

Number sensitive reflexive pronouns in Danish

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Abstract¹

The topic of this paper is the observation that the possessive reflexive *sin* in modern Danish only allows singular antecedents, as opposed to all the other Scandinavian languages where *sin* may take both singular and plural antecedents. This is not a new feature of Danish and it is attested in the earliest non-runic sources of Danish, going back to the 13th century. In the same period of time, Danish object reflexive *sig/sig selv* seems to have changed from patterning with *sin* in only allowing singular antecedents to the present situation where it patterns with the other Scandinavian languages in allowing both singular and plural antecedents. This is a more recent development, however, possibly as recent as the 20th century. I hypothesize that *sin* may be going the same way as *sig* and changing (back) to allow both singular and plural antecedents. I present initial results from a large corpus study of Danish language as well as results from an acceptability judgment study with more than 500 participants. The corpus study indicates that the change may be taking place in certain structural configurations, while the acceptability study shows a fairly clear age effect in the acceptability of *sin* with plural antecedents.

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1. Introduction

Some terminology and very general assumptions:

Some languages like English and Danish have a set of *reflexive pronouns*. These can be characterized in terms of *binding*, a relationship that holds between an *antecedent* and the reflexive pronoun. I assume that the antecedent must *c-command* the reflexive pronoun. In English, the reflexive pronouns have the form *X-self*, and they differ from regular pronouns in that they must be bound in a local relation with e.g. a subject (Chomsky's Principle A), whereas regular pronouns must be free in this same relation (Chomsky's Principle B), (1)a,b.

- (1) En. a. He₁ loves himself₁
 b. * He₁ loves him₁

Danish, in addition to the English-type reflexives, has a *reflexive possessive* pronoun *sin* that allows speakers to distinguish between the two possible readings of the Danish equivalent to English *she loves her cat*. In English, this sentence can in principle either refer to *her own cat* or *someone else's cat*. In Danish, one reading, *her own cat*, requires possessive reflexive *sin* and the other, *someone else's cat*, requires *hendes* (En. *her*).

- (2) Da. a. Hun₁ elsker sin₁ kat
 she loves REFL's cat
she loves her cat
 b. * Hun₁ elsker hendes₁ kat
 she loves her cat
she loves her cat

Most of the Germanic languages, except for English, have retained a cognate of Gothic possessive reflexive *seins*. In Gothic, *seins* (glossed *REFL's*) allowed third person antecedents of any gender and number and inflected like an adjective.

- (3) Go. hairdeis sa goda saiwala seinā lagjiþ faur lamba
 shepherd- the- good- life-FEM- REFL's- lays-down for sheep
 NOM-SG MASC-NOM-SG MASC-NOM-SG ACC-SG FEM-ACC-SG
the good shepherd lays down his life for the sheep (wulfila.be, John 10:11)

In the North Germanic (Scandinavian) languages, Danish, Swedish, Norwegian, Faroese and Icelandic, *sin* is still a proper possessive reflexive. *Sin* must be bound by a subject and cannot occur unbound. In all the languages, *sin* can be bound by third person antecedents of any gender, but in Danish (and apparently for some speakers of the other four Scandinavian languages), *sin* is limited to singular antecedents.

- (4) Danish a. Han₁/hun₂/de₃ elsker sin_{1/2/*3} nye bil.
 Swedish b. Han₁/hon₂/de₃ älskar sin_{1/2/3} nya bil.
 Norwegian c. Han₁/hun₂/de₃ elsker nye bilen sin_{1/2/3}.
 Faroese d. Hann₁/hon₂/tey₃ elskar sín_{1/2/3} nýggja bil.
 Icelandic e. Hann₁/hún₂/þau₃ elskar nýja bílin sinn_{1/2/3}.
he/she loves REFL's new car

In the West Germanic languages, e.g. German *sein*, *sein* is not a reflexive pronoun but a genitive personal pronoun corresponding to masculine and neuter. The corresponding genitive pronouns for feminine and plural are variations of *ihr* and none of the languages have preserved or innovated a reflexive possessive.

- | | | | | | | |
|-----|-----------|----|--------|------|----------|----------|
| (5) | German | a. | Er/sie | isst | sein/ihr | Essen. |
| | Dutch | b. | Hij | eet | zijn | voedsel. |
| | Afrikaans | c. | Hy | eet | sy | kos. |
| | Yiddish | d. | Er | est | zeyn | esnvarg. |
| | Frisian | e. | Hy | yt | syn | iten. |
- he/she eats his/her food*

There are remnants of a *sin* in a few Old English texts but the form “occurs mostly in poetry, rarely in prose, and it does not survive into ME” (Mustanoja 1960: 156), although Jane Roberts (2016: 54) speculates that *sin* will have been part of the vocabulary of the 10th century English scribe Aldred. The example below is as late as 1065, *ChronC* 194. 17 (Mitchell 1985: 119).

**7 se froda swa þeah befæste þ rice
heahþungenum menn Haroldde sylfum
æþelum eorle se in ealle tid
hyrde holdlice hærran sinum.**

(Literary translation: *But the prudent king had settled the realm on high-born men, on Harold himself, the noble earl, who in every season faithfully heard and obeyed his lord,*
<http://omacl.org/Anglo/part5.html>.)

A common denominator for the languages presented here that have preserved *sin* is that they all have (developed) suffixed definiteness markers, whereas the languages that have lost *sin* as a reflexive all have pronominal definiteness markers. I return briefly to this point in section 5.

As to the other half of the Germanic reflexive spectrum, Gothic had a reflexive pronoun *sik* that surfaces as *sig* in modern Danish and *sich* in modern German. The Ingvaenic (North Sea) Germanic languages – Old English, Old Frisian, Old Saxon – had all lost *sik* (notice that *sin* presumably was preserved longer than *sik*). *Sik* was preserved in Old Norse, Old Low Franconian and Old High German and survives into all the modern Scandinavian languages. Dutch and Low German borrowed *zich* from High German (Postma 2011 *et seq* for Dutch), while modern Frisian stands out among its neighbours in not having a *sich*. *Sich*, as opposed to *sein*, has not become limited to masculine and neuter and in all the languages that preserve or have adopted it later, *sich* may occur with third person antecedents of all genders and numbers. That is, except for earlier stages of Danish where *sig* only/mainly occurred with singular antecedents and the regular plural pronoun *dem* was used reflexively, just like *deres* is in modern Danish. This development is illustrated in (6). (6)a is a modern translation of (6)b, (6)b is from the Danish poet Grundtvig, (6)c is from Chr. Pedersen’s 1550 translation of the Bible and (6)d is from the area law *Jyske Lov*, the original text dated to 1241.

(6)	Danish (2017)	a.	Da	hvælver	rosentelte	sig	selv	ved	havets	bred
			then	arch	rose tents	REFL	self	by	ocean.	shore
									DEF.	
									POSS	
	Danish (1850)	b.	Da	hvælve-Ø	Rosen- Telte	dem	selv	ved	Havets	Bred
			then	arch.pl	rose tents	them	self	by	ocean.	shore
									DEF.	
									POSS	
	Danish (1550)	c.	Menniska -ne	forundrede		dem				
			humans.	marvelled		them				
			DEF							
			<i>the people marvelled</i>							
	Danish (13th c.)	d.	Tha	mughæ	skipær	gøræ	thæm	skip	sialf.	
			then	must/can?	shipmen	make	them	ship	self	
			<i>then the sailors must/can? make themselves a ship</i>							

This talk will deal with the modern properties of the reflexives *sig* and *sin* in Danish. At the present stage of the language, *sig* takes third person antecedents of any gender and number and *sin* only singular antecedents of any gender. My summary of the diachronic and synchronic situations is illustrated in an abbreviated form in (7). Note, however, that particularly what I claim is a middle stage has not been described in any kind of detail since the early 20th century, so it should be viewed as a tentative claim. The properties of *sin* and *sig* in the other Germanic languages are included to illustrate the various paths that the Germanic reflexives have developed along since their common-Germanic state.

(7)	Singular antecedent	Plural antecedent
Danish, before 1000 AD antecedent 3rd person, all genders	sig sin	sig sin
Danish, 1200(?) - 1900(?) AD antecedent 3rd person, all genders	sig sin	dem deres
(Standard) Danish, 2017 antecedent 3rd person, all genders	sig sin	sig deres

2. The Danish reflexive system, broad strokes and micro variation

Danish has a fairly complicated system of reflexives that yet can be described across two binary-valued distinctions, one for elements with *selv* (En. *self*) and one for elements with *sig*. Note that these distinctions at present are only intended as *descriptive tools* and that I make no claim as to whether or not they are also *features* in the formal sense. The \pm *selv* binary corresponds more or less to the English distinction between *him* and *himself* (Chomsky's Principles A and B).

- (8) En. a. He₁ loves himself₁
 b. * He₁ loves him₁

For Danish, this same distinction can derive the difference between the first and second person object pronouns, *mig* and *dig* (En. *me* and singular *you*), and the first and second person reflexive pronouns, *mig selv* and *dig selv* (En. *myself* and *yourself*). I use first person for illustration but second person can be substituted in without any other changes.

- (9) Da. a. Jeg₁ elsker mig selv₁
 I love myself
 b. * Jeg elsker mig
 I love me

As is the case for English, \pm *selv* is a fairly *local* requirement, illustrated by the fact that the grammaticality is reversed when the relation is non-local. *Local* meaning *minimal IP* is a reasonably good definition for present purposes².

- (10) Da. a. * Jeg₁ bad [IP ham hjælpe mig selv₁]
 I asked him help myself
 I asked him to help myself
 b. Jeg bad [IP ham hjælpe mig]
 I asked him help me
 I asked him to help myself

The \pm *sig* distinction does not exist in English where the cognate of *sig* presumably was lost at a time prior to Old English. We see *sig* preserved in most of the other Germanic languages, either with a direct path from the earlier Germanic dialects or through later borrowings from neighbouring dialects (as has been shown to be the case for Dutch).

- (11) Ge. *sich*
 Du. *zich*
 Da. *sig*

\pm *sig* derives the distributional difference between the third person singular pronominal possessors and the third person reflexive possessor *sin* (glossed as REFL's). I use *hendes* (En. *her*) as a poster child for the pronominal possessors. In the case of local binding, *sin* and *hendes* are in complementary distribution. (Notice, of course, that the English literal gloss for (12)b is fully grammatical: local binding of possessors in English is unproblematic.)

² For a discussion of why *minimal IP* cannot be a satisfactory definition of the local binding domain, see Ehlers (2017: 78ff).

- (12) Da. a. Hun₁ elsker sin₁ kat
 she loves REFL's cat
she loves her cat
- b. * Hun₁ elsker hendes₁ kat
 she loves her cat
she loves her cat

The complementarity between reflexive *sin* and pronominal *hendes* disappears when the pronouns are non-locally bound. This means that both (13)a and (13)b are grammatical, the only difference being that (13)a is ambiguous between a reading where *he* feeds *her* cat (non-local binding) and a reading where *he* feeds *his own* cat (local binding). This gives the second binary distinction, \pm sig, where *sin* is +sig and *hendes* is -sig.

- (13) Da. a. Hun₁ bad [IP ham fodre sin₁ kat]
 she asked him feed REFL's cat
she asked him to feed her cat
- b. Hun₁ bad [IP ham fodre hendes₁ kat]
 she asked him feed her cat
she asked him to feed her cat

The combination of the two binaries, \pm selv and \pm sig, yields a four-way system that derives the distinction between *sig* and *sig selv*. (This system is grammaticalized in Danish but not e.g. in Dutch or German where it is probably more reasonable to call the cognates of *self* emphatic.) I will mainly discuss the elements in the yellow boxes in (14). (14) summarizes the full range of options, given the two binary distinctions \pm selv and \pm sig.

(14)	<u>+selv</u>	<u>-selv</u>
<u>+sig</u>	<i>sig selv</i>	<i>sig</i>
<u>-sig</u>	<i>ham selv, hende selv, den selv, det selv, dem selv</i>	<i>ham, hende, den, det, dem</i>

With binding by a local subject, only *sig selv* is available. Both *sig* and *ham* are ungrammatical when non-locally bound, and *ham selv* seems to not allow binding by subject in general.

- (15) Da. a. Han₁ elsker sig selv₁
 he loves REFL self
he loves himself
- b. * Han₁ elsker sig₁
 he loves REFL
 Intended: *he loves himself*
- c. * Han₁ elsker ham selv₁
 he loves him self
 Intended: *he loves himself*
- d. * Han₁ elsker ham₁
 he loves him
 Intended: *he loves himself*

With binding by a non-local subject, *sig selv* is ungrammatical. We do, however, find the same kind of optionality between reflexive and pronominal that we saw with non-local binding of *sin* and *hans*, which is why both (16)b and (16)d are possible.

- (16) Da. a. * Hun₁ bad [IP ham hjælpe sig selv₁]
 she asked him help REFL self
she asked him to help her
- b. Hun₁ bad [IP ham hjælpe sig₁]
 she asked him help REFL
she asked him to help her
- c. * Hun₁ bad [IP ham hjælpe hende selv₁]
 she asked him help her self
she asked him to help her
- d. Hun₁ bad [IP ham hjælpe hende₁]
 she asked him help her self
she asked him to help her

Binding of *ham selv* by a subject is still ungrammatical, but it must be bound by an object, (17)a,b. Note, however, that (17)c parses as perfectly grammatical, despite the subject *Trump*, seemingly not c-commanding *ham selv*.

- (17) Da. a. Hun spurgte ham₁ om ham selv₁
 she asked him about him self
she asked him about himself
- b. * Vi spurgte om ham selv
 we asked about him self
 Intended: *we asked about him*
- c. Trumps mor har endnu flottere hår end ham selv
 Trump's mom has even nice-r hair than him self
Trump's mother has even more beautiful hair than he does

The table in (18) summarizes a full proposal for the binding properties of Danish pronouns (discounting inherently reflexive verbs which show a different pattern).

(18)	<u>+selv</u> bound in the minimal IP	<u>-selv</u> not bound in the minimal IP	<u>No ±selv distinction</u> (possessives)
<u>+sig</u> bound by a subject in the minimal finite IP	<i>sig selv</i>	<i>sig</i>	<i>sin</i>
<u>-sig</u> not bound by a subject in the minimal IP	<i>ham selv, hende selv, den selv, det selv, dem selv</i>	<i>ham, hende, den, det, dem</i>	<i>hans, hendes, dens, dets</i>
<u>No ±sig distinction</u> (1. & 2. person & <i>deres</i>)	<i>mig selv, dig selv, os selv, jer selv</i>	<i>mig, dig, os, jer</i>	<i>min, din, vores, jeres, deres</i>

I have highlighted *deres* in (18). The number requirement of *sin* makes the system somewhat inconsistent in that *deres* is the only 3rd person item with no restrictions on it at all. I illustrate this inconsistency more explicitly in the table at the top of page 8 and I return to *sin* and *deres* in section 4.

<i>Danish</i> antecedent 3 rd person, all genders	<u>Singular antecedent</u>	<u>Plural antecedent</u>
<u>Local</u>	sig selv sin	sig selv deres
<u>Non-local</u>	sig sin	sig deres

2.1 Are these generalizations supported by corpus data? Short answer: Yes (mostly).

Building on Vikner 1986 and as part of work presented in Ehlers & Vikner 2017, Vikner & Ehlers 2017 (both in Danish) and Ehlers 2017 (in English), I collected data from the Danish written-language corpus KorpusDK in order to investigate how well the system in (18) fits the actual language. I highlight a few results below.

For *sig* and *sig selv* in argument positions, the corpus data act much like the system in (18) predicts. *Sig* and *sig selv* in the data are in almost complementary distribution in terms of locality: *sig* is robustly non-local, (19), and *sig selv* just as robustly local, (20).

(19)	<i>at - inf. - sig</i> (10 % counted)	pres.part. - <i>sig</i>	<i>at - inf. - P - sig</i>	pres.part. - <i>P - sig</i>
1 non-local	96,3 % (260)	100 % (3)	96,2 % (75)	100 % (119)
2 local	3,7 % (10)	0 % (0)	3,8 % (3)	0 % (0)
	100 % (270)	100 % (3)	100 % (78)	100 % (119)

(20)	<i>at - inf. - sig selv</i> (10 % counted)	pres.part. - <i>sig selv</i>	<i>at - inf. - P - sig selv</i>	pres.part. - <i>P - sig selv</i>
1 non-local	0 % (0)	0 % (0)	0,6 % (2)	0 % (0)
2 local	100 % (2410)	100 % (12)	99,4 % (345)	100 % (5)
	100 % (2410)	100 % (12)	100 % (347)	100 % (5)

For *sin* and *hendes* (En. *her*, used as a stand-in for all the singular possessives), the corpus data show more variation and a bit more deviance from the predictions in (18). In particular, (18) predicts row 2 in (22) (locally bound *hendes*) to be empty, but this is clearly not the case.

(21)	<i>at - inf. - sin</i> (10 % counted)	pres.part. - <i>sin</i>	<i>at - inf. - P - sin</i>	pres.part. - <i>P - sin</i>
1 non-local	0,9 % (120)	0 % (0)	2,8 % (38)	31,0 % (99)
2 local	99,1 % (12540)	100 % (42)	96,8 % (1317)	69,0 % (220)
3 not bound by subj.	0 % (0)	0 % (0)	0,4 % (5)	0 % (0)
	100 % (12660)	100 % (42)	100 % (1360)	100 % (319)

(22)	<i>at - inf. - hendes</i>	pres.part. - <i>hendes</i>	<i>at - inf. - P - hendes</i>	pres.part. - <i>P - hendes</i>
1 non-local	3,6 % (72)	12,5 % (2)	4,5 % (24)	8,9 % (4)
2 local	5,0 % (100)	6,3 % (1)	5,0 % (27)	0 % (0)
3 not bound by subj.	91,4 % (1820)	81,3 % (13)	90,5 % (485)	91,1 % (41)
	100 % (1992)	100 % (16)	100 % (536)	100 % (45)

Consequently, the complementary distribution between locally bound *sin* and *hendes* that I claimed in (12) (repeated here as (23)), probably does not hold for all speakers, or at least not in all contexts. Local binding of *hendes* is traditionally described as a feature of some Jutland (Western Denmark) dialects, and it seems to be fairly stigmatised.

- (23) Da. a. Hun₁ elsker sin₁ kat
 she loves REFL's cat
she loves her cat
- b. * Hun₁ elsker hendes₁ kat
 she loves her cat
she loves her cat

3. Danish *sin* with plural antecedents in corpus data and acceptability judgments

KorpusDK consists of two subcorpora, Korpus90 with data from 1983 to 1992 and Korpus2000 with data from 1998 to 2002. I investigated the occurrence of *sin* with plural antecedent in both subcorpora and estimate the numbers to be as in (24). The difference between Korpus90 and Korpus2000 is statistically significant, but it is probably still a very small effect, given the large sample size and relatively small difference. LANCHART is a Danish spoken-language corpus where the relative occurrence with *sin* can be seen to be somewhat higher than in the written-language corpora, but still not radically different. *Sin* with plural antecedent in the corpora is generally fairly sparsely attested. For the data that I do have, however, there seems to be a distributional difference between *sin* and *deres* with (local) plural antecedents, parts of which are summed up in (25). The effect statements should be read as relativized descriptions, as *deres* in absolute terms occurs much more often than *sin*.

(24)	Korpus90	Korpus2000	LANCHART (Jensen 2009:7)
# of <i>sin/sit/sine</i> (all instances)	92877	81818	1247
# of <i>sin/sit/sine</i> with plural antecedent	~500	~700	45
% <i>sin/sit/sine</i> with plural antecedent	0,54 %	0,86 %	3,61 %

(25)	# of object	Type of subject	Animacy of subject	Sentence type
	<i>sin</i> favours singular objects (surprisingly!)	<i>sin</i> highly disfavours pronoun antecedent (<i>de, they</i>)	<i>deres</i> highly favours animate antecedents, <i>sin</i> is 50/50	<i>deres</i> occurs in simple sentences more often than <i>sin</i>

In order to investigate the status of *sin* in contemporary Danish, I am carrying out an acceptability judgment study. I present some results from my pilot study, carried out in the autumn of 2016. The study design is presented at a glance in (26).

(26)	Type of data	Distribution	Demographics	# of items in all	Primary test items	Secondary test items	Fillers (varying accep.)	”awake” items, training items
	acceptability judgments, 1-5 (Not acceptable to Acceptable)	online (Google Forms), through facebook	age, region of upbringing	100	32	30	30	8 (4 each)

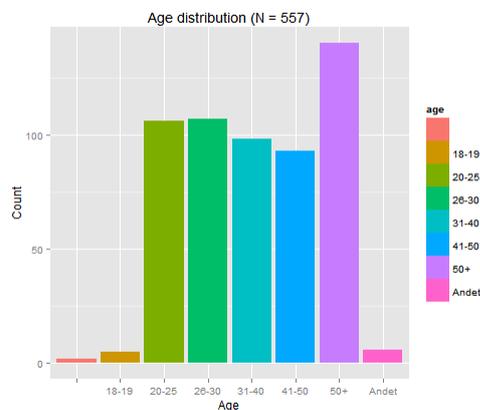
The design of the *primary test items* was created on the basis of the distributional results shown in the corpora, leading to the four dimensions shown in (27) (compare the observations in (25)). The secondary test items investigate other aspects of the Danish reflexives, given the variation and optionality I discussed in section 2. This should allow me to investigate whether speakers who accept *sin* with plural antecedents more easily also accept other non-standard uses of reflexives.

(27)	Dimensions that vary	Nominal <i>sin</i> -complement	Type of subject	Animacy of subject	Sentence type
	4 binaries ($2^4 = 16$ unique combinations)	plural or singular	pronoun or full noun phrase	animate or inanimate	simple transitive or matrix sentence with infinitive
	Examples	sine brugere , sin telefon, sit budget	de (<i>they</i>), taxierne (<i>the taxis</i>)	børnene (<i>the kids</i>), taxierne (<i>the taxis</i>)	[S V <i>sin</i> O] [S V [at V <i>sin</i> O]]

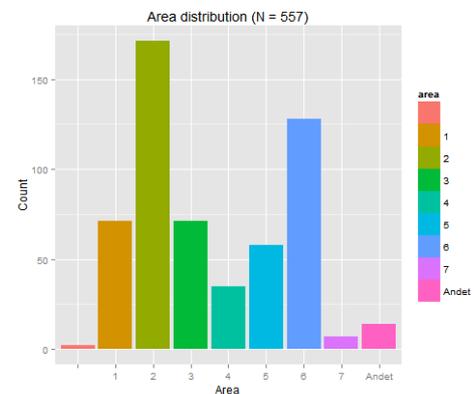
(28) gives the response demographics. I received 557 responses to the questionnaire. Age-wise, there are approximately 100 responses in each of the age groups (20-25, 26-30, 31-40, 41-50) and closer to 150 in the 50+ group. Note that the youngest age groups (18-19 and "Other") are almost non-existent. In terms of region, my own home region and the Copenhagen region are much more well-represented than the others.

(28) # of responses
557

Age



Region



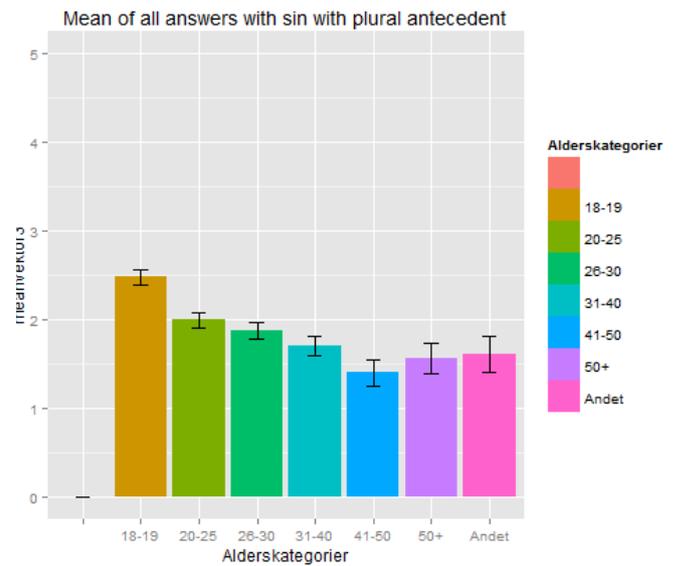
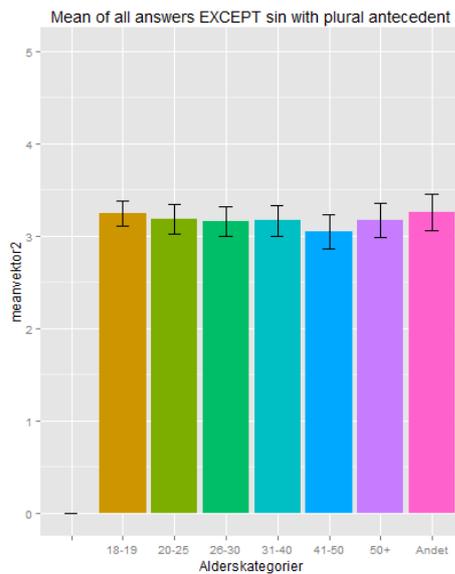
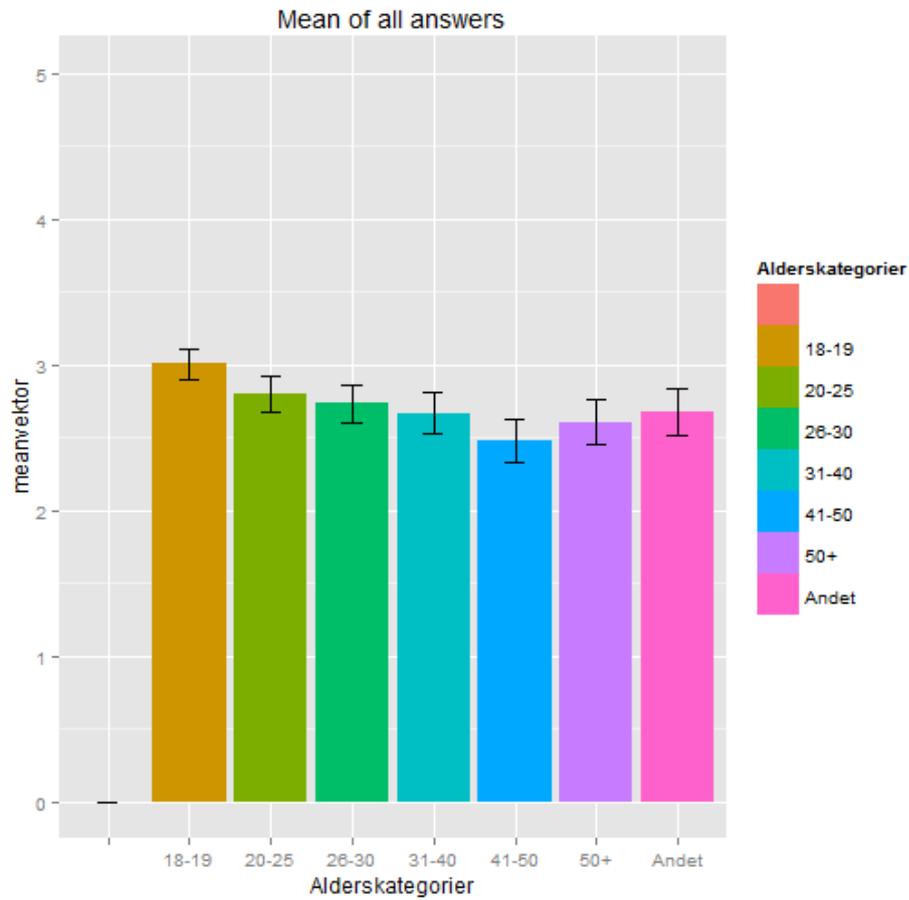
Questions that the data may help answer, for the given sample:

- is there a connection between **age** and how people rate the *sin* with plural sentences?
- is there a connection between **region** and how people rate the *sin* with plural sentences?
- is there a connection between **age + region** and how people rate the *sin* with plural sentences? (Not analyzed yet)
- is there a connection between how people rate the **secondary test sentences** and how they rate the *sin* with plural sentences? (Not analyzed yet)
- is there any difference in **how people rate the *sin* with plural sentences**, i.e. are any of them worse or better than the others?

In (29) and (30), I provide a few graphs that illustrate what I analyze as an age effect in the data. The three graphs in (29) show a summary of all responses to all answers, grouped according to age. The first graph, *Mean of all answers*, shows that the age groups generally rate the entire questionnaire more or less in the same way. The 41-50 group stands out a little bit, but the error bars indicate that there is no real difference in the mean across the groups. The two graphs below are perhaps more interesting. The first one, *Mean of all answers EXCEPT sin with plural antecedent*, shows the mean of the answers to all the *non-primary* test items. For these, the groups look (even more) homogenous. The second one, *Mean of all answers with sin with plural antecedent*, shows the mean of the answers

to all the *primary* test items. Here, we see an age effect in the responses in that mean for the younger age groups (18-30) is higher than the mean for the older age groups.

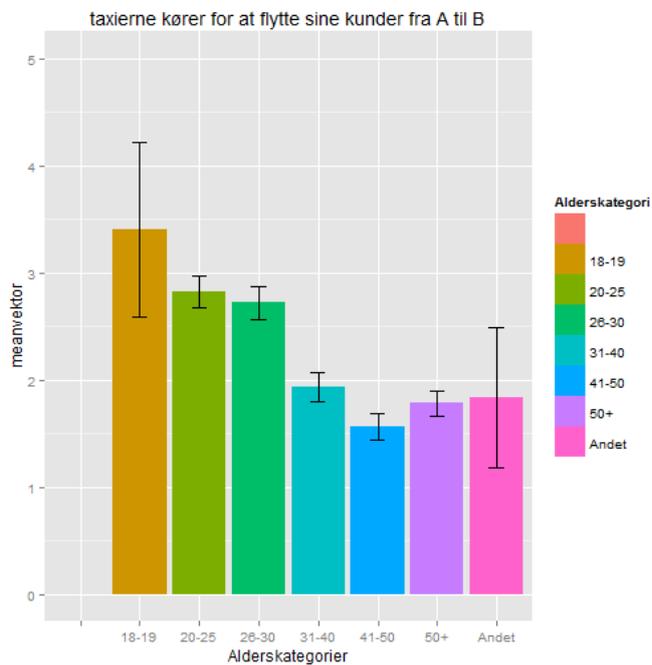
(29)



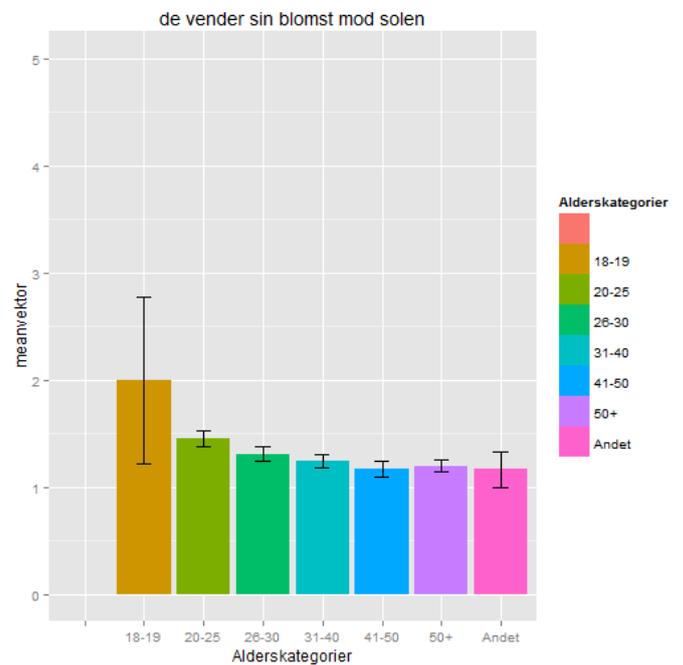
Two interesting graphs: *sin* with plural antecedent varies in degree of acceptability across age groups depending on the structure of the sentence. In (30)a, *the taxis drive to move REFL's customers from A to B*, there is a fairly clear age difference in acceptability. The mean of the younger speakers is close to 3 while that of the older speakers is closer to 2. In (30)b, all age groups are at floor. (30)a is the context that I predict should favour *sin*, given the corpus data. The sentence is complex, the subject is non-pronominal and (supposedly) inanimate, the object is plural. In (30)b, *they turn REFL's flower towards the sun*, the sentence is simple, the subject is pronominal but still supposed to be inanimate and the object is singular.

(30)

a.



b.



4. Going forward – can we derive the requirements of Danish *sin* from more language-general properties?

Despic (2015) continues a line of reasoning from Reuland (2011) in suggesting a connection between languages that have reflexive possessives and which either encode definiteness postnominally or lack definite articles completely. In his analysis, Danish DPs have an EPP feature that attracts nominal material. This, coupled with his suggestion that possessive DPs are phases, derives both postnominal definiteness marking and the fact that Danish has a possessive reflexive pronoun. His account, however, does not derive the complementarity between locally bound *sin* and *hans* and it does not accommodate the fact that *sin* can be bound non-locally.

Burzio (1991) argues that reflexives should be characterized as feature-less elements that pseudo-agree (his term) with their feature-having antecedents. He derives the Danish facts from a condition on what elements the language allows pseudo-agreement with and places Danish on a continuum going from Russian (*all*) to English possessives (*none*). This prediction should presumably have more language-general consequences. Later works (e.g. Reuland 2011 and Thráinsson 2007) builds on the idea that reflexives are underspecified elements and that their binding properties arise as a consequence of this underspecification.

Ahn (2017 and earlier work) recasts reflexive binding as movement of a reflexive element to a Voice head. From this, he derives the subject-orientation and other binding properties of a certain subclass of reflexive constructions which must include the ones in Danish.

Julien (2005a,b) and Delsing (1993) have both used variation in the possessive (reflexive) domain in Scandinavian to suggest analyses of Scandinavian nominals.

A fairly recent dissertation, McKeown 2013, gives a phase-based analysis of Icelandic *sig*, casting both local and non-local reflexive binding in terms of movement of the antecedent, not the reflexive itself.

Danish *sin* raises questions about features of pronouns, optionality in pronominal systems, subject-orientation of reflexives, flip-flopping language change, possessive DP-structure and definiteness, and whatever the mechanism of binding can be said to be in the first place. It also allows us to ask the question of how much structure we want to pile atop a DP that, at least for me in some contexts, allows both of the constructions in (31). ((31)a from Julien 2005b.)

- (31) Da. a. Han spørger om [DP? min [DP? den sorte kat]].
 he asks about my the black cat
he asks about one of my cats, the black one (paraphrase)
- b. Han spørger om [DP?[DP? Peter]s [DP? den sorte kat]].
 he asks about Peter's the black cat
he asks about one of Peter's cats, the black one (paraphrase)

Final note: A relevant question to ask is whether Danish is unique in making a singular-plural distinction in the reflexive system. This is still an investigation that is very much a work in progress, so the splits in (32) should in no way be taken to be set in stone. The list only includes languages that have both an object reflexive and a possessive reflexive: the original list of languages with reflexive possessives is borrowed from Despic (2015).

(32)	Languages with different forms for sg. and pl. reflexives	Languages that plural-mark their reflexive	Languages where singular and plural forms of the reflexive are the same
	Danish, (Icelandic), (Norwegian), Lezgian	Koromfe (pers. pron. + gille)?, Chinese?, Japanese?, Kannada?, Korean (possibly with speaker variation, or optional pl. marking), Malayalam?, Mosestén? (special form for 1st person inclusive plural and perhaps also plural marking), Turkish (only with object refl., not poss?)	Bulgarian, Faroese, (Icelandic), Macedonian?, (Norwegian), Romanian?, Swedish, Belorussian?, Czech, Dolokha Newar(?), Hindi-Urdu(?), Kashmiri?, Latin, Old Church Slavonic, Persian, Polish, Proto-Slavonic?, Russian, Montenegrinian?, Slovak?, Slovenian?, Sorbian?, Tamil?, Thai??,

5. Conclusion

In Danish, as opposed to the other Scandinavian languages, the third person reflexive possessive *sin* only accepts antecedents that are not plural. In modern Danish, however, this generalization is not completely set in stone. I am investigating whether the variation that can be seen in this domain is just that – variation – or if the Danish reflexive system is in fact being restructured to allow *sin* with plural antecedents.

In this handout, I have presented initial results from both written and spoken Danish corpora as well as a few results from an acceptability judgment study investigating *sin* with plural antecedents. The corpus data indicate that *sin* with plural antecedents patterns differently from the distribution of *deres* (the standard pronoun for local binding by plural antecedents). The acceptability judgment data, while still very initial in nature, show a fairly clear age effect, particularly with the types of *sin*-sentences that pattern along the lines where *sin* with plural antecedent seems to pattern differently from *deres*.

The future aim of this research is to use this point of (Scandinavian) micro variation as a starting point for further research into (Scandinavian) nominal structure, to investigate whether this observed variation in the reflexive system can be derived from more language-specific properties, and to provide insights into a situation of what could be a reversed language change – which Danish already appears to provide one example of with object reflexive pronoun *sig* which seems to have changed from allowing third person antecedents of any number to only allowing singulars to the current situation where *sig* allows antecedents of any number (again). At the same time, the Danish reflexive system is an interesting example of (dialectal) micro variation in a language that has otherwise levelled its dialects to a great extent.

At the very end of the handout, I presented some specific ideas for directions to go in and some questions to address, as well as (very initial) data on plural marking on reflexive pronouns cross-linguistically. Danish is not the only language where reflexive pronouns with plural antecedents are marked either by using a different word or by plural-marking the reflexive pronoun itself, and this in itself suggests that the variation seen in Danish is not (just) an idiosyncratic lexical oddity. Although, let's not rule that out!

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