The use of HEAPS as quantifier and intensifier in New Zealand English

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The use of HEAPS as quantifier and intensifier in New Zealand English[1]

This paper documents novel uses of the noun *heaps* in New Zealand English, namely as quantifier and intensifier, by means of quantitative and qualitative analyses of corpus data. Closely following in the footsteps of *lots*, *heaps* is the second most frequent size noun in New Zealand English. On the basis of exhaustive coding of four corpora of New Zealand English (spoken and written), the paper describes and exemplifies the various uses of *heaps* in this English variety. Results show *heaps* is preferred in speech compared to writing, and that its most common use is as quantifier, followed by an extension to an intensifying use, which has received comparatively less attention in the literature (and never specifically in the context of New Zealand English). An examination of early New Zealand English in the *ONZE Corpus* testifies to this incoming change, with *heaps* grammaticalizing into an adverb and bearing the semantic role of intensifier. Multivariate statistics tests show that innovative uses of *heaps* are largely driven by younger speakers.

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1. Introduction

This paper concerns the use of the size noun *heaps* in New Zealand English, as illustrated in examples (1)-(3) below from the *Wellington Corpus of Spoken New Zealand English* (Holmes et al. 1998).

(1) we're RIGHT up in the back corner <laughs> and at <title> the oak </title> last night there was **HEAPS of seats left** they only filled the middle aisle
(WSC Spoken, DPC232)

(2) and i went up there and i got a job with a cocky <sniffs> mustering that's quite good **learned heaps** <loud noise> eh i went along there and i didn't know anything
(WSC Spoken, DPC243)

(3) and um it took them **HEAPS HEAPS longer** cos you know how if you just have one person doing it
(WSC Spoken, DPC264)

In example (1), *heaps* is used to denote a particular quantity of seats, which the speaker wishes to emphasize as being large. The hyperbolic nature of the use of *heaps* is made especially salient by means of the focus stress placed on the word (indicated in the transcript by the capital letters). In example (2), *heaps* is used to intensify the nature of the learning process described, and although it does not bear focal stress, it is followed by the tag "eh", a frequent solidarity marker in New Zealand English (Holmes 1982, Meryerhoff 1991, 1994), which allows a momentary pause of reflection over the intensifier and the verb it modifies.

[1] I thank Sally Harper for help in coding the examples containing *heaps* in the two Wellington corpora, Paul James for pointing out the unusual ways in which New Zealand English uses *heaps*, Liam Walsh for his guidance in accessing the Quake Corpus and the ONZE Miner corpora, and the NZ Linguistics Society 2016 conference audience members for valuable comments and feedback. Finally, I am grateful to the two anonymous referees and the journal editor, Laurel Brinton for insightful and meticulous suggestions. Any remaining errors are my own.

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Finally, in (3), *heaps* is used to emphasize the lengthy amount of time that the particular task took (owing to only having one person involved). As in (1), *heaps* receives focal stress and is in fact uttered twice, the repetition further reinforcing the intensifying quality expressed.

According to Brems, *heaps* is "semantically similar" to another size noun, namely *piles*, at least in British English, American English and to some extent, Australian English (2011: 132). Despite being semantically similar, the two size nouns exhibit different selectional restrictions: *piles* is questionable as a replacement for *heaps* in (1)-(3), cf. (4-(6), respectively.

(4) … last night there was ?**piles/ lots of seats left** they only filled the middle aisle
(5) that's quite good **learned *piles / lots** <loud noise> eh
(6) it took them ***piles / ?lots / a lot longer** cos you know how if you just have one person doing it

The more widespread size noun *lots* appears to work well in (1) and (2), but arguably not as well in (3), where the only viable replacement for *heaps* is *a lot* (the singular form).

The examples in (1)-(3) suggest that the use of *heaps* in New Zealand English differs from previous accounts of (this and other) similar size nouns in other varieties of English. Brems (2011: 150) discusses such extensions of use of various size nouns (including *heaps*) with reference to Australian English (from the *Collins Wordbank*) and De Clerck and Brems (2016: section 4 onwards) discuss such extensions with reference to British English (*British National Corpus*) and American English (*Corpus of Contemporary American English – COCA*). As *heaps* is particularly associated with Australian English (Brems 2011: 145) and New Zealand English (Smith 2009: 159), it makes sense to investigate its use in more detail in such varieties. The current study investigates extensions of *heaps* to different functions in New Zealand English and addresses three questions:

(1) What types of extensions in the use of *heaps* are found in New Zealand English and how widespread are they?
(2) What process has given rise to this use?
(3) Who (what type of speaker) is driving it?

2. Head nouns, Size nouns and Evaluative Nouns

As discussed in Smith (2009), expressions of the type: *bags (of), bunches (of), lots (of), heaps (of)* appear in the literature under a number of labels, including, non-numerical quantifiers (Smith 2009), open class quantifiers (Quirk et al. 1985: 264), quantifying nouns (Biber et al. 1999: 252), number-transparent quantificational nouns (Huddleston and Pullum 2002: 349-350), non-partitive scalar quantificational nouns (Radden and Dirven 2007: 131), and relative quantifiers (Langacker 2010: 6). The most comprehensive study of quantifiers in English comes from Brems (2010, 2011, 2012) and here, I follow her terminology of "size noun" to refer to uses of *heaps* in New Zealand English.

In British English, size nouns have four main functions, according to Brems (2010). The first use is what she terms the "head noun" use, as exemplified from New Zealand English in (7) and (8).

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(7) This can be readily judged by the distribution of greenstone from its South Island sources, and the widespread presence of Mayor Island Obsidian - volcanic glass - in ancient village **rubbish heaps** hundreds of miles away from where it was quarried.

(WSC, Written, Fiction)

(8) … um they were very used to making hot beds and and of course hot beds are wonderfully exciting things to make because they can go wrong i've tried with er **a few heaps of er compost** and with a bit of animal manure thrown in and...

(WSC, Spoken, DGI038)

The crucial property of *heaps* as head noun is that it denotes a constellation or shape of a particular nature. The *New Zealand Oxford Dictionary* classes the word *heap(s)* as noun or verb (Deverson and Kennedy 2005: 498). As noun, it is listed as having three meanings:

1) a collection of things, lying haphazardly one on another,
2) (esp. in *pl*) *colloq*. a large number or amount (*there's heaps of time, is heaps better*)
3) *colloq*. an old or dilapidated thing, esp. a motor vehicle or building

However, even the first meaning listed above for the noun *heap(s)* in New Zealand English differs somewhat from the original meaning in the (British) *Oxford English Dictionary* as first attested c. 725 "A collection of things lying one upon another so as to form an elevated mass often roughly conical in form. (A heap of things placed regularly one above another is more distinctively called *a pile*)." (source: *OED Online*). The slight shift in definitions from a regular arrangement to a haphazard one might signal a shift in meaning by the time *heaps* reached New Zealand shores.

Syntactically, *heaps* acts as head of the noun phrase. In the examples above, *heaps* is modified by the noun *rubbish* (in 7), and by the quantifier *few* and the prepositional phrase *of compost* (in 8).

In contrast, compare its use in (9), where it expresses quantificational meaning, similar to that given in the earlier example (1). Here, it is no longer the head of the phrase, but rather a modifier of the head *power*.

(9) Much of its strength was right down towards the butt of the rod, giving it **heaps of that much needed lifting power** that is so essential for pulling stubborn fish out of deep water.

(WSC, Written, Skills trades and hobbies writing)

The analysis of *heaps* as modifier rather than head, in cases such as (9) is not without controversy. Its analysis as modifier is primarily made on the basis of verbal agreement patterns, namely the verb agrees with the noun following the preposition, not with *heaps* ("heaps of bags are empty" but "heaps of noise is reported by the media"). But not everyone is convinced by this argument. I return to this point in section 5, where the grammaticalization of *heaps* is discussed.

In addition to the functions of head noun and quantifier, a third function of *heaps* is that of a (negative) evaluative marker, as exemplified from Brems (2011: 146, example 4.58) in (10).

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(10) "We have a ranking of 92nd in the FIFA world lists. That's a depressing record." Jim Boyce Cliftonville was re-elected IFA president for the third successive year. "What a **heap of** *shit*."
(CW-Sunnow)

While such uses are found productively in other varieties of English for size nouns *lot(s) [of]* and *bunch(es) [of]*, evaluative *heaps* has been attested by Brems in only two examples in the *Collins Wordbank* (2011: 146).

A fourth function identified by Brems (2011) in relation to Australian English is that of adverb, as exemplified from the *Collins Wordbank* in (11) and (12), (from Brems 2011: 150, example 4.72 and 4.73).

(11) "My first Opals tour was really good and a real eye-opener", Alexander said. I **learned heaps**[2] although I didn't get much court-time.
(CW-OZnews)

(12) Those big leather-covered seats (electrically adjustable front and rear very rare), airbags, for both driver and front passenger, power sunroof, compact disc and **heaps more**[2] goodies.
(CW-OZnews)

She analyses *heaps* in (11) and (12) as having "adverbial functions, quantifying verbs, adverbs or (comparative forms of) adjectives" (2011: 150) but gives no further details of how widespread this use might be in (Australian) English, what verbs and adjectives *heaps* might occur with, or what process might have led to these uses.

De Clerck and Brems (2016: 170-171) provide a more detailed discussion of extensions of various size nouns to adverb uses in British English and American English, focussing on *load/lots*, *bunch, masses* and *heaps*. These uses involve not just size nouns modifying verbs, but also uses of size nouns in a number of different (but related) functions: with elliptical NPs, modifying (comparative) adjectives, and modifying adverbs, as given below (from De Clerck and Brems 2016: 170, examples 58, 49, and 54).

(13) elliptical NP
For 900 quid we're not talking about BCCI, are we? Yes, they will cost **heaps** to insure and sure, a big V12 will eat fuel, but let's be honest, the biggest single cost with any new car is depreciation, and you will not lose much sleep about that.
(CB-Times)

(14) modifying comparative adjective
If you are an experienced player... it's **heaps** easier to not get caught.
(COCA 1 2001 ACAD SportBehavior)

(15) modifying adverb
we must stand watch and pray! The days are evil. The nights a **heap** more so.
(COCA 2 1992 FIC Bk:House1000Corpses)

The only study of size nouns specifically in relation to New Zealand English is that by Smith (2009). He compares the use of various non-numerical quantifiers (his term for size

[2] The text bolding is not in the original but was added here for emphasis.

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nouns) across three varieties of English (New Zealand, Australian and British) with a focus on the quantifier *(a) lot(s) of* (a focus motivated by its high frequency). His data comes from the *ICE corpus* components for each of the three varieties. As regards *heaps of*, he notes that it is more frequent in New Zealand English and Australian English than in British English (Table 1, p. 166), that it is preferred in speech rather than writing (p. 165), and that it has the widest collocational range (Table 6, p. 171) (though no significance testing is reported for either of these measures).

3. Methods and data

The data analysed here comes from four different corpora of New Zealand English (NZE henceforth). The main uses of *heaps* are extracted from two corpora of NZE, containing one million words each, namely the *Wellington Corpus of Spoken New Zealand English* (WSC Spoken, Holmes et al. 1998) and the *Wellington Corpus of Written New Zealand English* (WSC Written, Bauer 1993). The diachronic use of *heaps* is investigated in the historical *ONZE Corpus* (Fromont & Hay 2007, Gordon et al. 2008). The *ONZE Corpus* comprises three spoken NZE sub-corpora: the *Mobile Unit*, the *Intermediate Archive*, and the *Canterbury Corpus*. The three ONZE sub-corpora consist of speech from speakers born between 1850 and 1985. A more recent corpus of spoken monologues from the *QuakeBox Corpus* (Walsh et al. 2013) was also consulted, but this did not yield many hits. The findings presented in sections 4-6 relate to the data from the *Wellington Corpora*, and the discussion in section 6 involves additional data from the *ONZE* and *QuakeBox Corpora*.

The *Wellington Corpora* were coded exhaustively with the help of AntConc (Anthony 2014) (searching for "heaps" and "heap") because the aim was to document all the instances of *heaps* and to compare its use across spoken and written language, and within various genres of these, from a syntactic and a sociolinguistic perspective. Once identified, all examples were manually disambiguated. Each use of *heaps* was coded for a number of factors: its grammatical function in the clause (head noun, modifying an adjective, modifying a verb, modifying a clause, and so on), its meaning, and for those uses involving [heaps+of+$NOUN_2$], each of the $NOUN_2$ items was coded for animacy (animate / inanimate), concreteness (concrete / abstract) and countability (count / mass).

For comparison, the *Wellington Corpora* were also exhaustively searched for *pile(s)* and *lot(s),* but given that these do not form the main focus of the paper, I report on findings related to them only when relevant to the discussion of *heaps* (in section 4).

The *Wellington Corpora* were then used in conjunction with GraphColl (Brezina et al. 2015), which is part of the software package LancBox, in order to investigate collocation patterns. Finally, given that the spoken corpus contains sociolinguistic information about the participants recorded, each use of *heaps* was attributed to a particular speaker profile (speaker's age, ethnicity and gender). All graphs and statistical analysis was conducted with R (R development Core Team 2009).

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4. *Heaps* in New Zealand English

This section documents the use of the size noun *heaps* in New Zealand English. First, I exemplify and comment on the three main uses of *heaps* found in the two *Wellington corpora* and then provide a quantitative analysis of the relative uses identified across the two million words investigated, followed by an analysis of the collocational patterns observed.

4.1 Uses of "heaps" in New Zealand English in the Wellington Corpora

The great majority of examples identified in the *Wellington Corpora* exhibited the plural form *heaps*, not the singular *heap*. Only 14 instances of *heap* were found, most of which occurred in the *WSC Written Corpus*, and of these, apart from two unclear uses, most examples involved a head noun use of *heap* denoting a constellation or shape, frequently followed by the word *compost*. In contrast, the plural form *heaps* occurred 171 times in the two million words analysed, with a great majority occurring in the spoken transcripts (165/171 in spoken NZE and 6/171 in written NZE).

A comparison between the various frequencies of *heap(s)*, *pile(s)* and *lot(s)* in the *Wellington Corpora* and the *Collins Wordbank* (mainly comprising British English, approx. 42 million words, but also some American English, approx. 10 million words, and Australian English, approx. 5 million words, cf. Brems 2011: 86) is given in Table 1. The table shows that while *pile*(*s*) and *lot*(*s*) have similar rates of occurrence in both varieties, *heap*(*s*) is more frequent in NZE compared to the other English varieties. This suggests that *heap*(*s*) requires further investigation in NZE. Moreover, while the *Collins Wordbank* exhibits higher uses of the singular form of *heap* and *pile*, the opposite is true of the *Wellington Corpora*. However, as regards *lot(s),* there is a preference in all corpora for the singular form *lot* over the plural *lots*.

Table 1. Frequency of "heap(s)", "pile(s)" and "lot(s)" in New Zealand English and British English

Form	Freq. per million words in *Collins Wordbank* (BrE, USE, AuE) (source: Brems 2011: table 4.1, p. 127)	Freq. per million words in New Zealand English
heap	6.1	7
heaps	2.6	85.5
TOTAL	8.7	92.5
pile	14.4	9
piles	4.2	22.5
TOTAL	18.6	31.5
lot	698.7	743
lots	89.3	120
TOTAL	788	863

Comparisons between speech and writing indicate that in agreement with claims made by Smith (2009), NZE exhibits a significant preference for *heaps* in spoken language compared to written language (χ^2 = 9.818, df=1, p=0.002). There is, however, a divide

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between *heap* and *heaps* across speech and writing, with spoken NZE favouring the plural form and written NZE the singular one, see Table 2. There is also a further difference between *heap*(*s*) and *pile*(*s*)*:* written NZE exhibits a preference for the singular form for *heap*(*s*) (*heap* rather than *heaps*) and spoken NZE prefers the plural one; this is not the case for *pile*(*s*), and in fact, both *pile* and *piles* are not common in speech. In other words, it appears that a certain amount of ground which is occupied by *heaps* in speech does not seem to be similarly matched by *piles.* I return to this point in section 5 where I discuss the grammaticalization of *heaps*, and further elaborate on the divergence between the uses of *heap*(*s*) and *pile*(*s*).

Table 2. Frequency of use of "heap" and "heaps" in different linguistic mediums (in NZE)

	Speech		Writing		Raw Totals	
	raw	percentage	raw	percentage	raw	
heap	4	29%	10	71%	14	185
heaps	166	97%	5	3%	171	
pile	5	28%	13	72%	18	63
piles	13	39%	32	71%	45	
lot	1244	84%	242	16%	1486	1726
lots	202	84%	38	16%	240	

The use of *heaps* as head noun and quantifier identified by Brems (2010) in British English and exemplified in (7)-(9) are also found in New Zealand English.

In addition to its main functions, NZE *heaps* appears in contexts where it denotes quantificational meaning but where it occurs without an overt "of $NOUN_2$" or "more $NOUN_2$". This use is what De Clerck & Brems (2016) term "elliptical NP" constructions; a label I also adopt here. The reference of the (missing) "of $NOUN_2$" is either recoverable from the surrounding con/co-text (as in 16 below), or remains vague but still interpretable (as in 17). In (16), the head noun *time* could be reasonably presumed to have been ellipted from the phrase *heaps of time*. However, in (17), it is less clear which noun is really ellipted (*heaps of lines*? *heaps of capitals*?), although the meaning is not unclear, as evidenced by the fact that the conversation carries on without any further clarification.

(16) MG: what what time are you <pause> setting your alarm clock for
AS: gosh two thirty eight
XX: **heaps** eh
AS: yeah (WSC, Spoken, DPC078)

(17) NT: yeah i'm just gonna do one line extra on the capitals
LK: there's supposed to be a hundred and four in there so there should be **heaps**
SN: yeah
NT: because
CR: oh is that what it was i couldn't remember whether those were a hundred oh this was….
(WSC, Spoken, DPC158)

De Clerck and Brems deem examples such as (16) and (17) noteworthy because the occurrence of the size noun around verbs and with no neighbouring $NOUN_2$ may "facilitate"

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further extensions in use (2016: 170). In these examples, *heaps* does not just designate quantificational semantics but also carries an intensificational overlay, signalling emphasis and increased magnitude.

The NZE data exhibit two further functions of *heaps*, in which its intensifier meaning takes precedence over a quantificational one, namely as general adverb and as degree adverb[3]. The distinction between general adverb and degree adverb is made on the grounds of what the size noun modifies; general adverbs modify verbs, degree adverbs modify other adverbs or adjectives. General adverb uses are illustrated in (18) and (19), and degree adverb uses are given (20) and (21).

In (18) and (19), *heaps* modifies the verbs *remind* and *hang out,* respectively, amplifying and intensifying their meaning(s). The preceding modifier of *heaps* "like real"[4] in (28) is a degree adverb, providing further evidence of its adverb role.

(18) AN: that um <pause> that his girlfriend <latch>
BL: **reminded** me **heaps** of pam <latch> <laughs> it was that bad
(WSC, Spoken, DPC261)

(19) JR: nah they've got nothing to do with <name of group>
VC: oh well how did they all meet up
JR: um well like there's there's that group there's like dean and angie and jackie and leon and i don't know if you know philip but this <pause> other guy philip they all went to <name of group> for about five years together and th those five always **used to hang out like real heaps** and they and they you know like they've all gone out with each other you know like angie's gone out with d
(WSC, Spoken, DPC254)

In (3, repeated here as 20), *heaps* modifies the adjective *longer* (where it can be replaced by *much*), and in (21) the adjective *stressful* (where it can be replaced by *very*). While (20) instantiates a comparative construction, (21) shows that *heaps* can also occur in non-comparative constructions. This further testifies to the fact that the size noun is becoming a canonical degree adverb.[5] What is more, the use of *heaps* as degree adverb is not confined only to spoken language, but it can also be found in written language (albeit only in one out of six examples, but this might be due to the overall low frequency of occurrence of *heaps* in writing more generally).

(20) and um it took them **HEAPS HEAPS longer** cos you know how if you just have one person doing it
(WSC, Spoken, DPC246)

(21) … cos um yeah jared's doing that um at um wainui <pause> he's a at riverdale he's got six weeks but he said it was **heaps stressful** and he was up bulk bulk late each night just you know preparing and stuff like that and i rang him <pause> <drawls> on um thursday and he'd gone to bed at eight forty five when i rang
(WSC, Spoken, DPC250)

[3] See www.calude.net/andreea/heaps.html for a complete list of examples.
[4] New Zealand English exhibits the reduced form "real" as degree adverb, see Quinn (2000) and Hay et al. (2008).
[5] I am grateful to one of the anonymous referees for making this observation.

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In its role as adverb, NZE *heaps* takes part in a number of idiomatic combinations, namely, *give someone heaps* meaning "to tease them or joke with them", and *get heaps* meaning "to be teased or to be taken the mickey out of"; see (22) and (23) respectively, or *get with heaps* "to engage in repeated sexual relations with someone". All these uses are informal and occur in colloquial speech. The *New Zealand Oxford Dictionary* also notes one of these idiomatic uses: *give (a person) heaps*, NZ and AUST *colloq*. oppose with vigour, criticize or rubbish severely.

(22) you move <laughs> and you get over there and i said NO and um he just used to **give him heaps** and stuff and then when he found out that i'd broken up with him

(WSC, Spoken, DPC120)

(23) PA: was bobby doing it this year
EM: yeah he's on he's on exec
PA: right that's where i've seen him <unclear> that's where he was
EM: yeah he was doing something on clubs day too i think recently
PA: oh haven't really seen for awhile
EM: he's in my cell group
PA: oh right
EM: he's the only guy he **gets heaps**
PA: are you the leader in it

(WSC, Spoken, DPC154)

Figure 1 summarizes the different functions of *heaps* identified in NZE and their frequencies of occurrence in the two *Wellington Corpora*. The figure shows that *heaps* occurs most frequently as a quantifier, general adverb, and degree adverb, and least frequently as head noun. The productive use as quantifier is in agreement with accounts given by Brems (2011) of the *Collins Wordbank Corpus* and Smith (2009) of the *ICE* corpora.

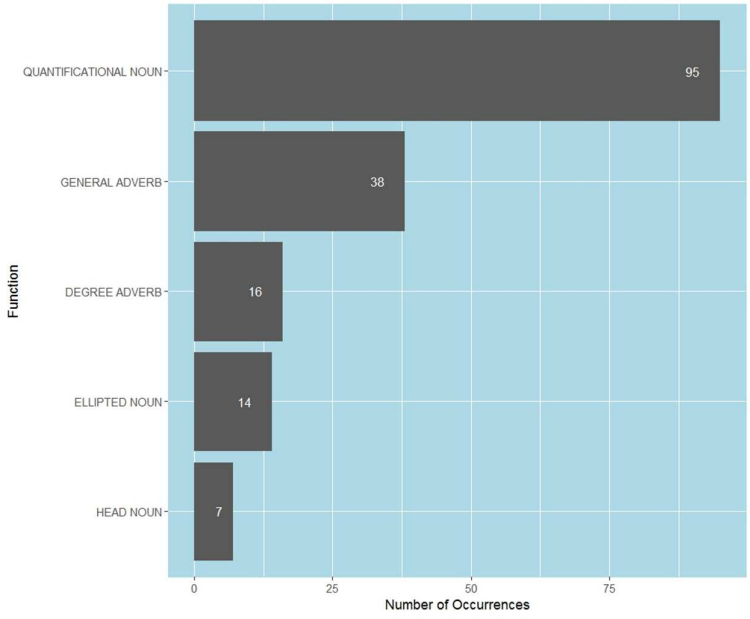

Figure 1. The various functions of *heaps* in New Zealand English and its frequencies

4.2 Collocational patterns

Both Smith (2009) and Brems (2010) investigate collocational properties of size nouns. Collocational properties are judged to be particularly important in uncovering paths towards grammaticalization (Brems 2010: 102-103). Let us begin by considering raw frequencies of occurrence for a comparison with earlier work (but a more quantitatively informed approach will be presented later in this section). The *Wellington Corpora* show, in agreement with Smith (2009: 173) and Brems (2012: 143-145), that *heaps* often occurs with $NOUN_2$ *people*, see Table 3. The table also specifies the raw number collocates of *heaps* used as adverb (for collocates occurring 3 or more times with *heaps*).

Table 3. Raw collocates of "heaps" in New Zealand English

Category of use for *heaps*	Most frequent collocate	Raw Frequency
Quantificational Noun (out of 95 examples)	(of) people	18
	(of) times	4
	(of) work	4
	(of) money	3
	(of) stuff	3
	(of) work	3
	(of) them	3
General Adverb (out of 38 examples)	give	8
	drink	3
	learn	3
Degree Adverb (out of 16 examples)	better	4

Table 4 gives a breakdown of the types of nouns that $NOUN_2$ instantiates in the two sets of data. As found in the *Collins Wordbank*, in NZE, the nouns which occur with *heaps* tend to be mass rather than count. Furthermore, when *heaps* is used as a quantifier, $NOUN_2$ tends to be an abstract mass noun, whereas when *heaps* is used as a head noun, $NOUN_2$ is typically a concrete mass noun (but this separation is exclusive to NZE). One point of difference is the prevalence in NZE of quantifier *heaps* with a wide variety of noun types, in particular with animate nouns and concrete mass nouns. The use of quantifier *heaps* with animate nouns is rare in British, American and Australian English, but it is almost as frequent in NZE as with concrete mass nouns or abstract mass nouns – and virtually all examples involve the noun *people*, i.e., *heaps of people*.

Table 4. Comparison of "heaps of X" in Collins Wordbank English and New Zealand English

	Collins Wordbank Corpus (Brems 2011: 137)			New Zealand English – *Wellington Corpora*	
	Head Noun	Quantifier	Ambivalent[6]	Head Noun	Quantifier
Animate	1	8	0	0	23
Concrete/count	11	8	1	0	16

[6] Brems' term 'ambivalent' refers to cases which are either ambiguous or vague.

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Concrete/mass	15	5	0	7	23
Abstract/count	0	14	0	0	7
Abstract/mass	0	25	2	0	26
TOTALS	27	60	3	7	95
PERCENTAGES	30%	67%	3%	7%	93%

If we compare these profiles of *heaps* with that of the semantically similar size noun, *piles*, differences emerge between NZE and other varieties of English, as well as between *piles* and *heaps* within NZE, see Table 5. First, within NZE, *heaps* is significantly more productive as quantifier than *piles*. Secondly, *piles* is more productive as head noun in British, American and Australian English than in NZE. In fact, if we take all uses of *piles* in the *Wellington Corpora* into consideration (not just *piles of X*), *piles* turns out to be used more frequently as head noun (11 uses) than as quantifier (3 uses), unlike *heaps*.

Table 5. Comparison of "piles of X" in Collins Wordbank English and New Zealand English

	Collins Wordbank Corpus (Brems 2011: 137)			New Zealand English – *Wellington Corpora*	
	Head Noun	Quantifier	Ambivalent	Head Noun	Quantifier
Animate	6	1	0	0	0
Concrete/count	146	0	4	2	0
Concrete/mass	82	1	0	2	3
Abstract/count	0	1	5	0	0
Abstract/mass	0	0	4	0	0
TOTALS	234	3	13	4	3
PERCENTAGES	94%	1%	5%	57%	43%

I now return to *heaps* and its collocates. Let us reconsider the figures in Table 3 once more. One problem with looking at raw frequencies of occurrence of collocates is that one cannot be sure that the observed association between *heaps* and its collocates is real, and not artificially generated by the fact that say, *people* is itself a very frequent word in the corpus. This problem can be overcome by using a Mutual Information (MI) score, which takes into account frequency of use of the search word (here, *heaps*) and overall frequencies of the words which occur in its vicinity (the collocates) – see further discussion in Gries (2013). The MI scores are not the only measures available, but other measures give similar results, so I used MI scores here due to their widespread use in the literature.

When controlling for overall frequency of collocates, the noun *food* becomes the strongest collocate of *heaps*, although *people* remains a frequent collocate also (see Figure 2). This is illustrated visually with a collocational network graph obtained from GraphColl (Brezina et al. 2015). The length of the arrows is proportional to the strength of collocation, so that a longer arrow indicates a weaker collocational relationship, and a shorter arrow a stronger one. Additionally, the direction of the collocation is indicated by the direction of the arrow, such that a uni-directional collocation is signalled by a uni-directional arrow, and a bi-directional collocation is signalled by a bi-directional arrow (see Brezina et al. 2015 for more information). One useful feature of GraphColl is its ability to track chains of collocations, in

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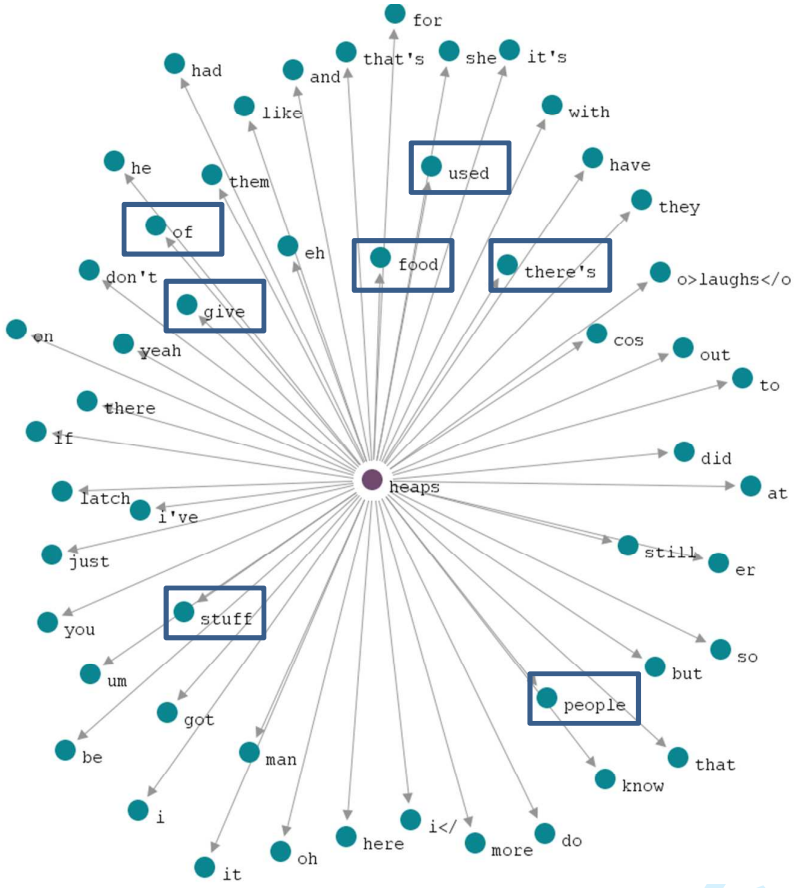
other words, its ability to check whether a given collocate is a mutual collocate or not, e.g., *bonsai* collocates with *tree*, but *tree* does not necessarily collocate with *bonsai*, hence *bonsai* and *tree* are not mutual collocates. GraphColl can be used to do this by tracking second order collocates by clicking on any one collocate and performing a new collocation analysis.



Collocate	Stat (03 - MI)
heaps	11.832339
food	7.766537
eh	7.128540
there's	6.777573
stuff	6.746008
give	6.358407
i've	6.259449
man	6.093931
people	6.092339
used	5.962561
cos	5.867495
still	5.644712
i</	5.624446
yeah	5.426346
got	5.405794
here	5.381677
them	5.119843
of	4.957163
there	4.931874
more	4.887034

Figure 2. Collocation network for *heaps* in New Zealand English (L5-R5, T=3, MI score). The table next to the graph indicates the various collocates in order from strongest to weakest (first column), and gives their MI scores (second column).

Figure 2 shows that in addition to its strongest (relative) collocate *food*, other noun collocates of *heaps* include *stuff*, *man* and *them*.

The strongest verb collocates of *heaps* are *give* and *use,* both of which are mutual collocates (the graphs are too busy to read and therefore not included here). The set of collocates of *heaps* is smaller than both of the sets of collocates of *give* and of *use*, respectively, which is not surprising given that both verbs occur frequently in the data. Given the high frequency of *give* and *use* in the corpus in general, the MI statistics are particularly important because they confirm that *give* and *use* indeed occur more frequently in the presence of *heaps* than in that of other words.

A manual inspection of the data shows that these collocates arise from uses of *heaps* as adverb. The idiomatic use of *give* [pronoun/noun] *heaps* was illustrated and discussed in the earlier example (22). As for the verb *use*, the strength of collocation between *heaps* and *use* might have to do with the frequent occurrence of habitual *use* (e.g., I *used to give him*

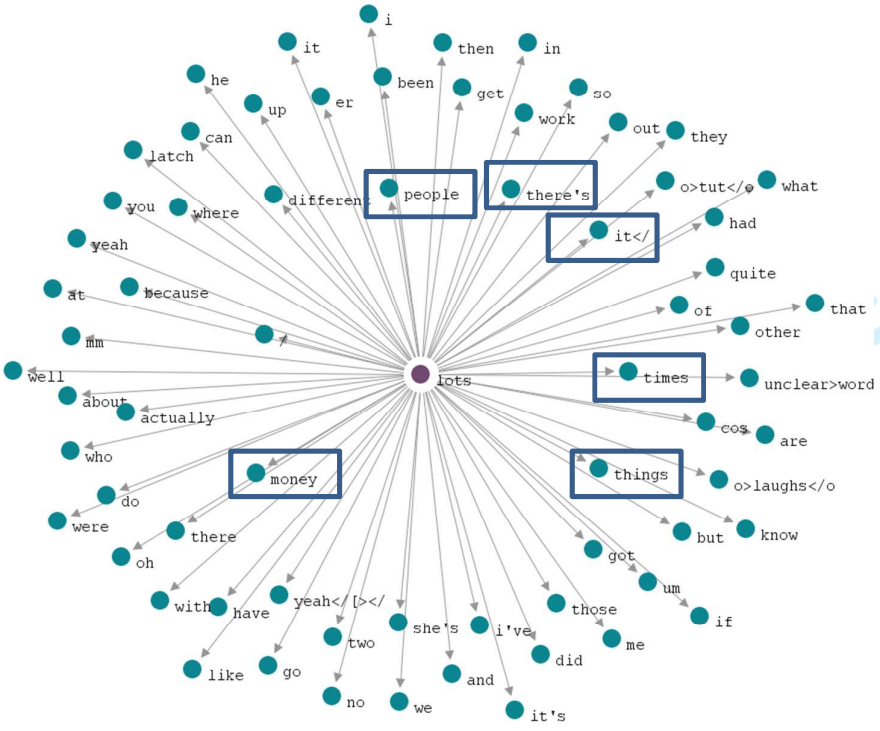
heaps) and less to do with the main verb *used X heaps* (this construction only occurs once in the corpus).

Because GraphColl allows searches beyond words directly preceding or following *heaps*, larger recurring word combinations can be identified. In doing this, it becomes clear that in addition to the frequently occurring *heaps of X*, *heaps* also occurs productively in the formula *there's heaps* (*of X*), as also observed by Smith (2009: 167-168) for *lots*, i.e., *there's lots*. The collocation is again bi-directional, *heaps* collocates with *there's* and *there's* collocates with *heaps* in this data. A manual inspection of the corpus reveals that the construction *there's heaps* is typically of the form *there's heaps of X*.

Note that several collocates identified by GraphColl by controlling for overall frequency of use in the corpus (*food*, *stuff, use*) do not appear in the raw frequency counts given in Table 3. This reaffirms the value of collocation measures such as MI scores, and their ability to illuminate relationships of association between various words within corpora that might be otherwise overlooked.

The collocation network of *heaps* is larger than that of its closely related size noun *piles*, most likely owing to the limited use of *piles* in NZE. *Piles* has three collocates in the *Wellington Corpora*, namely *of* (MI score 5.076), *the* (MI score 4.262) and *and* (MI score 3.910).

Finally, using the same MI parameters, the size and structure of the collocation network obtained for *heaps* can be compared with that of the most frequent size noun in NZE, *lots*, see Figure 3.



Collocate	Stat (03 - ...
lots	11.063213
/	7.777834
money	7.025245
things	6.866816
times	6.850240
people	6.770672
there's	6.455906
it</	6.184902
different	6.001398
got	5.727984
of	5.578331
she's	5.365538
yeah</[></	5.241639
i've	5.200817
cos	5.183258
those	5.166926
actually	4.982101
there	4.932136
where	4.845810
two	4.826352
because	4.818114
work	4.785294

Figure 3. Collocation network for *lots* in New Zealand English (L5-R5, T=3, MI score). The table next to the graph indicates the various collocates in order from strongest to weakest (first column), and gives their MI scores (second column).

Comparisons between Figure 3 and Figure 2 indicate that the two size nouns have collocational networks of similar size: 53 collocates for *heaps*, 66 for *lots*. There are also shared collocates between them, such as *lots/heaps of people* (both *of* and *people* are collocates for both size nouns), and *there's lots/heaps of X*. However, *lots* also collocates with *money*, *things* and *times*, which *heaps* does not (I revisit this point in section 5 when discussing the type of nouns that each size noun occurs with).

One difference between the two collocational networks is the absence of verbs in the collocation network for *lots*, compared to that of *heaps* (the only exception is the verb *got*, which occurs in the idiomatic expression *to get lots with X*).

5. From head noun → quantifier → intensifier

This paper proposes that, as in other varieties of English, most notably British English and American English, in New Zealand English, the (original) head noun use of *heaps* is declining (cf. Table 4). While the decline is steeper in NZE, with only 7% of its uses being head noun uses compared to other varieties where roughly 30% of its uses are as head noun, the fact remains that the most common use of *heaps* in all varieties remains the quantifier one.

But how did *heaps* come to acquire a quantifier role in these English varieties? Francis and Yuasa (2008) argue that size nouns which occur in phrases of the type "SN of $NOUN_2$" and designate a quantifier role take part in constructions which have embarked on a grammaticalization trajectory which is not fully completed. As such, these constructions encompass a divorce between the semantic and syntactic function of the size noun. Semantically, the size noun denotes quantificational meaning, but "without any referential index of its own", while syntactically, they function as heads "bearing a syntactic index which determines number accord with the preceding determiner, if any [is present]" (Francis & Yausa 2008: 55).

A different view is taken by Brems (2010). According to her, size nouns like *heaps* have fully grammaticalized from head noun to quantifier by means of a process which involves the stripping of expressions involving size nouns down to formulaic, un-compositional and "less flexible", unanalysable units. As the grammaticalization process reaches momentum, the size noun reaches fixation as quantifier to the extent that it no longer appears together with articles or other modifiers (which would have been the case in its role as head noun). In this new role, the size noun is no longer functions as head. Instead, the nouns which they occur with take on the role of heads. The NZE data corroborates the grammaticalization trajectory described by Brems. However, unlike in NZE, the head noun use of *heaps* remains a common occurrence in the *Collins Wordbank* (made up largely of British and American English), alongside its new quantifier role.

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Yet a different argument is put forward by Langacker regarding the internal structure of expressions involving the quantifier "a lot of $NOUN_2$". Langacker (2010) argues that locating the head with the $NOUN_2$ (as suggested by Brems 2010) is problematic because this analysis would posit an unanalysable unit "a lot of". Admittedly, in itself this is not troublesome for a framework like cognitive grammar which allows formulaic chunks, but the analysis runs into problems because the constituent boundary cannot be placed between "of" and $NOUN_2$, since "a lot of" retains some degree of flexibility and meaning compositionality ("a whole lot of", "a great deal of", "something of which I miss", and so on). Instead, Langacker argues that "a lot of $NOUN_2$" does not contain a head at all, but merely two components (neither of which acts as head): a quantifier "a lot", and a prepositional phrase "of NOUN" (2010: 41-43). It follows then that "heaps of $NOUN_2$", would be analysed by Langacker in the same manner. While Langacker's arguments seem sound in theory, a close look at corpus data suggests that, at least as far as New Zealand English is concerned, this degree of flexibility and meaning compositionality do not apply.

In general, the most comprehensive account of the grammaticalization trajectory which has brought *heaps* to its new function is detailed in Brems (2010, 2012). Like *lots* and *bunch*, *heaps* has undergone a number of changes in both syntactic patterns and semantic considerations, summarized in Figure 4 from Brems; the interested reader is referred to her original paper for full details of the process (2010: 92-96).

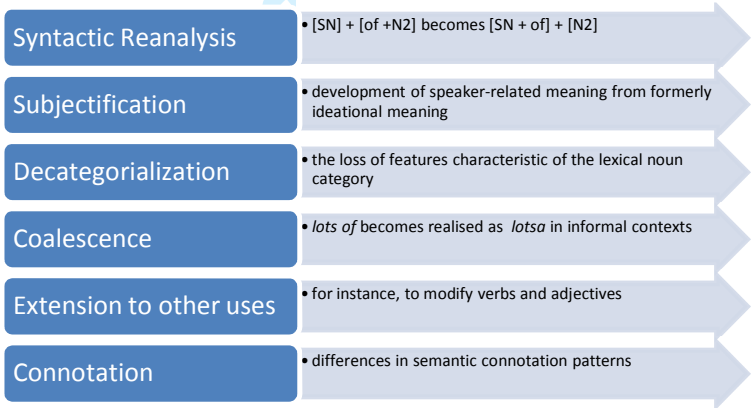

Figure 4. Steps in the grammaticalization process of heaps from head noun to quantifier

An important step in the grammaticalization process is the backgrounding of the semantic content which is, at least in part, brought about by the frequent co-occurrence of *heaps* with various nouns that evoke a scalar interpretation, leading to a quantifier re-analysis. One issue which remains to be established is whether the extension of collocational range is a precursor or a consequence of the grammaticalization process. This question needs to be investigated diachronically (not synchronically). Brems (2012) checks the type of nouns that *heap(s)* and *lot(s)* occur with by scrutinizing several diachronic corpora. Unfortunately, the rate of occurrence of these size nouns in historical data is limited and no conclusive quantitative account can be obtained from them (Brems 2012: 213). Nevertheless, Brems notes that the discourse contexts in which *heap(s)* occurs in are typically hyperbolic, bringing about a reading of the construction "heaps of $NOUN_2$" which posits the interpretation of $NOUN_2$ with respect to "a scale of magnitude" (2012: 216). The increased use of *heaps* in

such constructions, termed *host-class expansion* by Himmelmann (2004: 32-33) leads to a "leakage" of scalar semantics onto the size noun, creating an association between the two.

Brems (2010: 100) emphasizes the fact that the grammaticalization of *heaps* and other items like it involves a process of loss-and-gain (in the vein of Hopper & Traugott 2003: 87-93), where the construction "*heaps of*" may lose certain features, such as its internal compositionality, but will gain others, such as a quantificational interpretation. Put another way, it is the "company" (Firth 1957: 179) that *heaps* kept in actual interactions and real exchanges, rather than the potential for its occurrence, which has triggered changes towards a quantifier use. The close association between non-countable (mass) nouns and *heaps* can be interpreted as a shift (rather than a loss) towards the semantic space occupied by other quantifiers, in particular, *many* and *much* (Brems 2010: 93, 2012: 216). The same trend can be observed in NZE, where the head noun uses of *heaps* occur in constructions whose $NOUN_2$ is by and large a concrete mass noun (cf. Table 4). Given the similarity in collocation patterns observed for *heaps* in the various English varieties, it is highly likely that the same mechanism is responsible for the emergence of the quantifier use of *heaps* in NZE as it is observed in other varieties (or that NZE has in fact inherited both the head noun use as well as the quantifier use simultaneously from British English).

As already mentioned in section 4.2, one noticeable development in NZE is the widespread quantifier use of *heaps* with a variety of different nouns in $NOUN_2$ position: while the abstract mass noun is still the most frequent collocate of quantifier *heaps* in NZE, animate and concrete mass nouns are almost equally common. Compared to the *Collins Wordbank*, the *Wellington Corpora* suggest a further step along the grammaticalization path, such that quantifier *heaps* acts as a fully-fledged quantifier, able to occur productively and systematically with different types of nouns. A comparison of the quantifier uses of *piles* and *heaps* in the two data sets (see Tables 4 and 5) shows that quantifier uses of *piles* are even more restricted in NZE than in other varieties of English. Despite being semantically similar, the two size nouns are not synonymous. Brems explains that *piles* is lexically more specified than *heaps*, such that *a pile* designates a more specific and intentionally organized agglomeration of items, along an inferred vertical dimension, whereas *a heap* is a more haphazard, unintentional gathering of objects (2012: 156) (this is in disagreement with its original definition in the *Oxford English Dictionary*). It appears that in NZE, the differences between *piles* and *heaps* are even more accentuated than in other varieties of English.

Figure 5 provides a comparison of the extent to which *heaps* and *piles* occur as quantifiers in NZE with those observed by De Clerck & Brems (2016: 166) and Brems (2012: 203) of various size nouns, including *heaps* and *piles* in the *Collins Wordbank*. The figure shows that in NZE, both *piles* and *heaps* are more frequently used in their grammaticalized role as quantifier compared to other varieties of English.

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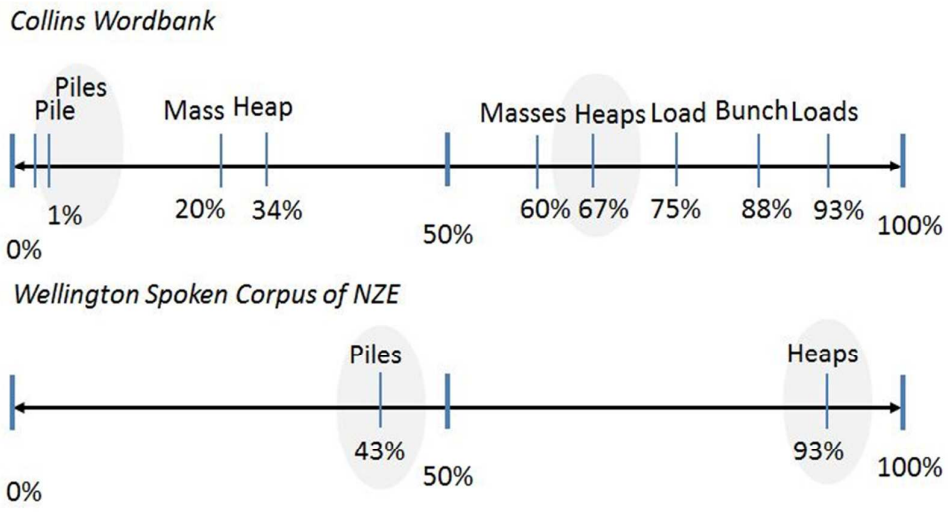

Figure 5. Degree to which various SNs occur as quantifiers in different English varieties

I now turn to adverb extensions of *heaps*. Traugott (2008: 231-232) posits a path of grammaticalization for *lot of* from partitive (designating units, "*a lot of fans*") > degree modifier (scalar interpretations and hyperbolic contexts, "*that's a lot of fun*") > degree adjunct (ellipted NP examples, where *a lot* stands on its own, without an associated "of $NOUN_2$", "*they had to excavate a lot*").

It is possible to account for the next development of *heaps* as (general and degree) adverb by drawing on observations from Traugott (2008) and Brems (2010, 2012). As "heaps of $NOUN_2$" increases its context of occurrence (level one, *host-class expansion,* in the grammaticalization process, as proposed by Himmelmann 2004: 32) in its quantifier role, it is productively found in quantificational expressions which exhibit a wide variety of noun types, including with animate nouns (*heaps of people*), concrete count nouns (*heaps of cars*), concrete mass nouns (*heaps of paper*), abstract count nouns (*heaps of ideas*), and abstract mass nouns (*heaps of stuff*). In many examples, the size noun denotes a hyperbolic interpretation of "bigness" rather than a concrete organisation of items. In these constructions, the $NOUN_2$ becomes the main point of focus, and the size noun is backgrounded (as also detailed by Brems 2012: 215).

The productive uses of quantifier *heaps* enable the development of the following stage, namely *syntactic context expansion* (level two of the grammaticalization process), so that the preposition *of* is dropped, and *heaps* begins to occur in core argument positions neighbouring verbs, and without an associated $NOUN_2$, for example in (2), *I learned heaps*. The syntactic context expansion is evidenced by the verb collocates identified in section 4.2. Interestingly, the collocation network for *lots* does not involve verbs (excepting the idiom *to get with X lots*), which suggests that while *heaps* is well on the grammaticalization path towards becoming an adverb, the same is not true for *lots* (even though it is possible to use "*lots*" in constructions such as "*I learnt lots*" the *Wellington Corpora* do not present such examples, but they do contain similar examples with the singular form "*I learnt a lot*").

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The syntactic context expansion of *heaps* is also accompanied by a *semantic-pragmatic context expansion* (Himmelmann 2004:33), whereby *heaps* acquires intensificational semantics. The hyperbolic meaning of *heaps* in "heaps of $NOUN_2$" constructions set the scene for the analogical extension from increased size to increased magnitude. The process of learning described in example (2) is thus emphasized by the qualifier *heaps* (rather than quantified).

As the process unfolds and intensifier uses become more widespread, intensifier *heaps* begins to occur without pre-modifiers, and in several cases, *heaps* occurs with focal stress signalling a change in prosody, see the earlier example (33). Eventually, *heaps* can be found not just with comparative adjectives (*heaps better* or *heaps longer*), but also with non-comparative ones, acting like a canonical adverb (*heaps stressful*, cf. example 21).

The grammaticalization trajectory of the size noun *heaps* in New Zealand English can thus be summarized by extending the table given in Brems (2010: 101, her Table 3) to include the new extension to intensifier, but also deleting the evaluative role which does not apply to NZE (this is the last row of Brems' original table).

Table 6. Grammaticalization trajectory of heaps in New Zealand English

Use	Semantics	Syntax	Collocational patterns
Head use	SN consists of $NOUN_2$	[SN] + [of + $NOUN_2$]	- subsets of concrete $NOUN_2$s, - unrestricted pre-modification of SN
Quantitative use	a quantity of $NOUN_2$	[SN + of] + [$NOUN_2$]	- concrete, abstract and animate $NOUN_2$ - restricted (quantification-reinforcing) pre-modification of SN, e.g., *whole*
Intensifying use	intensifying a (preceding) verb or a (following) adjective	[V + SN] [SN + ADJ]	- deletion of $NOUN_2$ - deletion of the preposition "of" - no pre-modifiers - bearing focal stress - idiomatization, e.g., *give heaps*

6. Who is driving the change?

In this final section, I take advantage of the information included in the *WSC Spoken Corpus* to test whether innovative uses of *heaps* in NZE can be attributed to various speaker social profiles, in other words, testing who is driving the incoming change (research question 3, formulated in section 1). The study of morphological and syntactic variables from a variationist perspective has received relatively little attention in the linguistic literature for

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various reasons, which space precludes me from elaborating on here.[7] However, it is hoped that the present study of *heaps* in New Zealand English can contribute to this body of work.

As mentioned in section 3, the *WSC Spoken Corpus* contains information about the recorded participants. The use of *heaps* can be divided up into two main types: (i) innovative uses in which *heaps* functions as general adverb or degree adverb or appears with an ellipted $NOUN_2$ (see examples 25 and 26), and (ii) non-innovative uses, in which *heaps* functions as quantifier or head noun. Testing for correlations between various social characteristics of the speakers recorded and innovative uses of *heaps* can be done by means of Logistic Regression.

Logistic Regressions constitute a specialised type of Generalised Linear Model (GLM), namely GLMs with a binomial distribution modelling the chance of an event (for instance, an innovative use of *heaps*) versus a non-event (in our case, a non-innovative use of *heaps*). The binomial distribution is more appropriate here (instead of Poisson or Normal distributions) because the data contains a set number of trials (each instance of *heaps* in the corpus) where the outcomes are either an event or a non-event, and any two trials with the exact same conditions, that is the same speaker with their associated sociolinguistic characteristics, have the same probability of producing an event. It is useful to clarify that the model is not expected to have predictive power (given a certain type of speaker, it will not be possible to predict *a priori* whether or not they might use *heaps* as an adverb), but instead, the model tests the influence of the variables, that is, seeks to find out whether any particular speaker characteristics might align routinely with innovative uses of *heaps*.

The innovative use of *heaps* was modelled by the following variables: speaker gender, speaker ethnicity, speaker age, genre of speech (conversation, teacher monologues, meetings, and so on), and total number of words. The variable of total number of words uttered by a speaker in a given conversation was included in the model, not to test for its significance, but as a control variable: so as not to bias results in favour of speakers who are more verbose, and therefore have more chances of using *heaps* innovatively just because they utter more words.

The full model resulted in two significant factors: age (χ^2=17.338, df=9, p<0.04), and the borderline significant factor of genre (χ^2=9.742, df=5, p<0.082). Once trimmed to these factors, it turned out that including one factor rendered the other non-significant and vice-versa. It appears that our participants were straddled across genres in such a way that it is difficult to tell which of the two factors mattered most (or whether both are relevant). A quick inspection of the average innovative use of *heaps* in each spoken genre shows that meetings generate the highest average innovative use of *heaps*, see Figure 6. The finding that the use of *heaps* is sensitive to genre is supported by an analysis of the newer *QuakeBox Corpus* of spoken NZE (Walsh et al. 2013) which comprises only 34 uses of *heaps* (and among these, significantly fewer innovative uses – only 6 intensifier instances compared to 28 quantifier examples).

Given that genre was only borderline significant, it was removed from the model and the analysis was re-run with the speaker's age alone. The trimmed model did not perform significantly worse than the full model (χ^2=23.225, df=2, p=0.142). Upon inspecting the

[7] For more information, please refer to Macaulay (1997), Andersen (2001), Barbieri (2008), Cheshire (2005), Meyerhoff (2013), and Calude (2017/to appear).

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model diagnostics, one influential observation (e.g., an outlier[8], Cooks distance ≥ 1) was discovered and removed. The plot in Figure 7 gives the average use of innovative *heaps* per age-group. The graph shows that the 25-29 year old group has the highest average use of *heaps* in extended functions.

In sum, innovative uses of *heaps* in the *WSC Spoken Corpus* are associated with 25-29 year old speakers and potentially with particular genres of speech. Because these figures are based on a limited dataset (only 91 instances of *heaps*), a larger corpus would be required to provide a more robust sense of the drivers of change as regards the use of *heaps*.

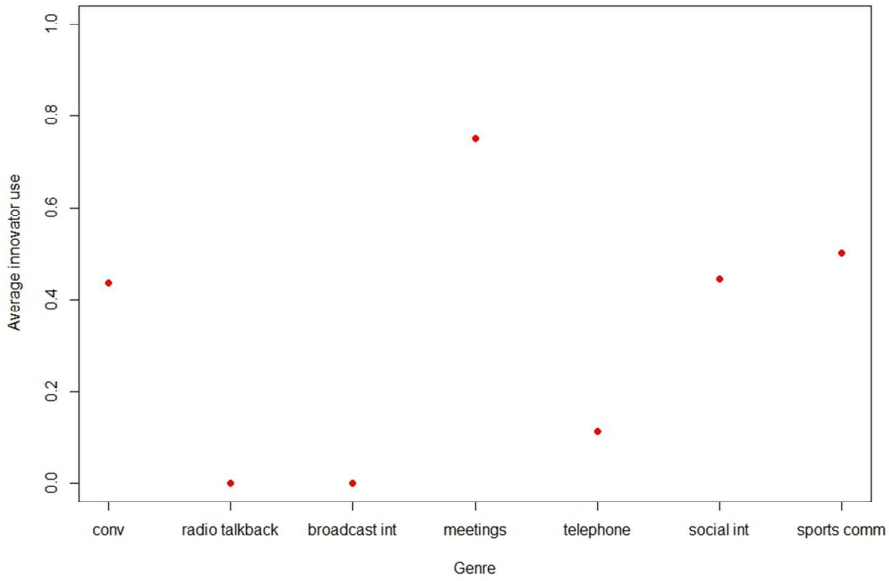

Figure 6. Mean use of innovative *heaps* in different spoken genres.

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[8] The one and only speaker in the age group of 70-74 years old appeared to have used *heaps* as an adverb, which went against the trend observed.

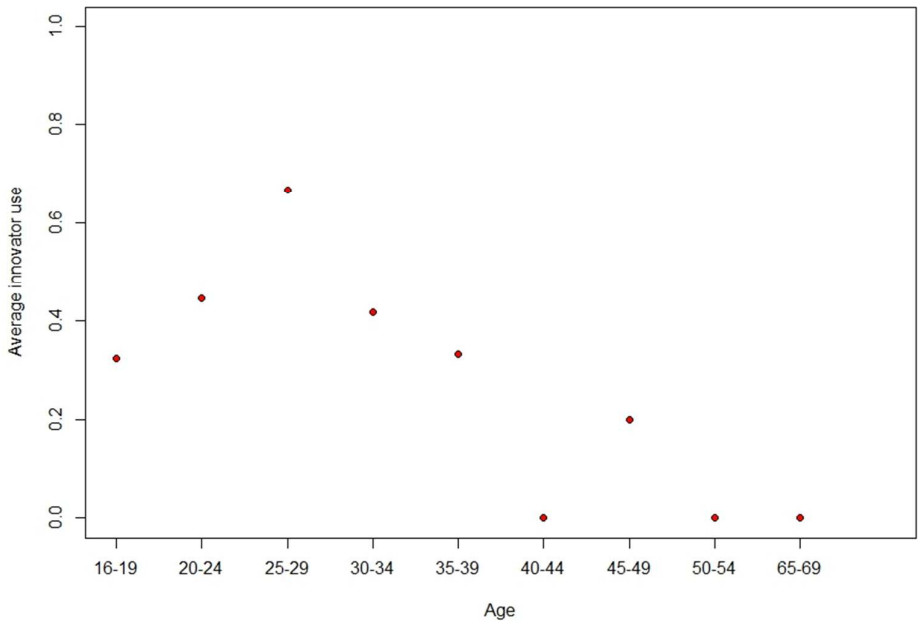

Figure 7. Average use of innovative *heaps* across various speaker-age groups

In a bid to better understand the historical development of *heaps* as intensifier in New Zealand English, the historical *ONZE Corpus* (Fromont & Hay 2007, Gordon et al. 2008) was consulted and all instances of *heaps* were extracted and coded. This set of sub-corpora contains the oldest samples of New Zealand English available. The *ONZE Corpus* consists of speech from New Zealanders born between 1800s-1900s (*Mobile Unit*, 204 speakers), 1890s-1930s (*Intermediate Archive*, 114 speakers), and 1935-1985 (*Christchurch Corpus*, 849 speakers). The various sub-corpora are not directly comparable in size or content, but they do give an impression of early New Zealand English (see Hay et al. 2008). Neither the *Mobile Unit* sub-corpus, nor the *Intermediate Archive* rendered any cases in which *heaps* was used either as adverb or with an ellipted NP (only 3 uses of *heaps* were found in each of these sub-corpora, all of them were quantifier *heaps*). Nor did these data contain any head noun uses of *heaps*. This might be in part, owing to the very restricted use of *heaps* to begin with.

It was only in the most recent data from the *Christchuch Corpus* that extensions beyond quantifier uses of *heaps* were identified, or indeed any widespread uses of *heaps* at all. Specifically, among the 203 examples of *heaps*, 138 were quantifier uses, 1 was a head noun use, 33 were adverb uses and 29 were ellipted NP constructions (2 cases were ambiguous). These 62 innovative uses (of adverb *heaps* and ellipted NP constructions) were uttered by 42 speakers. Examples (24) and (25) exemplify adverb uses from the *ONZE Corpus*. The speaker in example (24) is a female born in 1972 and that of (25) is a male born in 1953.

(24) oh . take your helmet off or something y'know? yeah sounds quite embarrassing actually (laugh) (weird noise from interviewer) **got hassled heaps** after that - at school and just . every time I went to the rink . y'know that guy Lance?

(ONZE, CC, fyn94-12a-08.trs)

Cambridge University Press

(25) out um . how shall we say . putting it nicely . doing it with other ladies around the town - an she **objected heaps** - and I think she even gave him the boot a couple a times - an then he uh got a transfer

(ONZE, CC, mon94-31b-03.trs)

As also noted for quantifier *heaps* (Brems 2012: 216), in examples (24) and (25) from the *ONZE Corpus*, *heaps* can be replaced by *lots* and its function is to emphasize and amplify the meaning expressed by the verbs *(got) hassled* and *objected*, respectively.

These findings appear to confirm that intensificational *heaps* represents an incoming change. In the *ONZE Corpus*, the earliest birth year for a speaker who used *heaps* in an innovative way was 1933. The birth years of speakers recorded as part of the *Christchurch Corpus* coincide with some of the birth years of those recorded on the *WSC Spoken Corpus* (the various ages reported by the participants in the corpus can be used to work backwards from the date of the corpus recording in order to calculate approximate birth years). In the *WSC Spoken Corpus*, the earliest birth year for a speaker who used *heaps* in an innovative way is roughly 1920 (the speaker was between 70-74 years old). He was in fact the only person from that age group to use *heaps* in this extended role. This means that the earliest uses of intensifier *heaps* can be compared across the two sets of data. For convenience, these uses were plotted on the same set of axes, see Figure 8.

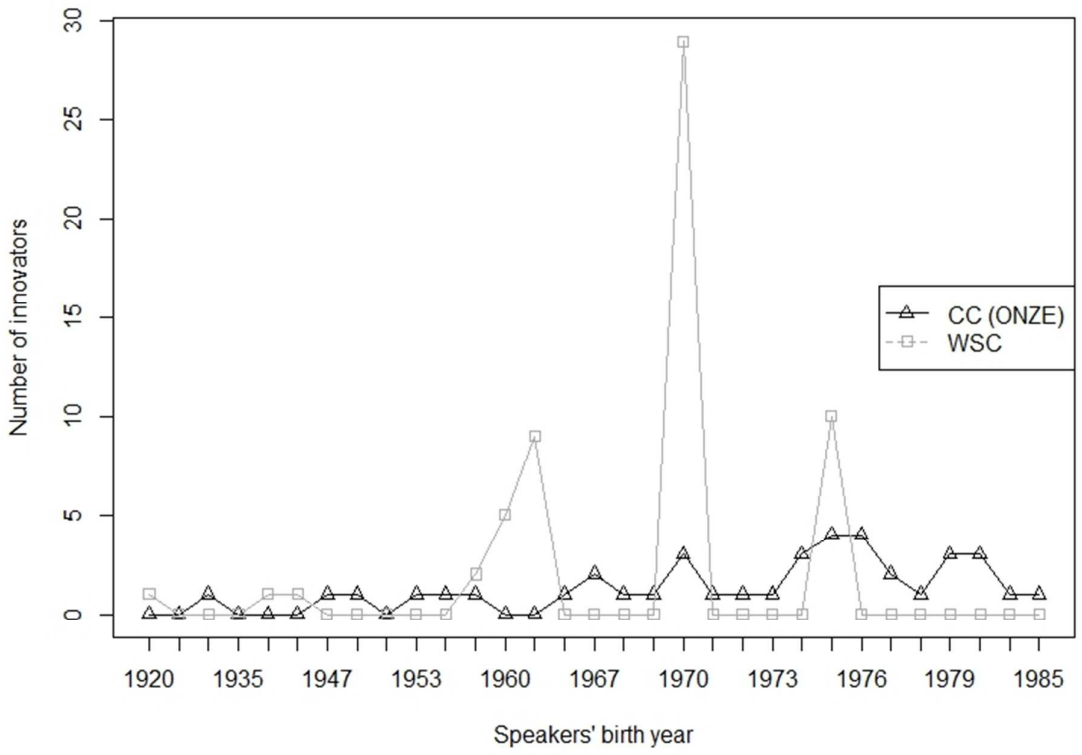

Figure 8. Comparison of number of innovative speakers (speakers which use *heaps* as adverb or degree adverb at least once) in the *Christchurch Corpus* part of the *ONZE Corpus* and the *WSC*

Spoken Corpus (by speaker's birth year). The x-axis gives an estimated birth year for the *WSC Spoken Corpus* speakers based on the age of the speakers at the time of the recording.

Figure 8 shows that the use of *heaps* in extended functions increases in both corpora for speakers born between the 1950s and 1970s. There also appears to be a decrease in this use for speakers born in the late 1970s and beyond – but it is difficult to know why this might be (of course, using intensifying *heaps* depends on using *heaps* in the first place, and on other factors such as genre, context, topic, and formality, as was discussed in the preceding section). Considering the speakers' birth years ignores one important factor: their age at the time of the recording (this is recoverable for the *WSC Spoken Corpus*, but completely unknown for the *Christchurch Corpus* whose recordings were done by students over a period of time and is in fact still ongoing).

7. Conclusion

This paper presents an analysis of the use of *heaps* in New Zealand English. As reported of other varieties of English (most notably British and American English), New Zealand English exhibits a frequently occurring use of *heaps* as quantifier, and a declining use of *heaps* as head noun. Secondly, as also exemplified by British and American English (De Clerck and Brems 2016), NZE also exhibits productive adverb uses of *heaps*, where the size noun functions as an intensifier. The NZE *Wellington Corpora* suggest that this innovative use is on the rise. The secondary grammaticalization step from quantifier to intensifier seems to be driven by younger generations of NZE speakers (in particular, 25-29 year olds). The use of *heaps* as adverb may also be linked to particular spoken genres, but in general, as expected of any incoming change, spoken interactions are significantly more likely to encompass innovative uses. Extensions in the functions of *heaps* point to affinities between *heaps* and *lots* (and in some cases, the singular form *a lot*), bringing it closer to this size noun and away from the semantically similar *piles*. The possible grammaticalization of *lots*/*a lot* toward adverb uses awaits further investigation.

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