verbs even undergoing an increase in lexical variation (somewhat surprisingly) – *räcka* ‘hand’ and *visa* ‘show’.

In the next section, I will go through the fourteen verbs one by one and give a more detailed account of the tendencies already observed in the current section.

Table 8: Lexical variation of direct objects in the verb-specific DOCs

Verb	P1 (1800–1844)	P2 (1898–1901)	P3 (1976–1999)
<i>bereda</i> ‘cause’	84.5%	68.0%	54.5%
<i>beröva</i> ‘deprive’	89.0%	83.5%	94.5%
<i>erbjuda</i> ‘offer’	95.5%	85.5%	94.5%
<i>ge</i> ‘give’	77.4%	77.0%	83.0%
<i>göra</i> ‘make, do’	41.7%	33.0%	16.2%
<i>inge</i> ‘infuse’	71.0%	61.5%	76.5%
<i>kosta</i> ‘cost’	67.0%	58.7%	72.3%
<i>lämna</i> ‘hand’	88.0%	67.5%	69.5%
<i>räcka</i> ‘hand’	22.4%	38.2%	70.6%
<i>skaffa</i> ‘obtain’	94.0%	89.8%	85.0%
<i>skicka</i> ‘send’	94.0%	94.0%	89.5%
<i>skänka</i> ‘give’	81.0%	77.2%	89.2%
<i>säga</i> ‘say, tell’	53.6%	35.8%	14.6%
<i>visa</i> ‘show’	64.8%	62.7%	79.5%

5.3 Lexical variation of direct objects in fourteen verb-specific constructions

The fourteen verbs investigated in the study can conveniently be divided into three groups based on whether they show a type-token ratio for direct objects that is decreasing (these verbs are dealt with in §5.3.1), increasing (§5.3.2), or relatively stable (§5.3.3). For the sake of convenience, a decrease or increase in type-token ratio has been arbitrarily defined as a change of at least ten percentage points between P1 and P3.³ The highly frequent verb *ge* ‘give’ undergoes a development that evidently deviates from all other verbs in the DOC. For this reason, *ge* ‘give’ is dealt with separately in §5.3.4.

³A reviewer remarks that it is somewhat problematic that the three periods P1–P3 are of unequal length. The data were collected with the intention of retrieving data from the early 19th century, the turn of the 20th century, and the late 20th century. As mentioned in §4 above, the first period covers a larger time span than the other periods due to the fact that there is not much available data from the 19th century prior to 1840. Similarly, due to the fact that the DOC is relatively infrequent in present-day Swedish, I considered it preferable to collect as much data as possible from the end of the 20th century, in order to conduct the kind of quantitative analyses presented in this paper.

5.3.1 Verb-specific constructions undergoing a decrease in lexical variation in the direct object slot

Four verb-specific constructions in my study display a decrease of ten percentage points or more in their lexical variation. These verbs are *bereda* ‘cause’, *göra* ‘make, do’, *lämna* ‘hand’, and *säga* ‘say, tell’. For all four, this decrease is accompanied by a reduced use of the verb in the DOC overall.

5.3.1.1 *bereda* ‘cause’

The verb *bereda* (which is translated here as ‘cause’, but which can also be used for meanings such as ‘prepare’ and, simply, ‘give’) constitutes one of the least frequent verb-specific constructions in the study. As Table 9 shows, the verb is not just infrequent when used in the DOC, but is a rather infrequent verb overall. It displays a rather dramatic drop in lexical variation, decreasing from 85% in P1 to 55% in P3. This indicates that it was used with a much wider range of direct objects in the early 19th century than is the case in present-day Swedish. As expected, the decreased variation in direct objects with *bereda* is accompanied by a general decrease in text frequency of the verb-specific construction from P1 to P3. However, while the decrease in lexical variation appears to constitute a gradual change from the early 19th century onwards, the drop in text frequency does not occur until the 20th century. In fact, the verb-specific construction sees a rather sharp increase in text frequency between P1 and P2. These apparently conflicting tendencies indicate that there does not necessarily have to be a one-to-one correspondence between decreased lexical variation and a decrease in text frequency.

Table 9: Frequency measures of the verb-specific DOC with *bereda* ‘cause’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	28/1 850	1.5%	96.2	12.7	16.9/20	84.5%
P2 (1898–1901)	194/6 798	2.9%	111.3	19.7	13.6/20	68.0%
P3 (1976–1999)	37/5 871	0.6%	18.6	2.8	10.9/20	54.5%

Interestingly, the changes in text frequency of the verb-specific DOC with *bereda* are paralleled by the changes in text frequency of the verb in general. This

might at first glance seem unsurprising, but as the survey of verbs below reveals, there is not necessarily any apparent correlation between the observed changes in text frequency for the verb in the DOC and the verb in general. The fact that such a correlation is found with the verb *bereda* indicates that the decreased use of the verb-specific DOC is the result of the verb generally losing popularity. Furthermore, the decrease in lexical variation reveals a more stereotypical use of the verb in present-day Swedish compared to the early 19th century. In practice, this more restricted use of the verb in the DOC is manifested by a predominance in present-day Swedish for the use of *bereda* mainly with direct objects with abstract referents (usually denoting feelings and the like). In the 19th century data, the verb also frequently occurs with concrete direct objects, something that is rarely seen in present-day Swedish. (Note that this change could be analysed as a process of semantic narrowing of the verb as such, in which the verb loses the ability to denote events of physical preparation while still retaining the notion of abstract causation.) The example in (8) below shows a 19th century occurrence of *bereda* with a concrete direct object, while (9) illustrates the modern usage, limited to mainly abstract direct objects, the most prominent ones being *nöje* and *glädje*, both carrying the meaning ‘joy’.⁴

- (8) Hindiah lät framsatta silfwerpannan och tända eld, för att **bereda** oss
Hindiah let put_forth silver_kettle:DEF and light fire for to prepare us
den aromatiska kaffedryck, som endast rätt kan tillagas och
that aromatic coffee_drink which only rightly can be_made and
njutas i sitt hemland, Indien.
be_relished in its homeland India
‘Hindiah had the silver kettle put forth and a fire lit, in order to prepare
us that aromatic coffee drink, which can only be rightly made and
relished in its homeland, India’ (1800–1844)
- (9) Och det skulle **bereda** mig det största nöje!
and that would cause me the greatest pleasure
‘And that would bring me the greatest pleasure!’ (1976–1999)

⁴The noun phrases constituting the direct objects were not consistently tagged as concrete or abstract, i.e. these notions were not operationalized in any specific way. Consequently, the report on the use of the verb *bereda* with concrete or abstract direct objects is based on the author’s impressionistic observations.

5.3.1.2 *göra* ‘make, do’

The verb *göra* underwent some rather dramatic changes during the period investigated. It constituted the second most frequent verb-specific DOC in P1 and P2, but experienced a continuing decrease in frequency relative to the DOC as a whole, as well as a rather drastic drop in text frequency when used in the DOC. (The overall text frequency of the verb, on the other hand, seems to be stable between P1 and P3, although a deviant peak in the usage is found in P2.) The verb-specific construction with *göra* has a relatively low lexical variation in P1 (42%), indicating that the verb was already used in the early 19th century in a lot of fixed expressions with ditransitive syntax. This tendency becomes more and more pronounced over the course of time, and in P3 the lexical variation is down to a mere 16%.

Table 10: Frequency measures of the verb-specific DOC with *göra* ‘make, do’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	188/1 850	10.2%	2 404.4	85.3	41.7/100	41.7%
P2 (1898–1901)	505/6 798	7.4%	4 170.6	51.3	33.0/100	33.0%
P3 (1976–1999)	181/5 871	3.1%	2 945.1	13.5	16.2/100	16.2%

The tendencies identified for *göra* correspond relatively closely to those found with the verb *bereda* (see above). The verbs have similar semantics, both showing polysemy in that they can refer to concrete events of creation (in the case of *göra*) or preparation (in the case of *bereda*) as well as abstract events of causation, where the direct object typically refers to some kind of feeling or sensation. With both *bereda* and *göra*, the concrete use of the verbs in the DOC is infrequent (basically non-existent) in present-day Swedish, whereas such examples can readily be found in the 19th century data. This 19th century concrete use of *göra* in the DOC is illustrated in (10). When the verb is used in the DOC in present-day Swedish, this is mainly with direct objects with an abstract reference. Most occurrences of the verb *göra* in the DOC in present-day Swedish are found in the fixed expressions *göra ngn sällskap* ‘keep someone company’ and *göra ngn en tjänst* ‘do someone a favour’. However, other direct objects can still be found, as exemplified in (11).

- (10) I har en gång **gjort** mig ett par stöflar, som klämt värre än om
you have one time made me a pair boots that pinched worse than if
de varit spanska.
they been Spanish
'You once made me a pair of boots that pinched worse than if they had
been Spanish.' (1898–1901)
- (11) björnen kommer inte mer att **göra** er någon skada.
bear:DEF will not anymore to do you any harm
'the bear will not do you any harm anymore.' (1976–1999)

The range of abstract nouns that occur as the direct object of *göra* seems to be more limited in present-day Swedish compared to 19th century Swedish. It seems reasonable to conclude that the verb *göra* has lost two functions in the DOC – the ability to co-occur with concrete direct objects, and the function as a dummy/light verb together with a more substantial abstract direct object. The first of these functions, the ability to occur with concrete objects, is still maintained in the prepositional alternative *göra ngt åt ngn* 'make something for someone', whereas regarding the second function, the verb *ge* 'give' has knocked out all other verbs as the main dummy verb in light verb constructions with verb + indirect object + abstract direct object (cf. Sundquist 2020 regarding a similar increase in the use of *give* as a light verb in English during the same period).

5.3.1.3 *lämna* 'hand'

The verb *lämna* 'hand' is quite often used more or less synonymously with *ge* 'give', and occurs with direct objects denoting both concrete and abstract referents. As in the case of *bereda* and *göra*, the use of the verb with concrete objects seems to be diminishing, and this is most likely the main reason why the lexical variation went down from 88% in P1 to just under 70% in P3. This tendency, however, is not as strong for *lämna* as for *bereda* and *göra*, indicating that *lämna* is not just used in a limited number of fixed expressions. It is also interesting to note that the lexical variation only decreased between P1 and P2, while it remained relatively stable throughout the 20th century. What happened between P2 and P3, on the other hand, was a distinct decrease in text frequency, accompanied by a sharp drop in the relative frequency of the verb-specific DOC in relation to the DOC as a whole. Taking both these tendencies into account, we find that the use of the verb-specific DOC with *lämna* is decreasing while the productivity of the construction is still relatively intact.

3 Lexical variation in double objects in 19th and 20th c. Swedish

Table 11: Frequency measures of the verb-specific DOC with *lämna* ‘hand’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	106/1 850	5.7%	565.0	48.1	35.2/40	88.0%
P2 (1898–1901)	290/6 798	4.3%	960.4	29.5	27.0/40	67.5%
P3 (1976–1999)	41/5 871	0.7%	409.2	3.1	27.8/40	69.5%

The example in (12) illustrates how *lämna* is used with concrete objects in the 19th century data. In (13), we see the typical use of *lämna* in present-day Swedish, i.e. with abstract direct objects. In present-day Swedish, *lämna* can often be replaced with *ge* ‘give’, and this might have led to the verb *ge* gaining ground at the expense of *lämna*.

- (12) men kammarpigan berättade hans svar för sin fröken, hvilken
but maid.DEF told his answer to her lady who
leende **lemnade** henne en flaska malörtsdroppar
smiling handed her a bottle wormwood_tincture
‘but the maid told his answer to her lady, who smiling handed her a bottle
of wormwood tincture’ (1800–1844)
- (13) en iskall närgången vind som inte **lämnade** henne någon ro
an icy intrusive wind that not gave her any peace
‘an icy creeping wind that didn’t give her any peace’ (1976–1999)

5.3.1.4 *säga* ‘say, tell’

One of the general changes in the semantic range of the DOC identified in Valdeson (submitted) is the diminishing use of verbs of communication in the DOC. This tendency is mainly reflected by the fact that several verbs of communication have lost the ability to occur in the DOC in present-day Swedish, among them the verb *berätta* ‘tell’, which occurs relatively frequently in the construction in 19th century Swedish. A handful of communication verbs are still found in the DOC in present-day Swedish, but the use of the verb *säga*, which is the most frequent verb denoting verbal communication, shows a decline in lexical variation in the direct object slot. The change in the behavior of the verb is roughly

similar to that of *göra* ‘make, do’. A shared feature of these verbs is that they are both common verbs in present-day Swedish (unlike, for example, *bereda*, which has a more old-fashioned tone). The fact that *säga* is a common everyday verb in present-day Swedish is not least indicated by the fact that the overall text frequency of the verb has gone up markedly, from about 2,000 occurrences per one million tokens in the early 19th century to 6,000 occurrences per one million tokens in present-day Swedish.

Table 12: Frequency measures of the verb-specific DOC with *säga* ‘say, tell’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	65/1 850	3.5%	2 222.9	29.5	26.8/50	53.6%
P2 (1898–1901)	255/6 798	3.8%	5 166.2	25.9	17.9/50	35.8%
P3 (1976–1999)	79/5 871	1.3%	6 060.6	5.9	7.3/50	14.6%

The lexical variation of *säga* goes down from just above 50% in P1 to 15% in P3. This decreasing lexical variation manifests itself in the verb being used in the DOC in present-day Swedish mainly in a limited number of lexicalized expressions with a fixed direct object slot, e.g. *säga ngn en sak* ‘tell someone something’, *säga ngn sanningen* ‘tell someone the truth’. In 19th century Swedish, the direct object slot is open to a much wider range of direct objects, as illustrated in (14). Examples of the present-day Swedish use are shown in (15). (15a) illustrates an example with a fixed expression, while (15b) illustrates a subconstruction in which the direct object slot is still productive, viz. in the pragmatically specific *säg mig* construction (‘tell me’ construction), where the verb is in the imperative and the direct object denotes a concept that the speaker deems to be unlikely or improbable.

- (14) a. jag besvor henne att **säga** mig orsaken till sin förändring
 I urged her to tell me reason:DEF for her change
 ‘I urged her to tell me the reason for her change’ (1800–1844)
- b. på knä besvor jag honom, att **säga** mig sin sorg.
 on knee urged I him to say me his sorrow
 ‘on my knees I urged him to tell me his sorrow.’ (1800–1844)

- (15) a. Jag tänker hitta honom och minsann *säga* honom ett sanningens
 I intend find him and indeed tell him a truth:DEF.POSS
ord.
 word
 ‘I intend to find him and tell him a word of truth indeed.’ (1976–1999)
- b. Harry tyckte inte om kritik – *säg* mig den poet som gör det
 Harry thought not about criticism say me the poet who does that
 ‘Harry didn’t like to be criticized – but what poet does?’ (1976–1999)

5.3.2 Verb-specific constructions undergoing an increase in lexical variation in the direct object slot

As was already established in §§5.1–5.2, the general tendency is a decrease in lexical variation in the DOC, both in the verb slot and in the direct object slot of the verb-specific constructions. However, two of the most frequent verbs undergo changes in the opposite direction, with an increased lexical variation in the direct object slot: the verbs *räcka* ‘hand’ and *show* ‘visa’. These verbs are given an exhaustive treatment in §5.3.2.1 and §5.3.2.2 below.

5.3.2.1 *räcka* ‘hand’

The changes affecting four verb-specific constructions treated in the previous section suggest that a decrease in text frequency and a decrease in lexical variation are correlated phenomena. In the light of this, the changes affecting the verb-specific DOC with *räcka* ‘hand’ might seem quite surprising at first. The lexical variation increases from around 20% in P1 to just above 70% in P3, as can be seen in Table 13 below. This suggests quite a radical increase in the productivity of the direct object slot on the verb-specific level of the construction. Unlike most of the other top ten verbs, the relative frequency of the verb within the DOC is also relatively stable over time, while in terms of text frequency, the use of the verb-specific DOC decreases. The low lexical variation can to a large extent be explained by the presence of the very frequent expression *räcka ngn handen* ‘extend one’s hand to someone’, which occurs often in the first two periods, but is quite rare in P3. If one single direct object constitutes a large proportion of all instances of a verb-specific construction, this will automatically lead to a lower lexical variation value.

The example in (16) illustrates the frequent 19th century use of the expression *räcka ngn handen* ‘extend one’s hand to someone’, while (17) shows an example of how the verb is used in present-day Swedish. It should be noted that, unlike

Table 13: Frequency measures of the verb-specific DOC with *räcka* ‘hand’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	75/1 850	4.1%	152.5	34.0	11.2/50	22.4%
P2 (1898–1901)	343/6 798	5.0%	182.5	34.9	19.1/50	38.2%
P3 (1976–1999)	252/5 871	4.3%	163.8	18.8	35.3/50	70.6%

the verbs *bereda*, *ge*, *göra*, and *lämna*, the direct object of *räcka* virtually never has an abstract referent.

- (16) Hon hemtade sig likväl snart och **räckte** honom handen
 she recovered REFL nevertheless soon and handed him hand:DEF
 med en obeskrifligt mild vänlighet
 with an indescribably gentle kindness
 ‘Nevertheless, she soon recovered and extended her hand to him with an
 indescribably gentle kindness’ (1800–1844)
- (17) Han stannade och hon **räckte** honom ficklampan.
 he stopped and she handed him torch:DEF
 ‘He stopped and she handed him the torch.’ (1976–1999)

5.3.2.2 *visa* ‘show’

The verb *visa* ‘show’ underwent changes similar to those affecting *räcka*. With *visa*, however, the changes are not as dramatic and cannot be as easily explained (i.e., there is no lexicalized expression like *räcka ngn handen* ‘extend one’s hand to someone’ dominating the verb-specific construction with *visa*). The lexical variation increases by around 15 percentage points, while the relative token frequency remains basically intact over time. The text frequency of the verb-specific DOC goes down somewhat, in line with the changes affecting the DOC as a whole.

As mentioned, there are no obvious changes in the behaviour of *visa* that can explain the figures in Table 14. Even though the lexical variation has increased over time, it was already relatively high in P1. There are a few relatively high-frequency direct objects in P1 and P2 that contribute to the slightly lower lexical variation for these periods. These are, above all, *uppmärksamhet* ‘attention’, *väg* ‘way’, and *vänskap* ‘friendship’, illustrated in (18). While *visa ngn vägen* ‘show

Table 14: Frequency measures of the verb-specific DOC with *visa* ‘show’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	109/1 850	5.9%	423.9	49.5	64.8/100	64.8%
P2 (1898–1901)	336/6 798	4.9%	472.8	34.2	62.7/100	62.7%
P3 (1976–1999)	346/5 871	5.9%	451.1	25.8	79.5/100	79.5%

someone the way’ can definitely be seen as a fixed expression, it is doubtful whether the same analysis holds for *visa ngn vänskap* ‘show someone friendship’. An example from the present-day Swedish data is shown in (19), illustrating how the verb is used with concrete direct objects.

- (18) Grefvinnan Piper omfattade med nöje tillfället att vara en
countess:DEF Piper embraced with pleasure opportunity:DEF to be a
person nyttig, som under hennes olycka **visat** henne
person useful who during her misfortune shown her
uppmärksamhet.
attention
‘Lady Piper embraced with pleasure the opportunity to be of use to a
person, who had paid attention to her during her misfortune.’ (1800–1844)
- (19) Han tog upp sin plånbok ur fickan och **visade** oss en
he took up his wallet out_of pocket:DEF and showed us a
papperslapp.
piece_of_paper
‘He took his wallet out of his pocket and showed us a piece of paper.’
(1976–1999)

5.3.3 Verb-specific constructions retaining a relatively stable lexical variation in the direct object slot

Despite the general tendency of decreasing lexical variation and token frequency for the DOC in general, seven out of the fourteen verb-specific constructions investigated did not undergo any obvious changes in terms of lexical variation in the direct object slot. The verbs in question are *beröva* ‘deprive’, *erbjuda* ‘offer’, *inge* ‘infuse’, *kosta* ‘cost’, *skaffa* ‘obtain’, *skicka* ‘send’, and *skänka* ‘give’.

These verb-specific constructions can be claimed to have been equally productive throughout the period investigated. Most of the verbs also have a high lexical variation, in most cases around 90%.

5.3.3.1 *beröva* ‘deprive’

As is shown in Table 15, the lexical variation of *beröva* ‘deprive’ is stable at around 90% for the entire period investigated, which means that this verb-specific construction could be used with a wide array of different direct objects in all three periods. If we turn our gaze to token frequency, however, we see that the verb experienced a dramatic drop between P2 and P3, going from 12 to 2 occurrences in the DOC per million tokens. This decline was paralleled by the overall tendencies of the verb, which has become much more uncommon in present-day Swedish compared to 19th century Swedish.

Table 15: Frequency measures of the verb-specific DOC with *beröva* ‘deprive’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	27/1 850	1.5%	43.6	12.3	17.8/20	89.0%
P2 (1898–1901)	118/6 798	1.7%	26.7	12.0	16.7/20	83.5%
P3 (1976–1999)	27/5 871	0.5%	18.4	2.0	18.9/20	94.5%

The examples in (20) and (21) illustrate how *beröva* ‘deprive’ is used in the data from P1 and P3, respectively.

- (20) Min längtan **beröfvar** mig all upmärksamhet på de föremål som
 my longing deprives me all attention to those items that
verkeligen omgifva mig.

really surround me

‘My longing deprives me of all attention to those items that really surround me.’ (1800–1844)

- (21) Vore det kanske en triumf, tänkte hon bittert, om jag i stället
 Were it perhaps a triumph pondered she bitterly if I in stead
 kunde **beröva** honom hans glädje?

could deprive him his happiness

‘Would it perhaps be a triumph, she pondered bitterly, if instead I could deprive him of his happiness?’ (1976–1999)

5.3.3.2 *erbjuda* ‘offer’

The use of the verb *erbjuda* ‘offer’ has developed along fairly unexpected lines, if compared to the other verbs in the study. Seen over the entire period investigated, the lexical variation is quite constant. There is a drop of ten percentage points between P1 and P2, from 95% to 85%, but in P3 the lexical variation is back at 95%. Unlike most verbs in the study, *erbjuda* ‘offer’ also shows an increasing token frequency relative to the DOC as a whole, constituting two percent of all instances of the DOC in the present-day Swedish data. While there may be many explanations for this, one possible reason is that the verb has to some extent gained ground at the expense of the more or less synonymous verb *tillbjuda* (which is relatively widespread in the 19th century data but more or less obsolete in present-day Swedish) as well as the simplex verb *bjuda*. Another possible explanation for the tenacity of *erbjuda* is that the verb was often used with abstract direct objects already from the beginning. Since the general tendency seems to be for verbs to stop occurring with concrete objects in the DOC, this change in the use of the DOC does not really affect how *erbjuda* can be used in the construction.

Table 16: Frequency measures of the verb-specific DOC with *erbjuda* ‘offer’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	22/1 850	1.2%	70.3	9.5	19.1/20	95.5%
P2 (1898–1901)	60/6 798	0.9%	48.3	6.1	17.1/20	85.5%
P3 (1976–1999)	115/5 871	2.0%	64.3	8.6	18.9/29	94.5%

In (22) and (23), examples are given of how *erbjuda* ‘offer’ is used in the DOC in P1 and P3 respectively.

- (22) Det berusade folket uppreste sig för att **erbjuda** honom
the exalted people:DEF rose REFL for to offer him
kejsar-kronan
imperial-crown:DEF
‘The exalted people rose to offer him the imperial crown’ (1800–1844)
- (23) Han **erbjöd** mig en valp, men det var en katt jag önskade.
he offered me a puppy but it was a cat I wanted
‘He offered me a puppy, but I actually wanted a cat.’ (1976–1999)

5.3.3.3 *inge* ‘infuse’

As for the verb *inge* ‘infuse’, we may discern tendencies similar to those observed for *erbjuda* ‘offer’. The lexical variation is stable (albeit at a somewhat lower level, around 70%), and the same goes for the token frequency relative to the DOC as a whole. At the same time, the overall text frequency of the verb decreases from 43 to 18 occurrences per one million tokens, which is similar to the dramatic drop observed for *beröva* ‘deprive’. What keeps the use of *inge* in the DOC relatively intact (at least as far as the relative token frequency is concerned), is most likely its semantics of abstract causation, which seems to be the most stubborn semantic category within the DOC.

Table 17: Frequency measures of the verb-specific DOC with *inge* ‘infuse’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	24/1 850	1.3%	43.1	10.9	14.2/20	71.0%
P2 (1898–1901)	84/6 798	1.2%	19.6	8.5	12.3/20	61.5%
P3 (1976–1999)	86/5 871	1.5%	17.6	6.4	15.3/20	76.5%

The use of *inge* ‘infuse’ in the 19th and 20th centuries is illustrated in (24) and (25), respectively.

- (24) Det är förgäfvets du söker **ingifva** mig en styrka som jag icke äger.
 it is in.vain you seek infuse me a strength that I not possess
 ‘You seek to infuse me with a strength I don’t possess, all in vain.’
 (1800–1844)
- (25) Det var djävulen som hade **ingivit** honom de där synerna
 it was devil:DEF who had infused him those vision:DEF.PL
 ‘It was the devil who had infused him with those visions’ (1976–1999)

5.3.3.4 *kosta* ‘cost’

The verb-specific construction with *kosta* ‘cost’ shows a stable lexical variation, although the text frequency has decreased gradually over time. Since the text frequency of the verb in general has remained relatively stable over time, the decreasing text frequency of the verb-specific DOC can neither be due to a decrease

in the use of *kosta* overall, nor to a decreasing productivity in the direct object slot. The sharp decrease in text frequency thus remains a bit of a mystery. The mystery is heightened by the fact that there is not really any other verb that can replace *kosta*, since no other ditransitive verb shares its semantics. There is also no other constructional alternative possible for *kosta*, as is the case for many of the verbs expressing transfer towards the referent of the indirect object, which can alternatively be construed with prepositional objects.

Table 18: Frequency measures of the verb-specific DOC with *kosta* ‘cost’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	33/1 850	1.8%	70.8	15.0	20.1/30	67.0%
P2 (1898–1901)	115/6 798	1.7%	274.4	11.7	17.6/30	58.7%
P3 (1976–1999)	68/5 871	1.2%	58.4	5.1	21.7/30	72.3%

Since the lexical variation is evidently lower than for most verbs showing a stable lexical variation over time, there are a certain number of direct objects that the verb tends to occur with, constituting semi-lexicalized expressions. These include *möda* ‘toil, difficulty’ in P1, *ansträngning* ‘effort’ in P2, and *liv* ‘life’ in P3. Apart from abstract direct objects like these, the verb is also typically used with direct objects denoting money throughout all three periods. Examples of how the verb is used in the DOC are given in (26) and (27).

- (26) Hennes hundar lågo drottningen ständigt ömt på hjertat och
her dogs lay queen:DEF always tenderly on heart:DEF and
kostade henne ej obetydliga summor.
cost her not insignificant amounts
‘Her dogs were always close to the queen’s heart and they cost her no insignificant amounts of money.’ (1800–1844)
- (27) Men det var en dyrköpt seger, den hade varit nära att ***kosta honom***
but it was a hard_won victory it had been close to cost him
livet.
life:DEF
‘But it was a hard-won victory, it had almost cost him his life.’ (1976–1999)

5.3.3.5 *skaffa* ‘obtain’

The verb-specific construction with *skaffa* ‘obtain’ shows a sharp drop between P2 and P3, in terms of both text frequency and the frequency of the verb relative to the DOC as a whole. The text frequency of the verb in general develops along somewhat irregular lines, but it is nonetheless clearly the case that the decreasing text frequency of the verb-specific DOC with *skaffa* cannot be entirely correlated with any tendencies affecting the verb in general. It is possible that the decreasing text frequency of the verb-specific DOC is due to the verb losing ground to *ge* ‘give’, with which it is often mutually replaceable. Another possible explanation might be an increase in the use of prepositional objects with *skaffa* (this will have to be determined by future research).

Table 19: Frequency measures of the verb-specific DOC with *skaffa* ‘obtain’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	46/1 850	2.5%	85.8	20.9	37.6/40	94.0%
P2 (1898–1901)	195/6 798	2.9%	149.5	19.9	35.9/40	89.8%
P3 (1976–1999)	86/5 871	1.5%	115.8	6.4	34.0/40	85.0%

The use of *skaffa* in the 19th and 20th centuries is illustrated in (28) and (29).

- (28) Och nu har du till råga på allt *skaffat* mig det här extra
and now have you on top of all obtained me that here extra
eländet
misery:DEF
‘And now, on top of it all, you have brought me this misery’ (1898–1901)
- (29) ville han ändå inte att de skulle *skaffa* honom ett anständigt
wanted he after_all not that they would obtain him a decent
hus?
house
‘didn’t he after all want them to get him a decent house?’ (1976–1999)

5.3.3.6 *skicka* ‘send’

The verb-specific construction with *skicka* ‘send’ shows a high and stable lexical variation across all three periods, at around 90% throughout, indicating that the direct object slot is lexically unspecified for the verb. There was, however, quite

a distinct drop in the text frequency of the verb-specific DOC even between P1 and P2. While this drop seems to be paralleled by a decreasing text frequency for the verb in general in the late 19th century, this overall text frequency of the verb had recovered by P3 without any noticeable effect on the text frequency of the verb in the DOC. We can thus conclude that the verb *skicka* ‘send’ in itself has not become more frequent over time, but that its use as a verb-specific DOC has become more limited. A possible explanation for this could be that *skicka* in present-day Swedish is more often used in a prepositional construction than in the DOC, but this is not something that can be determined from the present study.

Table 20: Frequency measures of the verb-specific DOC with *skicka* ‘send’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	29/1 850	1.6%	134.8	13.2	18.8/20	94.0%
P2 (1898–1901)	59/6 798	0.9%	94.2	6.0	18.8/20	94.0%
P3 (1976–1999)	69/5 871	1.2%	163.4	5.1	17.9/20	89.5%

The examples in (30) and (31) illustrate how *skicka* is used in P1 and P3, respectively.

- (30) Var god och **skicka** mig biljetterna vid tillfälle
be kind and send me ticket:DEF.PL at opportunity
‘Please send me the tickets when you have the opportunity’ (1800–1844)
- (31) Han **skickade** honom sina dikter med ett ödmjukt och bönfallande
he sent him REFL poems with a humble and pleading
brev.
letter
‘He sent him his poems with a humble and pleading letter.’ (1976–1999)

5.3.3.7 *skänka* ‘give’

The verb-specific construction with *skänka* (which has the meaning ‘give’, or often, more specifically, ‘give as a gift’) shares the pattern familiar from most of the verbs discussed in this section, having a largely stable lexical variation while at the same time undergoing a process of reduced text frequency. With *skänka*, the latter tendency is accompanied by a decrease in text frequency for the verb

in general, which might in itself be seen as a reason as to why the verb is used less in the DOC in present-day Swedish compared to the early 19th century.

Table 21: Frequency measures of the verb-specific DOC with *skänka* ‘give’

Period	Freq. rel. to DOC		Occ./mil. tokens		Lexical variation	
			In general	In DOC		
P1 (1800–1844)	73/1 850	3.9%	132.5	33.1	40.5/50	81.0%
P2 (1898–1901)	247/6 798	3.6%	89.7	25.1	38.6/50	77.2%
P3 (1976–1999)	103/5 871	1.8%	32.6	7.7	44.6/50	89.2%

Like the verb *lämna* ‘hand’, for example, *skänka* is used freely with both concrete and abstract direct objects in the 19th century data. Unlike with *lämna*, however, this openness in the direct object slot has remained intact for *skänka*, and the verb has not become associated with any specific direct objects in present-day Swedish. This lexical variation of *skänka* across all time periods is illustrated in (32) and (33).

- (32) Charlotte vann sådan nåd för konungens ögon, att han **skänkte**
 Charlotte won such mercy for king:DEF.POSS eyes that he gave
henne sitt eget etui af guld, som han alltid bar i fickan.
 her his own case of gold which he always carried in pocket:DEF
 ‘Charlotte gained such mercy in the king’s eyes, that he gave her his own
 case of gold, which he always carried in his pocket.’ (1800–1844)
- (33) a. En av bönderna tyckte synd om honom och **skänkte** honom en
 one of farmer:DEF.PL felt sorry for him and gave him a
avlagd fårskinnspäls
 disused sheepskin_coat
 ‘One of the farmers felt sorry for him and gave him a hand-me-down
 sheepskin coat.’ (1976–1999)
- b. Minnet **skänker** honom glädje och han ler igen och
 Memory:DEF gives him joy and he smiles again and
 vinkar.
 waves
 ‘The memory gives him joy and he smiles again and waves.’
 (1976–1999)

5.3.4 The exceptional verb *ge* ‘give’

In the three subsections above (§5.3.1–§5.3.3), I have shown how the use of the most common ditransitive verbs in Swedish over the last two centuries has changed in three principal ways, with the lexical variation either decreasing, increasing, or remaining more or less stable. All thirteen verbs presented so far have something in common, namely that the text frequency of the verb-specific DOCs does not increase, but rather decreases (for twelve of them) or remains relatively stable (for one of them, viz. *erbjuda* ‘offer’). The one verb-specific construction that does not follow this pattern is *ge* ‘give’, which has undergone a rather sharp increase in text frequency in the DOC over time, especially between P2 and P3. As a consequence of this, the relative token frequency of the verb within the DOC has increased dramatically from 20% in P1 to almost 60% in P3.

Table 22: ; Frequency measures of the verb-specific DOC with *ge* ‘give’

Period	Freq. rel. to DOC	Occ./mil. tokens		Lexical variation	
		In general	In DOC		
P1 (1800–1844)	369/1 850 19.9%	1 064.2	167.5	77.4/100	77.4%
P2 (1898–1901)	1,852/6 798 27.2%	1 055.7	188.3	77.0/100	77.0%
P3 (1976–1999)	3,390/5 871 57.7%	1 160.0	252.7	83.0/100	83.0%

The increase in token frequency for *ge* relative to the DOC as a whole is of course directly connected to the decreasing relative token frequency of most of the other verbs in this study. There might also be a correlation between the increase in text frequency of *ge* in the DOC and the drop in text frequency that affects most other verbs. The verb *ge* is in many ways less semantically specified than, for example, *lämna* ‘hand’, *räcka* ‘hand’, and *skänka* ‘give’, but can often be used as a substitute for these semantically more specified verbs. To some extent, this also goes for the use of *bereda* ‘cause’ and *göra* ‘make, do’ in some contexts, as *ge* can be used instead of these verbs in cases in which the direct object has an abstract referent. There seems to be a general tendency towards using the less specific verb *ge* in DOC at the expense of the semantically more specified alternatives. The use of *ge* with both concrete and abstract direct objects is illustrated in (34) and (35).

- (34) a. Man **gaf** henne en kortlek, den hon genast började
 INDEF gave her a deck_of_cards which she instantly started
rangera
 arrange
 ‘They gave her a deck of cards, which she instantly started to put in order’ (1800–1844)
- b. Hans upprörda ansigte **gaf** mig anledning att tro honom hafva
 his upset face gave me reason to believe him have
inlåtitt sig i någon envigssak
 engaged REFL in some duel_case
 ‘His upset-looking face gave me reason to believe that he had gotten himself involved in some case related to a duel’ (1800–1844)
- (35) a. Då ska jag **ge** er en smörgås
 then will I give you a sandwich
 ‘Then I will give you a sandwich’ (1976–1999)
- b. Han **gav** mig en misstänksam blick.
 He gave me a suspicious look
 ‘He gave me a suspicious look.’ (1976–1999)

5.3.5 Summary of results

The subsections in §5.3 were structured according to how the verb-specific constructions score in terms of lexical variation. But as the verb-specific tables illustrate, measuring the text frequency is of great importance as well, if we want to get a full grasp of these changes. Table 23 gives an overview of three relevant measures for the fourteen verbs studied, viz. the lexical variation and text frequency of the verb-specific constructions, as well as the text frequency of the verbs overall. “↘” indicates a decrease in the measure in question, “↗” indicates an increase, and “—” indicates a relatively stable usage. The figure thus illustrates the interrelations between the different frequency measures. A change in lexical variation is defined as a change larger than ten percentage points. When it comes to the two measures of text frequency, a change is defined as a change of at least 30% in either direction.

The most striking conclusion that can be drawn from the study is that almost all of the verb-specific constructions undergo a decrease in text frequency. This might be seen as the expected outcome, since it parallels the sharp decrease in text frequency affecting the DOC in its entirety. The only verb-specific constructions showing a reverse direction of change are *ge* ‘give’ and *erbjuda* ‘offer’, with the former actually increasing in text frequency, while the latter simply remains

3 Lexical variation in double objects in 19th and 20th c. Swedish

Table 23: Summary of verb-specific tendencies. (“↘” indicates a decrease, “↗” indicates an increase, “—” indicates stability over time.)

Verb	Lexical var.	Text frequency	
		verb-spec. constr.	verb overall
<i>bereda</i> ‘cause’	↘	↘	↘
<i>beröva</i> ‘deprive’	—	↘	↘
<i>erbjuda</i> ‘offer’	—	—	—
<i>ge</i> ‘give’	—	↗	—
<i>göra</i> ‘make, do’	↘	↘	—
<i>inge</i> ‘infuse’	—	↘	↘
<i>kosta</i> ‘cost’	—	↘	—
<i>lämna</i> ‘hand’	↘	↘	—
<i>räcka</i> ‘hand’	↗	↘	—
<i>skaffa</i> ‘obtain’	—	↘	↗
<i>skicka</i> ‘send’	—	↘	—
<i>skänka</i> ‘give’	—	↘	↘
<i>säga</i> ‘say, tell’	↘	↘	↗
<i>visa</i> ‘show’	↗	↘	—

relatively stable over time. This indicates that the DOC is clearly thriving in some areas, with verbs denoting transfer, and especially with verbs that to a large degree occur together with abstract direct objects. The unique position occupied by the verbs *ge* and *erbjuda* should also be seen in the light of the fact that, out of all verbs that alternate between the DOC and prepositional alternatives with *till* ‘to’ or *åt* ‘to, towards’, these two verbs are the only ones for which the DOC is the most common alternative (Valdeson 2017).

Changes in the text frequency of the verbs overall are an important variable to take into account when evaluating the decrease in text frequency for the verb-specific constructions. Four of the verbs that have undergone a decrease in the text frequency of their verb-specific constructions also reveal a reduced frequency in their overall use (*bereda* ‘cause’, *beröva* ‘deprive’, *inge* ‘infuse’ and *skänka* ‘give’). The decreasing use of these verb-specific constructions can thus be seen at least partly as the outcome of a purely lexical change (cf. Coleman & De Clerck 2011: 192) affecting the individual verbs. Since these verbs are becoming less frequent, it is not surprising that their frequency in verb-specific DOCs is decreasing as well.

Another possible cause for (or correlate with) the decrease in text frequency of some of the verb-specific constructions could be an increase in the use of prepositions with these verbs. Whether this really is the case needs to be investigated more thoroughly, but since several of the verbs that have undergone a decrease in text frequency (when it comes to their verb-specific DOC construction, while at the same time remaining relative stable in their overall use) can alternatively be constructed with prepositional objects (*göra* 'make, do' *lämna* 'hand', *räcka* 'hand', *skaffa* 'obtain', *skicka* 'send', *säga* 'say, tell', *visa* 'show'), it does not seem unlikely that alternative prepositional constructions are to blame, at least in some cases. The only verb-specific construction whose reduced use cannot possibly be explained by lexical factors, or the use of prepositions, is *kosta* 'cost'. This is a highly polysemous verb, and the use of the verb in the DOC might have become less common in line with the decreasing use of the DOC as a whole, while the verb still thrives in the sense of 'having a certain price', as in *kaffet kostar 15 kronor* 'the coffee is 15 kronor'.

The four verb-specific constructions that reveal a decrease in lexical variation all show a decrease in text frequency, as well. The same is true for the general DOC, which has undergone a decrease in lexical variation as well as in text frequency. It is not surprising that a decrease in lexical variation would entail a decrease in text frequency, since a decrease in lexical variation implies that the construction has developed a narrower lexical range, allowing a lower number of verbs (in the case of the general DOC) or direct objects (in the case of the verb-specific DOCs) to occur in the construction. However, as Table 23 shows, a decrease in text frequency does not necessarily lead to a decrease in lexical variation. Many of the verb-specific constructions have retained their lexical variation value over time, while at the same time experiencing a drop in text frequency. There is, however, a development that is common only to the four verb-specific constructions undergoing a decrease in lexical variation. This is a tendency towards use mainly in lexicalized expressions and, in the case of *bereda* 'cause', *göra* 'make, do', and *lämna* 'hand', this development seems to have been part of a semantic narrowing as well, where the direct object slot has become restricted to nouns with abstract referents.

6 Summary and conclusion

In this article, I have tried to capture one kind of change that occurs in the syntax of Late Modern Swedish. I have also introduced new methods in the study of the history of Swedish. In particular, the existence of corpora like the SPF corpus has now made it possible to conduct quantitative corpus-based studies of changes in e.g. text frequency and lexical variation. The study has shown that several constructional changes have taken place in the double object construction (DOC) in 19th and 20th century Swedish, affecting the construction both at its more schematic level and on a verb-specific level.

If we start by looking at the DOC as a whole, we note that the construction has undergone a rapid decrease in text frequency combined with a reduced lexical variation in the verb slot. This entails that the construction is used less in present-day Swedish compared to the early 19th century, and that it occurs with a more limited set of verbs. The decrease in lexical variation, which is really a measure of type frequency, suggests that the DOC is becoming a less productive construction in present-day Swedish. This deduction is further strengthened by the fact that the verb *ge* ‘give’ is responsible for more than half of the instances of the DOC in the present-day Swedish data, compared to only 20% in the first half of the 19th century. This points towards a semantic narrowing of the construction, similar to the developments in Dutch (see Coleman 2011) and English (Coleman & De Clerck 2011; Zehentner 2018).

The changes happening at the most schematic level of the DOC seem to be paralleled, in many cases, by diachronic developments at the verb-specific level. This shows that changes affecting lower nodes in the DOC network are interrelated with what happens at the topmost level in the hierarchy, thus indicating that the verb-specific constructions of the DOC are indeed linked to the overarching general DOC. While most of the verb-specific constructions studied show a decrease in text frequency, in accordance with the reduced text frequency of the DOC as a whole, it is interesting to note that the verb-specific construction with *ge* ‘give’ goes in the opposite direction, undergoing quite a sharp increase in text frequency. This suggests that the verb-specific construction with *ge* is following its own path and is not really dependent on the changes affecting the double object construction as a whole. The stable lexical variation in the direct object slot of the verb-specific construction with *ge* also suggests that this is a rather productive construction.

The most striking verb-specific changes are the decrease in lexical variation identified for *bereda* ‘cause’, *göra* ‘make, do’, *lämna* ‘hand’, and *säga* ‘say, tell’. These four verb-specific constructions allow a lower number of direct objects in

present-day Swedish compared to the early 19th century, indicating a loss in productivity for these particular verbs. In all four cases, the development has been accompanied by a decrease in text frequency. For all four verbs, but especially for *bereda*, *göra*, and *säga*, the reduced lexical variation is clearly mirrored by the fact that these verbs mainly occur in more or less fixed expressions in present-day Swedish, whereas the direct object slot was open to all kinds of objects in the 19th century. With *bereda*, *göra*, and *lämna*, another change can be discerned, viz. a tendency to occur much less frequently with concrete direct objects in present-day Swedish compared to earlier periods. This suggests a semantic specialization for the verb-specific constructions towards more abstract uses. This is probably true for the DOC as a whole as well; the two verb-specific constructions that have not undergone a decrease in text frequency, viz. *ge* ‘give’ and *erbjuda* ‘offer’, often occur with abstract direct objects.

Figure 2 offers a proposal for a taxonomic network of the double object construction in Swedish, covering different levels of schematicity. It is assumed that constructional knowledge is stored at both the topmost level and the verb-specific level. That the behaviour of the verb-specific constructions is not necessarily dependent on the topmost level is indicated by the divergent path of development found with the verb *ge* ‘give’. The third level in the taxonomic hierarchy shows the constructions that can be assumed to be stored as lexicalized expressions, i.e. constructions that are stored as fixed combinations of verb + direct object. In this specific case, the network also illustrates the diachronic changes, since the lexicalized expressions with *bereda* ‘cause’, *göra* ‘make, do’, *lämna* ‘hand’, and *säga* ‘say, tell’ seem to have crystallized from the more schematic verb-specific mother constructions during the investigated period of 1800–1999. On the other hand, the lexicalized expression *räcka ngn handen* ‘extend one’s hand to someone’ seems to be less entrenched in present-day Swedish than in 19th century Swedish.

All the changes in the use of the DOC at various levels in the 19th and 20th centuries constitute different kinds of constructional changes. It should, however, be pointed out that the rather swift rate at which the changes have taken place might be partly due to the genre of the studied texts. The language of written prose has changed quite substantially in Swedish during the course of the 20th century, in the direction of becoming more similar to the spoken language. It is quite possible that some of the changes identified in the current study are part of a larger change in the style of written prose in Swedish, and that we are witnessing a combination of constructional and stylistic changes happening at the same time.

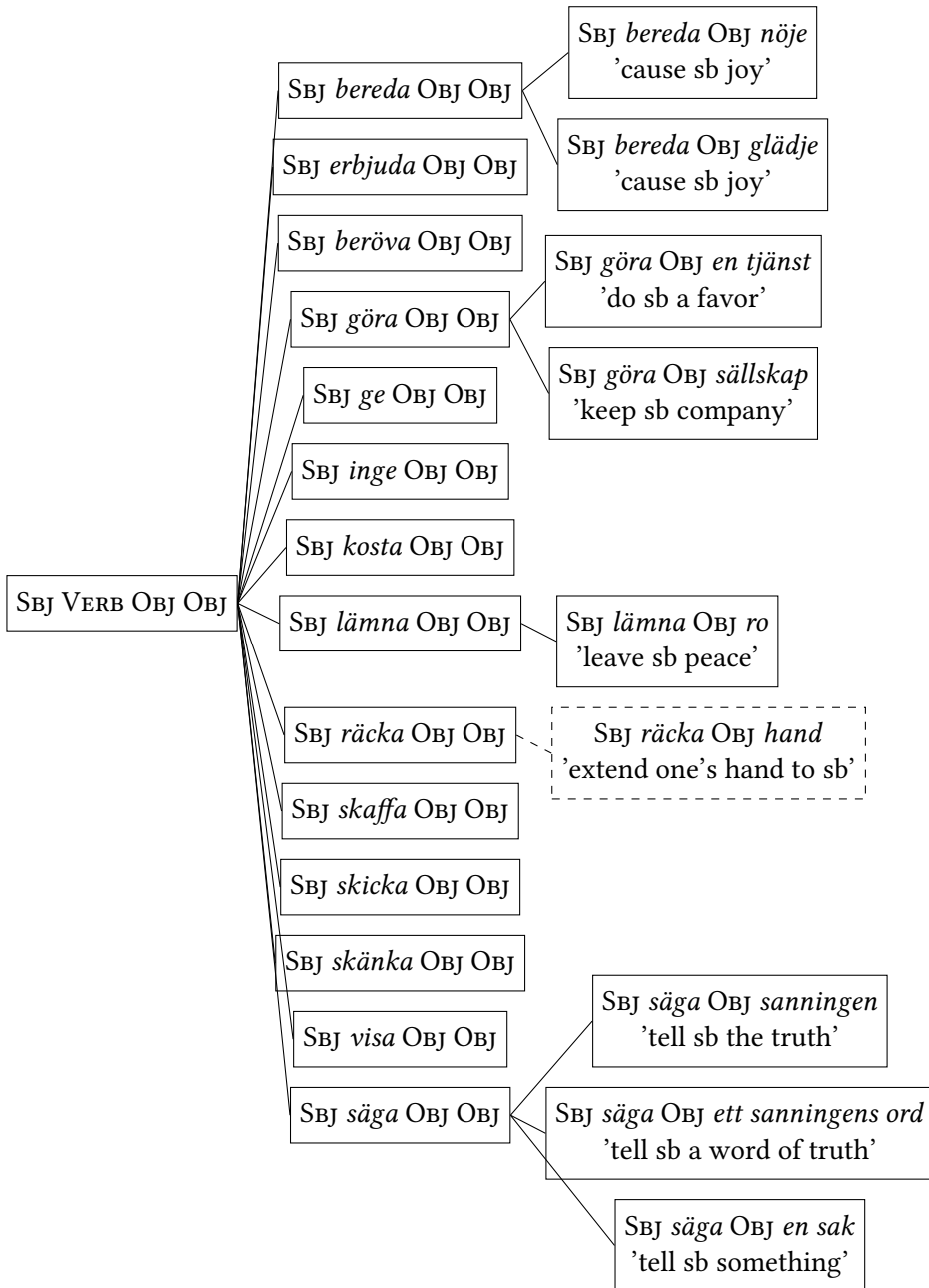


Figure 2: Taxonomic network of the DOC in present-day Swedish, including the most common verb-specific constructions as well as lexicalized expressions

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Abbreviations

DOC Double object construction

Sources

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