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**DOI**

[10.21827/uw.71.109-136](https://doi.org/10.21827/uw.71.109-136)

**Publication date**

2022

**Document Version**

Final published version

**Published in**

Us Wurk

**License**

Other

[Link to publication](#)

**Citation for published version (APA):**

Stefan, N., & Versloot, A. (2022). Conditions for the Borrowing of Irregular Plurals in an Intense Language Contact Situation. *Us Wurk*, 71(3-4), 109-136.  
<https://doi.org/10.21827/uw.71.109-136>

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## [1613] Conditions for the Borrowing of Irregular Plurals in an Intense Language Contact Situation

Nika Stefan and Arjen Versloot

*Summary.* This article is devoted to borrowing in Frisian of Dutch irregular plurals formed by suffixation and stem vowel lengthening; e.g. dak [dak] ‘roof’ - daken [da:kə/da:kŋ] ‘roofs’ instead of Frisian dak [dak] - dakken [dakŋ]. Irregular plural formation is unproductive in Dutch and uncommon in Frisian (except in a couple of historical borrowings). Although the appearance of irregular Dutch plurals in Frisian had not previously been described or investigated, we hypothesize their existence in spoken Frisian, based on analogical cases. However, they would not be borrowed without any limitations as various factors would affect their borrowability; e.g. words frequency, phonotactic constraints or paradigm alternation. This study is based on approximately 175 interview recordings. The participants were asked to name different objects shown to them during the interview picture task. The results confirm both the (quite frequent) use of Dutch irregular plurals in Frisian and the involvement of different (morphological) factors in the borrowing processes. Accordingly, borrowing of such plurals is not only a lexical matter, but also a grammatical one. Phonotactic factors do not appear to play any significant role, but paradigm alternation seems to be decisive in whether a plural can successfully be borrowed or not.

### 1. Introduction

West Frisian, a minority language spoken in Fryslân - a bilingual province in the north of the Netherlands - is known to be affected by the national language, Dutch, resulting in numerous lexical and grammatical borrowings (cf. Sjölin 1976; Breuker et al. 1984; De Haan 1995, 1997, 1998). In this article, we will look into some mechanisms behind the borrowing processes by investigating the use of Dutch irregular plurals in Frisian and considering different factors that may affect their borrowability. Grammatical borrowings, in particular morphological ones, take a low ranking on the bor-

rowability scales as they have been formulated by e.g. Van Coetsem (1988; further differentiated in: Van Bree and Versloot 2008: 21-31, 234-235) or Thomason and Kaufman (1988). It is concluded that they can only be borrowed in a situation of intensive language contact. The current situation in Fryslân, with no monolingual speakers of Frisian and full Dutch-Frisian personal bilingualism, may be considered such an instance of intensive language contact.

Grammatical borrowings from Dutch in spoken Frisian, as opposed to the Frisian Standard, which is predominantly used in writing, have frequently been investigated, with special attention being paid to syntax (e.g. Wolf 1995; De Haan 1996; Koeneman and Postma 2006; Hoekstra and Versloot 2016). Additionally, numerous morphological borrowings have been signaled in spoken Frisian, e.g. in verb conjugation and in derivational processes in case of diminutive formation (e.g. Breuker 1993; De Haan 1997). Plural formation, however, has not received much attention so far. Hoekstra and Versloot (2019) have investigated historical changes in early-modern Frisian irregular plurals, most of them changing from being irregular in the 16<sup>th</sup> century to displaying a fully regular formation in present-day spoken Frisian. A few irregular plurals are more resistant to change, like *bern* (sg & pl) ‘child, children’ and *skiep* (sg & pl) ‘sheep’. The latter, however, has been reported to be used in a regularized form as *skieppen* by many speakers (cf. Goeman, Taeldeman and Reenen 2003; see *schapen*). While the retention of the plural *bern* can possibly be explained by the word’s high frequency or the typical ending in [<sub>n</sub>],<sup>1</sup> which matches output-oriented schemas (Bybee 2007: 103; Hoekstra and Versloot 2019: 34), two other factors may be of importance: the lack of analogical Frisian plurals matching a regular *\*bernen* *\*[bɛ(:)nɲ]* (only: *teannen* ‘toes’ *[tjɛnɲ]*) and, perhaps more importantly, the lack of formal agreement between Frisian and Dutch for this semantic concept, as the Dutch word for a child is completely different: *kind* (sg) - *kinderen* (pl). Accordingly, if *bern* were less frequent, it would probably have been supplanted by *kind* - *kinderen* under the influence of Dutch.<sup>2</sup> The Frisian word *skiep*, on the other hand, matches the Dutch *schaap*, with the typical phonological correspondences

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1. E.g. *skuon* *[skwɔn]* ‘shoes’, *beaen* *[bl.ən]* ‘prayers’, *krieën* *[kri.ən]* ‘(carrion) crows’, *hinnen* *[hɪnɲ]* > *[hɪn:]* = /hɪn/ ‘chickens’.
  2. Or rather *\*kyn* - *\*kiners* *\*[kin - kinəs]*, which is the common form in the so-called Town Frisian dialects, Hollandish based contact varieties, traditionally spoken in some of the historical cities and a few other regions in Fryslân. The word *kind*, pl *kindar/-an*, is attested in Old Frisian, but it became obsolete in Frisian after the Middle Ages.

between the two languages (Frisian *sk* - Dutch: *sch*; e.g. *skip* - *schip* ‘ship’; Frisian: *ie* - Dutch: *aa*; e.g. *jier* - *jaar* ‘year’). The regular formation of the Dutch plural form *schapen* undermines the retention of the irregular Frisian *skiep*, given the intense language contact.<sup>3</sup>

The productive plural formation in contemporary Frisian is very similar to the one in Dutch (see also Versloot 2017: 121-122). In both languages, plural suffixes *-en* and *-s* are added to the noun’s root in order to create a plural (cf. Table 1 and for additional information Tiersma 1999: 49-52, Popkema 2006: 148-150, Hoekstra 2011, Audring 2018, Dyk 2020). However, there are some differences. The use of the suffix *-s*, for instance, is more frequent in Frisian than in Dutch. More importantly for this research, both languages have a couple of irregular plural forms. While some of them overlap (cf. Table 2), most of them do not (for Dutch irregular plurals, see Stern 1984: 18-20 and Audring 2018). Compared to contemporary Frisian, Old Frisian had more irregular plurals. Only a couple of them retained their irregular character throughout the language area and speakers’ community (the others developed a regular (by)form), e.g. *bern* ‘child(ren)’, *dei* - *dagen* ‘day(s)’, *wei* - *wegen* ‘way(s)’ and *ko* - *kij* ‘cow(s)’ (cf. Hoekstra and Versloot 2019). As mentioned before, *bern* does not have a cognate in Dutch (*kind* [sg] - *kinderen* [pl]), which supposedly contributes to its retention, independently supported by its high frequency of occurrence. The plurals *dagen* and *wegen*, on the other hand, are exactly the same in both languages. This supports their retention as well (besides the fact that they are also frequently used) as the bilingual Frisian/Dutch speakers are confronted with these variants more frequently due to cross-linguistically overlapping input. Accordingly, retention or change of Frisian irregular plurals seems to be connected to language contact with Dutch. This raises the question, whether irregular Dutch plurals can be taken over and implemented in spoken Frisian, similarly to numerous other loan-words and -constructions. We will address this question by investigating a couple of potential borrowings.

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3. We take the socio-linguistic situation of full Frisian-Dutch bilingualism, with no monolingual speakers of Frisian, as a starting point for this study. For the extensive literature on the socio-linguistic situation, see e.g. Dijkstra 2013 or Klinkenberg, Jonkman & Stefan 2018 with further references.

Table 1. Productive Frisian plural formation.

Plural suffixes	Example	Meaning	Dutch equivalents
-en	boek - boeken dream - dreamen hoed - huodden <sup>4</sup> park - parken strjitte - strjitten	<i>book</i> <i>dream</i> <i>hat</i> <i>park</i> <i>street</i>	boek - boeken droom - dromen hoed - hoeden park - parken straat - straten
-s	artikel - artikels biezem - bezems skriuwer - skriuwers tafel - tafels woartel - woartels	<i>article</i> <i>broom</i> <i>writer</i> <i>table</i> <i>carrot</i>	artikel - artikelen/artikels bezem - bezems schrijver - schrijvers tafel - tafels wortel - wortels/wortelen
-en/-s	earm - earmen/earms helm - helmen/helms feroaring – feroaringen/ feroarings liening – lieningen/ lienings	<i>arm</i> <i>helmet</i>  <i>change</i> <i>loan</i>	arm - armen helm - helmen  verandering - veranderingen lening - leningen

Table 2. Irregular Frisian plurals and their Dutch equivalents.

Irregular plurals	Singular	Plural	Meaning	Dutch equivalents
	bad /a/ <sup>5</sup>	baden /a:/	<i>bath</i>	bad - baden /a/ - /a:/ (irregular)
	bern	bern	<i>child</i>	kind - kinderen (irregular)
	dei	dagen	<i>day</i>	dag - dagen /a/ - /a:/ (irregular)
	ko	kij	<i>cow</i>	koe - koeien /u/ - /uj/ (irregular)
	lid	leden	<i>member</i>	lid - leden /l/ - /e:/ (irregular)
	skiep	skiep	<i>sheep</i>	schaap - schapen /a/ - /a:/ (regular)
	skoech	skuon	<i>shoe</i>	schoen - schoenen /u/ - /u/ (regular)
	wei	wegen	<i>way</i>	weg - wegen /ɛ/ - /e:/ (irregular)

- Many Frisian nouns undergo the so-called breaking in the plural (cf. Tiersma 1999: 17-20; Popkema 2006: 73-76; Visser 2002). In this case, the falling diphthong [u.ə] in singular *hoed* [hu.ət] changes (“breaks”) into the rising diphthong [wo] in plural *huodden* [(v)wodn].
- The Frisian *bad* ‘bath’ is arguably a historical borrowing from Dutch, which, however, has become a commonly used variant and is not classified as an ‘interference’ by Frisian dictionaries. While there are more Frisian alternatives for a bath(tub), as *baaikûp* or *tobbe*, there are none for the compound *swimbad* (Dutch: *zwembad*) ‘swimming pool’.

As in most cases of language change (e.g. Hooper 1976; Phillips 2006; Sloos 2013; Bybee 2015), frequency effects play an important role in the retention or change of Frisian plurals. Next to the absolute and proportional (token) frequencies mentioned by Hoekstra and Versloot (2019),<sup>6</sup> we will take morphophonological and phonotactic factors in case of contact-induced changes into account as well. Phonology of a language is known to be susceptible to change due to bi-/multilingualism and language contact (e.g. Matras 2009: 221-233). It has also been shown that people tend to rely, among others, on linguistic similarities (L2 acquisition, e.g. Ringbom 2006, 2007; Otwinowska 2015; Bosma et al. 2016). We hypothesize that Dutch irregular plurals matching Frisian phonotactics are more easily adopted in Frisian than those that do not. Additionally, various types of morphophonological alternations in Dutch plural formation can differently affect the borrowability of these plurals in Frisian. We will investigate and discuss the role of different analogy-based factors, in addition to the frequency that may favor retention of the older Frisian plurals or their substitution by new (Dutch) ones.

## 2. Research goal and methodology

This study is devoted to the implementation of Dutch irregular plurals in spoken Frisian, next to their standard, regular variants. Its goal is not only to show that the irregular, ‘Dutch’ plurals can occur in spoken Frisian (as opposed to Standard Frisian described in dictionaries and grammars [e.g. Zantema 1984; Visser 1985; Tiersma 1999; Popkema 2006; Duijff et al. 2008]), but also to demonstrate that their borrowability may vary. Since this is the first study to explore this topic, it must be seen as a general exploration, rather than a detailed borrowability model.

The research is part of the fourth sociological language survey in Fryslân (Klinkenberg et al. 2018; see also Pietersen 1969; Gorter et al. 1984; Gorter and Jonkman 1995), which includes a new, linguistic component (Stefan, Klinkenberg and Versloot 2015). From a large group of participants who completed an online sociological and linguistic questionnaire, about 250 have been invited for a subsequent in-depth interview. The results of this

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6. Hoekstra and Versloot also mention salience as an important factor. In our research, however, the older (Standard) Frisian plurals and the potential interferences have equally salient endings with a root vowel alternation being the only difference (except *skiep* [Standard Frisian] vs. *skiep(p)en* [neologism] ‘sheep’, which has potentially also changed due to language contact with Dutch).

study are based on circa 175 applicable recordings, covering different age groups and regions of Fryslân. The exact numbers per item can vary as the participants occasionally used other variants than intended. All participants indicated to speak Frisian (very) well and most of them (nearly 90%) considered themselves as first language speakers of Frisian (compare Stefan [forthcoming] for the relation between first language speakers and advanced second language learners of Frisian).

With the purpose of capturing various plurals in Frisian, a picture test has been administered, where the participants were asked to name different objects shown to them. Besides the desired plurals, they were shown the same objects in singular (e.g. one roof, multiple roofs), along with multiple pictures depicting other things that mainly served as control questions. The tested plurals have been analyzed separately in order to find out which of them can change, to what degree and how that compares to our expectations. Subsequently, the association between various plural forms (chi-square test of association) was investigated, as well as general patterns in their usage in order to examine how a change in one plural correlates with changes in other plurals.

Since spoken Frisian exhibits a lot of regional variation, the outcomes have been compared for various regions of Fryslân to determine whether there are any regional differences in the use of the tested plurals.

### *3. Hypotheses*

Inflectional morphology is believed to be affected by language contact less easily than derivational affixes (according to derivational scales, e.g. Thomason and Kaufman 1988: 74-75). The intense language contact situation must be held responsible for the fact that there are various morphological interferences from Dutch in present-day spoken Frisian. Frisian diminutive formation, for instance, is known to be affected by Dutch. Additionally, Dutch can affect Frisian verbal morphology (e.g. De Haan 1997). The initial state of borrowing is normally in the form of single words. These words may contain derivational or inflectional affixes or other morphological formative features from the donor language. When many single words have been borrowed, the affixes or morphological patterns, represented in the loan words can gain a productivity in the recipient language that goes beyond the stock of single loan words, or replace indigenous morphological structures. That is the point where lexical borrowings turn into grammatical borrowings. In the light of the evidently intense language contact between Frisian and Dutch, Frisian plural

formation is likely to be affected by Dutch as well. However, such interferences may be less salient than in case of diminutive formation due to entirely overlapping suffixes, namely *-en* and *-s*. Their application may differ, i.e. some Dutch words require *-en* whereas their Frisian pendants ask for *-s* or vice versa. Accordingly, the suffixes *-en* and *-s* can often be used with the same noun, whereby a possible shift in Frisian towards the commonly used Dutch suffix may be difficult to separate from a purely language-internal shift. This would be different in case of irregular Dutch plurals, formed by means of a vowel alternation, which are absent in Frisian. In such cases, the short vowel in the singular is substituted by a long vowel in the plural, e.g.

Dutch: *slot* /slɔt/ ‘(pad)lock; castle’ - *sloten* /slo:tən/ ‘(pad)locks; castles’;  
Dutch: *schip* /sxɪp/ ‘ship’ - *schepen* /sxɛ:pən/ ‘ships’.

In Frisian, vowel lengthening in the plural is uncommon and only happens in (historical) borrowings (e.g. *god* ‘god’ /gɔt/ - *goaden* /go.ədn/, *lid* /lɪt/ ‘member, lid, limb’ - /le:dn/). Although the Frisian language does have numerous contemporaneous irregular plurals as well, many equivalents of Dutch plurals formed by vowel alternation are fully regular in Frisian:

Frisian: *slot* /slɔt/ ‘(pad)lock; castle’ - *slotten* /slɔtən/ ‘(pad)locks; castles’  
Frisian: *skip* /skɪp/ ‘ship’ - *skippen* /skɪpən/ ‘ships’.

Even though Dutch irregular plurals can be expected to appear in spoken Frisian as lexical items, we hypothesize that the borrowability of these words is not a purely lexical issue, but interacts with various factors of the Frisian grammar, including morphological ones.

This study of various plural variants is based on the outcomes of a broad investigation among speakers of Frisian (see Chapter 2), where the following representative items were elicited:

- 1) *dak/daken* /a:/ (Dutch: *daken*) instead of *dakken* /a/ ‘roofs’;
- 2) *skip/skepen* /e:/ (Dutch: *schepen*) instead of *skippen* /ɪ/ ‘ships’;
- 3) *slot/slotten* /o:/ (Dutch: *sloten*) instead of *slotten* /ɔ/ ‘(pad)locks; castles’ (in our case: padlocks);
- 4) *gat/gaten* /a:/ (Dutch: *gaten*) instead of *gatten* /ɔ/ ‘holes’.

An additional item included in the study is the plural of the noun ‘sheep’, which is irregular in (Standard) Frisian (*skiep* - *skiep*) and fully regular in Dutch (*schaap* - *schapen*). However, the regular plural variant of ‘sheep’, *skiep(p)en* has already been reported in spoken Frisian (see further in the text; Fig. 1), possibly resulting from language contact or internal analogy. In

case of the former, the other possible outcome would be *skapen*, which is also included and tested in this study. Such a scenario, where only one of the two items (sg./pl.) is borrowed, is not entirely imaginary. In some parts of Fryslân, people use the Dutch loanword *gâns* ‘goose’ in the singular, but the Frisian form *guozzen* ‘geese’ in the plural (cf. Versloot 2020: 429).<sup>7</sup>

We tested the likelihood of such borrowings expressed in their frequency of use by the speakers in the survey for the following factors:

- 1) Paradigm alternation: alternation type and type frequency (see Table 3);
- 2) Phonotactics: phonotactic constraints and their frequencies (see Table 4);
- 3) Analogical attraction (form similarity between Frisian and Dutch in singular, strengthened by absolute frequencies; cf. Versloot and Hoekstra 2017; see Table 5 and Table 6);
- 4) Relative frequency of the plural (see Table 6).

Table 3. *Paradigm alternation.*

<i>Singular</i>	<i>Standard Frisian</i>	<i>Tested borrowing</i>	<b>Alternation in case of a borrowing</b>	<b>Alternation type valid in Frisian?</b>	<b>Alternation type valid in Dutch?</b>	<i>Analogical cases in Frisian plurals (frequency)</i>	<i>Analogical cases in Dutch plurals (frequency)</i>
dak 'roof'	dakken (regular)	<b>daken</b>	<b>ɑ -&gt; a:</b>	<b>yes</b>	<b>yes</b>	<b>1 (bad -&gt; baden)</b>	<b>&gt;10</b>
skip 'ship'	skippen (regular)	<b>skepen</b>	<b>ɪ -&gt; e:</b>	<b>yes</b>	<b>yes</b>	<b>1 (lid -&gt; leden)</b>	<b>&lt;10</b>
slot 'padlock'	slotten (regular)	<b>sloten</b>	<b>ɔ -&gt; o:</b>	<b>no</b>	<b>yes</b>	-	<b>&gt;10</b>
gat 'hole'	gatten (regular)	<b>gaten</b>	<b>ɔ -&gt; a:</b>	<b>no</b>	<b>no</b>	-	-
skiep 'sheep'	skiep (irregular)	<b>sk <u>ap</u> en</b>	<b>i.ə -&gt; a:</b>	<b>no</b>	<b>no*</b>	-	-
		sk <b><u>iep</u>(p)en</b>	<b>i.ə -&gt; ji/i.ə</b>	<b>yes</b>	<b>no*</b>	<b>Multiple examples of the Frisian breaking</b>	-

\* The combinations /i.əp/ and /jɪp/ do not exist in Dutch.

**Example:**

The singular *dak* has a regular plural *dakken* in Standard Frisian, but *daken* with /a:/ in Dutch. Borrowing of the irregular Dutch plural will result in a Frisian sg.-pl. alternation *ɑ -> a:*: an alternation type that is found elsewhere both in Frisian and Dutch. This concerns just one analogical case in Frisian

7. Another example is the plural of *lid* ‘limb; member’ developed into *lea* through regular sound change (< OFri. *litha*) and was replaced by the Dutch plural form *leden* ‘members’, or *lidden* ‘limbs’ by internal analogy. In the latter example, *lid* is homophonous in Frisian and Dutch.

(*bad* -> *baden*), whereas in Dutch there are multiple (>10) analogical cases that include the a -> a: alternation type (ANS: Haeseryn et al. 2019).

Table 4. Phonotactic constraints.

			Vowel/ diphthong- consonant combination in case of a borrowing	Vowel/ diphthong- consonant combination valid in Frisian?	Vowel/ diphthong- consonant combi- nation valid in Dutch?	Analogical cases in Frisian plurals (frequency)	Analogical cases in Dutch plurals (frequency)
<i>Singular</i>	<i>Standard Frisian</i>	<i>Tested borrowing</i>					
dak 'roof'	dakken (regular)	<b>daken</b>	<b>a:k</b>	yes	yes	>10	>10
skip 'ship'	skippen (regular)	<b>skepen</b>	<b>e:p</b>	yes	yes	<10	>10
slot 'padlock'	slotten (regular)	<b>sloten</b>	<b>o:t</b>	no	yes	-	>10
gat 'hole'	gatten (regular)	<b>gaten</b>	<b>a:t</b>	yes	yes	>10	>10
<i>skiep</i> 'sheep'	<i>skiep</i> (irreg- ular)	<i>sk <b>ap</b> en</i>	<i><b>a:p</b></i>	yes	yes	<10	>10
		<i>sk <b>iep</b> (p)en</i>	<i><b>jp/i.əp</b></i>	yes	no*	<i>is the diminutive form of skiep as a result of the Frisian breaking.</i>	-

\* The combinations /i.əp/ and /jp/ do not exist in Dutch.

**Example:**

The singular *dak* has a regular plural *dakken* in Standard Frisian, but *daken* in Dutch, with the vowel/consonant combination /a:k/. Borrowing of the irregular Dutch plural will result in /a:k/ combination in Frisian as well: a combination type that is found elsewhere both in Frisian and Dutch (in both languages, there are multiple analogical cases [>10] that include /a:k/ in the plural).

Table 5. Form similarity between Frisian and Dutch.

<i>Noun</i>	<b>Frisian</b>	<b>Dutch</b>	<b>Difference</b>
roof	dak /dak/	dak /dak/	-
ship	skip /skɪp/	schip /sxɪp/	1 phoneme
(pad)lock	slot /slɔt/	slot /slɔt/	-
hole, gap	gat /gɔt/	gat /xat/	2 phonemes
sheep	skiep /ski.əp/	schaap /sxa:p/	2 phonemes

**Example:**

The singular form of ‘roof’ is identical in Frisian and Dutch (/dak/), whereas the singular of ‘ship’ is not. Although similar in form, the Frisian /skip/ and Dutch /sxip/ differ by one phoneme: k/x.

The short vowel /a/, as in /dak/, may slightly vary for Frisian (generally indicated as [a]) and for Dutch ([ɑ]). However, the studies on Frisian phonetics have been limited so far and the exact pronunciation of various sounds is yet to be examined. In our field survey, we observed that Frisians frequently prolong the short vowels in closed syllables. In such cases, the vowel /a/ is pronounced as [ɑ:] and not as [a:], suggesting that the difference between /a/ in Frisian and Dutch in closed syllables may be rather subtle and possibly varying for different regions and, accordingly, that the differentiation between [a] and [ɑ] in this case may not be fully justified. While preceding coronals, the Frisian /a/ is generally pronounced as [ɔ], with bad being one of the exceptions.

Table 6. Token frequency.

Plural	Frisian	Absolute frequency PL	Proportional PL-frequency
roofs	dakken	133	11%
ships	skippen	1082	22%
(pad)locks	slotten	56	3%
hole, gaps	gatten	655	21%
sheep	skiep	1192	67%

**Explanation:**

The plural *dakken* is attested 133 times in the Frisian Language Corpus (TDB: Taaldatabank), including sub-corpora for Modern and Early Modern Frisian. These 133 tokens constitute 11% of all tokens of the lemma *dak* in the corpus.

In general, we can expect that positive/attested alternation type (Table 3) and vowel/diphthong-consonant validity (Table 4) will positively affect the borrowability of Dutch irregular plurals, thus increasing the chance that they will be used in spoken Frisian. The more similar in singular form (Table 5), the higher the chance that the Dutch plural will be analogically applied. Finally, the less often the tested nouns are actually used in the plural as a

result of interrupted L1-acquisition (De Haan 1997; Table 6), the higher the chance that they will be replaced by their Dutch equivalents. Accordingly, our predictions are as follows (see also Table 7):

/a/ → /a:/ sg *dak* ‘roof’ → pl *dakken* (Frisian) or *daken* (Dutch interference)

Replacing the short vowel /a/ by the long /a:/ would fit the Frisian morphology and phonotactics, even if there is only one example showing such a vowel alternation in a Frisian noun plural. This concerns the noun *bad* ‘bath’, which is arguably a historical borrowing (*bad* /bat/<sup>8</sup> → *baden* /ba:dən/). Moreover, there are multiple Frisian plural nouns that include /a:k/ in both singular and plural, e.g. *saak/saken* ‘case(s)’, *taak/taken* ‘task(s)’, *ôfspraak/ôfspraken* ‘appointment(s)’. Although not undergoing any vowel alternation in plural formation, these plurals contain the same rime as *daken* (cf. Table 4). The alternation itself is valid in both Frisian and Dutch (although much more common in the latter; see Table 3). There are two more factors that contribute to the likeliness that the borrowing will occur in spoken Frisian: the Frisian and Dutch ‘roof’ are identical in their singular forms (*dak*; see Table 5), whereby the token frequency of the plural is quite low (Table 6).<sup>9</sup>

/ɪ/ → /e:/ sg *skip* ‘ship’ → pl *skippen* (Frisian) or *skepen* (Dutch interference [Dutch: *schepen*])

As in case of the /a/ → /a:/ alternation, there is only one Frisian example showing an /ɪ/ → /e:/ shift, namely the historical borrowing *lid* → *leden* ‘member(s)’.<sup>10</sup> Also, similarly to *daken*, there are other Frisian plural nouns showing the same vowel-consonant combination in the plural as (*skip*)/*skepen*, like *greep/grepen* ‘grip(s)’, *reep/repen* ‘strip(s); bar(s)’, *streek/strepen* ‘stripe(s)’.<sup>11</sup> However, there are fewer corresponding combinations while compared to the previous potential interference and they are usually

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8. If originally Frisian, the noun *bad* would be pronounced as \*[bət]; cf. Popkema (2006: 64, Tiersma 1999: 36).
  9. The word *dak* is a 19th century borrowing from Dutch, partly replacing the inherited form *tek* which was specialized in the meaning ‘thatched roof’. The regular Frisian plural form *dakken* underlines the word’s full integration in the native lexicon.
  10. The singular *lid* also means ‘limb’ and has the regular plural *lidden* in that particular meaning.
  11. All historical borrowings that are commonly used in contemporary Frisian; originally Frisian words: *gripe*, *reap*, *streek/stripe*.

less frequently used (Frisian Language Corpus). Additionally, the plural variant of *skip* is more frequently used than that of *dak*,<sup>12</sup> which suggests that it may be less susceptible to borrowing; high frequency words appear to be more resistant (e.g. Bybee 2001), except in some phonetic processes (assimilation or reduction; e.g. Hooper 1976; Phillips 2006). On that account, the interference *skepen* will probably be less common than *daken*, but it is still likely to occur.

/ɔ/ → /o:/ sg *slot* ‘lock’ → pl *slotten* (Frisian) or *sloten* (Dutch interference)

The potential Dutch interference *sloten* is likely to occur less often than both *daken* and *skepen* as it does not fit the Frisian phonotactics. Not only does Frisian lack the /ɔ/ → /o:/ alternation in a sg-pl pair, but the vowel-consonant combination *-oot* /o:t/ does not exist in Standard Frisian either. While both the long vowel /o:/ and the consonant /t/ belong to the Frisian phonological system, the combination [o:t] does not exist for phonotactic reasons. Frisian equivalents for Dutch words including /o:t/ usually contain a diphthong [o.ə]/[i.ə], which is absent in Dutch, e.g. Dutch *boot* = Frisian *boat* ‘boat’ or Dutch *sloot* = Frisian *sleat* ‘ditch’. Also in international words, which often come into the Frisian vocabulary through Dutch, the /o:/ is frequently substituted by /o.ə/, e.g. Dutch *piloot* → Frisian *piloat* ‘pilot’. The combination /o:t/ does not occur in Frisian,<sup>13</sup> except in *motor* ‘motor(cycle); engine’ ([ˈmo:tɔr], in older speech rather [mɔtɔr], still avoiding /o:t/<sup>14</sup>), *foto* [fo:to:] ‘photograph’ and, possibly, a few morphological borrowings from Dutch, e.g. the Dutch preterite of the verb *genietsje* (Dutch *genieten*) ‘enjoy’ - *genoot* (see Jongbloed-Faber 2014 and Jongbloed-Faber et al. 2017). However, as the latter concerns written use of Frisian on social media and no research has been done on the pronunciation of such potential borrowings yet, it is unclear whether *genoot* is pronounced with the vowel /o:/ as [gəno:t], following the Dutch pronunciation, or rather

12. Both absolute and proportional token frequency (cf. Hoekstra and Versloot [2019]); Frisian language database (for internal use).

13. The only exception is the loanword *petticoat* ‘petticoat’ (also spelled as *pettikoot*; pl *petticoats/pettikoots*), which is very rarely used and therefore not commonly known (not even present in the Frisian language corpus, only to be found in dictionaries). Additionally, this concerns a closed syllable. The combination /o:t/ does not occur in open syllables.

14. Cf. [https://taalweb.frl/wurdboekportaal/ebce0cc9-6119-429a-98f4-19ccfd8002dd?previous\\_search%5Bpage%5D=&previous\\_search%5Bq%5D=wynmot](https://taalweb.frl/wurdboekportaal/ebce0cc9-6119-429a-98f4-19ccfd8002dd?previous_search%5Bpage%5D=&previous_search%5Bq%5D=wynmot) or (accessed August, 31th 2020).

with the Frisian diphthong /o.ə/ as expected in the Frisian variant *genoat*: [gəno.ət]. The two syllable combination *-oten* [o:tɔ̃], as in the potential interference *sloten*, does not exist in Frisian

/ɔ̃/ → /a:/ sg *gat* ‘hole, gap’ → pl *gatten* (Frisian) or *gaten* (Dutch interference)

While all three previously mentioned irregular Dutch plurals have at least some likelihood to replace the Frisian variants in spoken Frisian, we consider the Dutch plural *gaten* to be highly unlikely to replace the Frisian form *gatten*. The singular noun *gat* ‘hole’ is spelled identically in both languages, but they sound differently. Besides the common difference in the pronunciation of the consonant /g/ in Frisian and Dutch (Frisian: [g], Dutch: [x/ɣ]), there is the difference in the pronunciation of the <a> of *gat*: [a] in Dutch against [ɔ̃] in Frisian. Accordingly, the potential interference \**gaten* in spoken Frisian would introduce a new vowel shift, [ɔ̃] → [a:], an alternation that does occur neither in Frisian nor in Dutch.<sup>15</sup> The combination /a:tən/ does exist in Frisian: *maat - maten* ‘friend(s)’, *kaart - kaarten* ‘card(s)’ (with mute <r>). *Gaten* itself occurs in Frisian only in one set phrase: *yn 'e gaten hâlde* ‘keep an eye on’. Hence, the form is certainly possible from a phonological and lexical point of view, but rather unlikely from a morphological perspective.

In addition to the irregular Dutch plurals, all displaying a stem vowel alternation, we examined the use of the regularized form of *skiep* ‘sheep’, *skieppen*, either resulting from language contact or internal analogy:

sg *skiep* ‘sheep’ → pl *skiep* (Frisian) or *skapen* (Dutch interference [regular: *schaap* → *schapen*] / *skiep(p)en* (Dutch interference or internal analogy)

Similar to English, the Frisian noun *skiep* has the same form in singular and plural (*skiep* → *skiep* ‘sheep → sheep’). This is one of the two exceptions where a Frisian noun does not change its form in plural, the other one being *bern* ‘child’. Such exceptions do not exist in Dutch (*schaap* ‘sheep’ →

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15. Only in Súdwesthoeke, the South West region, where generally more word variants corresponding to the Dutch vocabulary are used than in other parts of Fryslân (cf. Hof 1933), the pronunciation of *gat* possibly matches the Dutch articulation of the word. In the so-called Lytse Súdwesthoeke (including 't Heidenskip, Hemelum, Koudum, Molkwerum and Warns), the pronunciation [a] is a dialectal archaism.

*schapen*; *kind* ‘child’ → *kinderen*).<sup>16</sup> In case of *skiep*, the regular plural form would be *skiepen* [ski.əpɪ] or, more likely, *skieppen* [skjɪpɪ] as the Frisian diphthong /i.ə/ usually changes to /jɪ/ in the diminutive and the plural; *skiepkje* ‘(little) sheep’ is pronounced as [skjɪpkə] and not \*[ski.əpkə] (Frisian breaking; cf. Tiersma 1999: 17-20; Popkema 2006: 73-76; Visser 2002). Accordingly, such a plural form would perfectly fit the Frisian vocabulary and phonotactics and it can be expected in spoken Frisian. Additionally, its existence has already been confirmed (Goeman, Taeldeman and Reenen 2003; cf. Figure 1). The variant *\*skapen* is less likely to appear as the alternation *i.ə* → *a* is valid neither in Frisian nor in Dutch and would represent an instance of purely lexical borrowing (see Table 3).

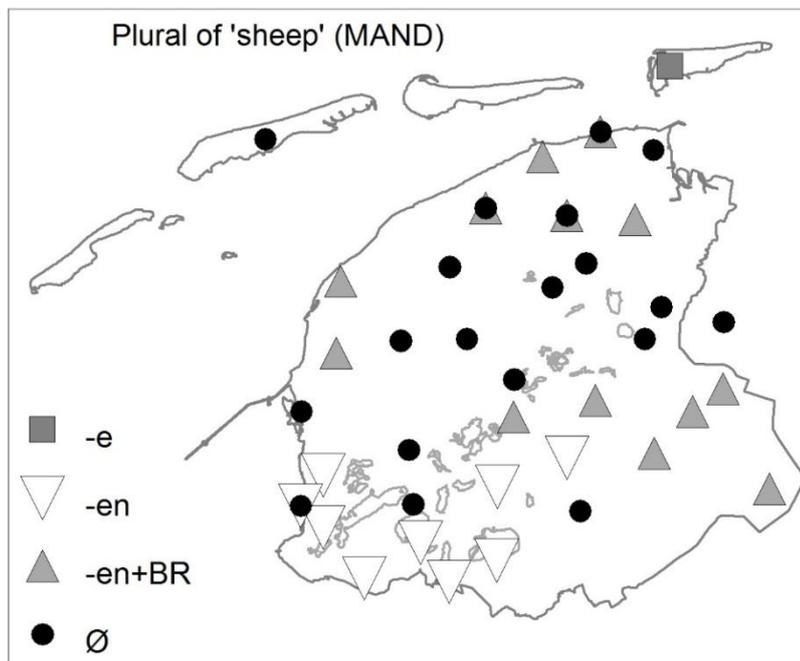


Figure 1. The regular plural *skieppen* according to MAND (Goeman, Taeldeman and Van Reenen 2003).

- +BR = with breaking of the rhot vowel: [skjɪpɪ];
- The plural without breaking ([ski:pɪ]) is found in the south-west of

16. Exceptions can be found in both languages in measure indication. Frisian *trije jier* ‘three years’, for instance, and Dutch *drie jaar* both have a regular plural in other syntactic contexts: *jierren*; *jaren*.

the province, because of the monophthong in the singular ([ski:p] instead of [ski.əp]), which is not sensitive to the process of breaking.

Table 7.

<i>Regular → irregular formation</i>	<i>Expected interference?</i>
<b>d</b> <u>a</u> k/ <b>d</b> <u>a</u> ken	<b>very likely</b>
sk <u>i</u> p/sk <u>e</u> pen	<b>likely</b>
sl <u>o</u> t/sl <u>o</u> ten	<b>unlikely</b>
g <u>a</u> t/g <u>a</u> ten	<b>highly unlikely</b>
sk <u>i</u> ep/sk <u>a</u> pen <i>or</i>	<b>highly unlikely</b>
sk <u>i</u> ep/sk <u>i</u> ep(p)en ( <i>regular formation</i> )	<b>likely</b>

The outcomes of three extra questions concerning plural forms that overlap with the Dutch plurals, will be presented in the results section and contrasted with the main results:

- 1) *helm* - *helmen/helms* ‘helmet, helmets’  
Both *helmen* and *helms* are regional Frisian variants. The former matches its Dutch equivalent (Dutch: *helmen*), without being a borrowing. Its similarity to Dutch, however, may cause doubts regarding its correctness in (Standard) Frisian;
- 2) *bad* - *baden* ‘bath, baths’  
In both Frisian and Dutch, the word *bad* shows an alternation in stem vowel between /a/ and /a:/. However, *bad* rarely occurs in the plural and, accordingly, participants may be unfamiliar with it and have doubts about the correct Frisian plural;
- 3) *bak* - *bakken* ‘bin, bins’  
*Bak* is very similar in form to *dak*, but follows the regular formation rules, with *bakken* (no vowel lengthening) being the only possible plural form in both Frisian and Dutch. It is not expected to be (wrongly) pronounced as *\*baken* (with /a:/ instead of /a/), but rather forms a control and reference question.

#### 4. Results

##### 4.1. Primary test items

The outcomes confirm most of the hypotheses (cf. Table 7 and 8). As anticipated, the Dutch plural *daken* ‘roofs’, following the stem vowel alternation /a/ → /a:/, turns out to be the most common borrowing among the tested items. More than 40% of the participants used it during the interviews: a percentage nearly as high as in case of the standard (regular) Frisian variant (*dakken*). This is rather remarkable, considering that *daken* is not mentioned as a common borrowing in the literature, where, otherwise, multiple types of possible borrowings are reported. The Dutch-based plural *skepen* ‘ships’ (/i/ → /e:/) seems to be a commonly used variant as well as almost 30% of the participants produced it during the interview, thus confirming our expectations. Also, as anticipated, the next following interference in terms of frequency is *sloten* ‘padlocks’ (/ɔ/ → /o:/), replacing the regular form *slotten*. In this case, the numbers are actually higher than expected, namely 20% - not even 10% lower than in case of *skepen*. This is surprising, given the fact that the vowel-consonant combination /o:t/ does not exist in Standard Frisian. Some participants (12% of the participants who used the Dutch borrowing) realized *sloten* not as [slo:tɲ], but as [slo.ətɲ], thus changing the Dutch vowel /o:/ into the Frisian diphthong /o.ə/, in accordance with the Frisian phonotactics.

Our expectations are also confirmed in the case of the Dutch plural *gaten* ‘holes, gaps’. We considered *gaten* unlikely to be implemented in the Frisian vocabulary as there is no analogical alternation /ɔ/ → /a:/, neither in Frisian nor in Dutch. Notably, none of the participants used the Dutch plural *gaten*, even though *gaten* does appear in Frisian in a figurative way: *yn 'e gaten hâlde* ‘keep an eye on’. Very rarely, the Frisian plural *gatten* [gɔtɲ] was pronounced as [gatɲ], which is possibly a phonological interference from Dutch (sg [gat]; Frisian: [gɔt]). However, this phenomenon is marginal (1%). More interestingly, we noticed that Frisian vowels only known to be short, were often prolonged during the interview in both singular and plurals nouns (e.g. [da.k], [da.kn], [gɔ.tn]).<sup>17</sup> However, since the same participant could pronounce such vowels both in a short and a prolonged form, we assume that their realization is determined by prosodic factors, which seems to be more often the case in Frisian (see Visser 1997; Sloos, García and Van de Weijer [submitted]).

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17. *daak* is also attested in the dialect of Molkwerum/Molkwar in 1856 (Miedema 1983).

Table 8. Results.<sup>18</sup>

Plural		Frequency	Percentage
	<i>roofs</i>		
<i>Frisian plural</i>	<b>dakken</b>	94	<b>56%</b>
<i>Dutch interference</i>	<b>daken</b>	73	<b>44%</b>
		167	100%
	<i>ships</i>		
<i>Frisian plural</i>	<b>skippen</b>	105	<b>72%</b>
<i>Dutch interference</i>	<b>skepen</b>	41	<b>28%</b>
		146	100%
	<i>padlocks</i>		
<i>Frisian plural</i>	<b>slotten</b>	132	<b>80%</b>
<i>Dutch interference</i>	<b>slo(a)ten</b>	34	<b>20%</b>
		166	100%
	<i>holes, gaps</i>		
<i>Frisian plural</i>	<b>gatten</b>	172	<b>100%</b>
<i>Dutch interference</i>	<b>gaten</b>	0	<b>0%</b>
		172	100%
	<i>sheep</i>		
<i>irregular Frisian plural</i>	<b>skiep</b>	156	<b>91%</b>
<i>regularized form</i>	<b>skiep(p)en</b>	15	<b>9%</b>
		171	100%

The last of the tested items reflects the change from an irregular (endingless) plural, *skiep* ‘sheep’, into a regularized form, *skie(p)pen*. In line with our hypotheses, the variant *skapen*, more resembling the Dutch *schapen*, did not appear during the interview. Therefore, we can conclude

18. We tested the most relevant contrasts in a Fisher’s Exact Test: *dakken* x *skippen*:  $p < 0.01$ ; *skippen* x *slotten*:  $p = 0.14$ ; *slotten* x *gatten*:  $p < 0.001$ ; *slotten* x *skiep*:  $p < 0.01$ ; *gatten* x *skiep*:  $p < 0.001$ . This means that only the contrast between *skippen* and *slotten* is not statistically significant, but the observed bias complies with the direction that we hypothesized.

that it is not or only incidentally used in spoken Frisian. Other than anticipated, however, the regularized form *skie(p)pen* seems not to be very frequent either as only 9% of the participants chose to use it. That is in contrast with previous findings suggesting that the regularized form *skieppen* is widely used in spoken Frisian (Goeman, Taeldeman & Reenen 2003), although our outcomes do confirm its existence. The pronunciation of *skieppen* as [skjipm̩] (with Frisian breaking; > 60%) was dominant, but the variant [ski.əpm̩] (without breaking) was also quite common.

As the results show, language contact with Dutch leads to more variation in Frisian plural formation with both Frisian and Dutch variants being used. In all the mentioned examples in Table 8 (in particular *dak*, *skip*, *slot*, *gat*) the new form is unambiguously a loan from Dutch.

#### 4.2 Bin, bath and helmet: control questions

Next to the noun *dak* ‘roof’, which shows a clear change in its plural formation (*dakken* → *daken*), the noun *bak* ‘bin’ has been tested. While being very similar in form, *bak* displays only the regular plural formation in both Frisian and Dutch (*bakken*; see also Section 3). This is reflected in the interviews, as none of the participants used the plural variant *\*baken* – *\*/ba:kən/*, which would point at an analogical plural formation, insufficient language proficiency or both. This result confirms that *daken* is an obvious borrowing from Dutch, resulting from bilingualism. In case of the noun *bad*, on the other hand, the irregular plural *baden* should be expected in both Frisian and Dutch. However, as mentioned before, *bad* is rarely used in the plural. This is also confirmed by our results. Most participants were unsure about the correct plural and stated that they never used it. This uncertainty led to many “mistakes” as 25% of the participants used a regularized form *badden*, which is a reverse process compared to *dak* - *daken* and the other tested plurals. While clearly resulting from a very low frequency,<sup>19</sup> *badden* arguably fits better in with Frisian than with Dutch morphology, since the former has considerably fewer irregular plurals with a lengthened vowel. About 30% of the respondents who chose for the regular plural, pronounced it as [bat̩] instead of [bad̩], analogically to the singular form that undergoes final devoicing (*bad* [bat]) and thus following the plural formation pattern as in e.g. *rot* ‘rat’ [rɔt] - *rotten* [rɔt̩]. Another observation about *bad* is that nobody realized it as [bɔt]. That should otherwise be

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19. Matching the results by Versloot & Hoekstra (2017) that show a correlation between frequency and attraction (the lower the frequency, the lower the attraction - in this case from Dutch *baden*).

expected given the fact that in Frisian, /a/ is commonly pronounced as [ɔ] before coronals, e.g. *kat* ‘cat’ [kɔt] (Dutch: [kat]), *man* ‘man’ [mɔn] (Dutch: [man]). This suggests that *bad* was apparently only borrowed after the application of the sound change and has not been fully adjusted to the Frisian phonotactics.<sup>20</sup>

In case of the noun *helm* ‘helmet’, its plural form *helmen*, which is identical for both languages, is the preferred variant used by ca. 3/4 of our participants. Previous results, however, showed a virtually equal frequency of *helmen* and *helms* with only a slight preference for the former (55% vs. 45%; Van der Veen et al. 1991). This is quite a big difference, most likely caused by language contact as well. We looked at another noun showing a similar variation in Frisian, which was also included in the linguistic questionnaire (prior to the interview): *earm* ‘arm’- *earms/earmen* (Dutch: *arm* - *armen*). In this case, however, the current results match the previous outcomes, showing a preference for the variant that differs from the Dutch plural (*earms*, 60%). The discrepancy between *helm* and *earm* can plausibly be explained in terms of frequency, with the latter being more frequently used than the former (especially in Frisian, which is rather confined to the spoken and private registers, where very few ‘helmets’ are found) and in terms of analogical levelling as the Frisian noun *helm(en)* fully matches its Dutch equivalent and *earm(en)* does not.

#### 4.3 Correlation and general patterns

The results show a significant correlation in the individual use of the three plurals formed by means of a vowel alternation (*daken*, *skepen*, *sloten*;  $p < 0.0001$ ). Apparently, speakers of Frisian are inclined to generalize this pattern and consequently apply the irregular plural formation as they would do in Dutch. However, as the results above already suggest, the occurrence of the various irregular plurals is not random but governed by various factors. For our three irregular plurals, the cline of decreased likelihood of borrowing is as follows:

DAKEN → SKEPEN → SLOTEN (→ \*GATEN).

If a speaker happens to use only one of these variants, it is most likely to be *daken* (cf. Table 9). The probability of someone saying *skepen* or *sloten*

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20. A similar phenomenon can be seen with the loss of /t/ before the same consonants as for the /a/-[ɔ]-rule: younger loanwords tend to keep the /t/ in these positions, such as in *sport*, pronounced [sport].

without using at least one of the other variants is much lower. Additionally, at least half of the participants who used the variant *skepen* or *sloten*, also used the two other irregular plurals (cf. Table 9). This pattern is common for the whole province, meaning that Dutch irregular plurals can easily be used anywhere in Fryslân, with only limited geographical variation. In the South-Western region (Súdwesthoeke), the irregular plurals seem to be less frequent than in other parts of the province, with a significant difference compared to the Eastern part (De Wâlden; 23% vs. 35% for *daken*, *skepen* and *sloten*).<sup>21</sup> This seems also to be true for the North-Eastern region (Noardhoeke), however, the number of participants living in that region was not sufficient to fully substantiate it.

Table 9. Number of irregular plurals used during the interviews by informants.

Nr. of irregular plurals		frequency	percentage
	lemmas		
1	<i>daken</i>	23 n	32%
1	<i>skepen</i>	3	4%
1	<i>slo(a)ten</i>	3	4%
2	<i>daken, skepen</i>	14	20%
2	<i>daken, slo(a)ten</i>	6	8%
2	<i>skepen, slo(a)ten</i>	3	4%
3	<i>daken, skepen, slo(a)ten</i>	19	27%
Total		71	100%

Interestingly, there is also a significant relation between the use of the irregular variant *sloten* ‘padlocks’, and the Frisian variant *helmen* ‘helmets’ corresponding to the Dutch plural *helmen* (the other one being *helms*), and the irregular plural *baden* ‘baths’ as opposed to the regularized form *badden*: participants who used the variants *slotten* and *helms*, chose more often for the regularized variant *badden* than participants who chose for *sloten* and *helmen* and who gave strong preference to the (default) irregular variant *baden*.

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21. For the South-Western region, these results are quite surprising as the dialects of this region are generally known to have more Dutch elements than the other Frisian dialects (e.g. Hof 1933).

### 5. Conclusion and discussion

The outcomes of the analysis confirm that irregular Dutch plurals are used in present-day spoken Frisian and that various factors - morphological paradigm schema, formal similarity with Dutch and type frequency (cf. Section 2) - play a role in their borrowability. Phonotactic factors seem to be the only exception as the /o:t/ combination in the irregular plural *sloten*, not matching Frisian phonotactics, does not appear to be a borrowing restriction. The variant *sloten* occurs less often than *daken* and also less often than *skepen* ‘ships’. The frequency difference with the latter, however, is rather small and not statistically significant. There are two potential explanations: first, both the absolute and proportional token frequency of the plural of *slot* are lower than for *dak* en *skip*, and second, the plural *sloten* is hardly used at all (Frisian language database). This is confirmed by our participants who often had doubts when asked about the plural of *slot*. In order to avoid it, many of them used the plural of its diminutive form: *slotsjes* (Dutch: *slotjes*) ‘little padlocks’ instead, which is easier to form and virtually the same in Frisian and Dutch. The relatively frequent occurrence of *sloten* in Frisian can also point at the fact that /o:t/ is (no longer) perceived as un-Frisian, which may result from other existing loan-words including /o:t/, such as *motor* ‘motorcycle’, *foto* ‘photograph’, but also *genoot* foar *geniete* ‘enjoyed’. The spread of these borrowings has not been properly investigated yet (e.g. do speakers of Frisian pronounce *genoat/genoot* ‘enjoyed’ as [genoːət] or [geno:t] and are there any other words including /o:t/ resulting from [most likely morphological] borrowings from Dutch), so more research is needed to confirm this. Regardless, the low frequency of the plural form *sloten* most likely contributes to its borrowability.

The paradigm alternation seems to be decisive for the possible occurrence of a borrowing and, accordingly, a good predictor of which innovative plurals can actually be implemented into the Frisian vocabulary. Since the vowel alternation /ɔ/ → /a:/ does not appear in any other inflectional or derivational processes, neither in Frisian nor in Dutch, the Frisian noun *gat* [gɔt] ‘hole, gap’ seems to resist the adoption of [ga:tɳ] in the plural, even though the word variant [ga:tɳ], in the idiomatic expression *yn 'e gaten hawwe* ‘to notice’, exists. In this expression, *gaten* is apparently perceived as a figurative element, rather than a noun plural. The other tested plurals do match an existing sg-pl-alternation and, accordingly, can occur in spoken Frisian. The regularity of their occurrence, however, depends on factors as form similarity between Frisian and Dutch and frequency. The noun *dak* ‘roof [sg]’, for instance, is exactly the same in Frisian and Dutch. It is not

very often used in the plural (Frisian: *dakken* / Dutch: *daken*; cf. Table 6), which increases the chance that it can be affected by language contact. Additionally, the irregular Dutch plural *daken* has a lot of analogical word-forms (more than the other plurals included in this research; cf. Table 3). Therefore, *daken* occurred more often during the interview than any other tested borrowed plural.

The regularized plural form of ‘sheep’, *skieppen*, as an alternative variant to the irregular *skiep*, does not seem to be very frequently produced (<10%). In the singular, the Frisian noun *skiep* is quite different from its Dutch equivalent *schaap* (see also Table 5). The frequency of its plural is (slightly) higher than the frequency of the other tested plurals and, additionally, ‘sheep’ occurs more often in plural than in singular (proportional frequency; Table 6), thus contributing to its stability. However, we do not want to exclude the possibility that the regular form *skieppen* occurs more often in spontaneous speech as opposed to semi-spontaneous language use during the interview (cf. the MAND-data in Figure 1).<sup>22</sup>

To summarize, the research results show that:

- 1) Dutch irregular plurals are quite commonly used in spoken Frisian. However, not all of them can (easily) be included into the Frisian vocabulary as:
- 2) different factors can affect their borrowability. Additionally,
- 3) there is an interdependency between their use.

In general, speakers tend to use more than just one of such plurals, meaning that the irregular formation is applied in quite a consistent way. Both the overall figures as well as the individual choices are in line with the borrowability cline as presented in Table 7. However, more research including a bigger number of irregular Dutch plurals will be needed to fully examine this process, together with its geographical implication and its relation to the use of other plurals in Frisian, which may or may not resemble their Dutch equivalents. Additionally, more attention should be paid to the influence of Dutch on Frisian plurals ending in the choice for *-s* or *-en* (such as *helm*) and to the prolonged pronunciation of the short vowel /a/ in spoken Frisian.

While Dutch plurals in Frisian can potentially be regarded as lexical rather than grammatical interferences, meaning that single words are bor-

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22. The MAND-data were collected in interviews, using a list with Standard Dutch words, which may have triggered the use of the *-en*-plural in *skieppen*.

rowed instead of derivational rules, there are a couple of arguments to claim that such borrowings are grammar-related in speakers' perception. First, in case of purely lexical borrowings, influence of phonotactics can be expected. In our case, phonotactics turns out not to be a strong factor. Second, since the investigated plural forms are irregular in Dutch as well, we cannot expect this pattern of vowel lengthening in the plural to become productive in Frisian. However, given the fairly consistent use of these forms (cf. Table 9), we can conclude that many speakers implemented this type of plural formation as a lexicon-based schema (e.g. Bybee 1995), rather than random single word implementations, which would be in line with the interpretation of purely lexical borrowings. Additionally, the word form *gaten*, already existing in Frisian as a lexical item, was entirely ignored by the informants in this survey, pointing away from a purely lexical basis for the borrowings. The lack of a borrowing *\*skapen* implies, moreover, that paradigmatic relations are relevant, which would be less so in the case of isolated lexical borrowings (paradigmatically asymmetrical borrowings are otherwise fundamentally possible, e.g. *gâns* 'goose' [Frisian: goes, Dutch: gans] - *guozzen* 'geese' [Dutch: ganzen]).

Although the tested borrowings are initially lexicalized plural forms (as they are in Dutch, judging by their irregularity and unpredictability), their borrowability in Frisian is controlled by various factors, whereby two of them (2 and 3) are grammatical, rather than purely lexical:

- 1) frequency of use (both relevant for the input of the Dutch form and the stability of the Frisian one);
- 2) formal overlap between the Dutch and Frisian singular, triggering the adoption of the corresponding Dutch paradigmatic plural form;
- 3) existing patterns of plural pairs in Frisian itself, blocking singular-plural pairs that violate too many constraints of Frisian grammar.

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