



Groaning and grunting: Investigating sound correspondences in the English lexicon

Mael Farina

► To cite this version:

Mael Farina. Groaning and grunting: Investigating sound correspondences in the English lexicon. Lexis. Journal in English Lexicology, 2024, The Phonology-Lexicology interface, 23, 55 p. <10.4000/lexis.7870>. <hal-04763319>

HAL Id: hal-04763319

<https://hal.science/hal-04763319v1>

Submitted on 1 Nov 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons CC BY-SA 4.0 - Attribution - ShareAlike - International License

Groaning and grunting: Investigating sound correspondences in the English lexicon

Mael Farina

**Electronic version**

URL: <https://journals.openedition.org/lexis/7870>

DOI: 10.4000/lexis.7870

ISSN: 1951-6215

Publisher

Université Jean Moulin - Lyon 3

Electronic reference

Mael Farina, "Groaning and grunting: Investigating sound correspondences in the English lexicon", *Lexis* [Online], 23 | 2024, Online since 25 April 2024, connection on 26 April 2024. URL: <http://journals.openedition.org/lexis/7870> ; DOI: <https://doi.org/10.4000/lexis.7870>

This text was automatically generated on April 26, 2024.



The text only may be used under licence CC BY-SA 4.0. All other elements (illustrations, imported files) are "All rights reserved", unless otherwise stated.

Groaning and grunting: Investigating sound correspondences in the English lexicon

Mael Farina

1. Introduction

1.1. Background and status of phonesthemes

- 1 This paper investigates the nature and lexical behaviour of phonesthemes, in order to evaluate their impact on the lexicon. The term “phonestheme” was coined by J. R. Firth in 1930, and refers to recurrent pairings of phoneme clusters and elements of meaning (Mompean *et al.* [2020: 516]). Sounds that convey meaning have also been named submorphemes (Bottineau [2008]) or sublexical markers (Philps [2002, 2012]). These meaning-carrying sounds are “emotionally expressive” (Marchand [1960: 313]).
- 2 This notion of expressivity is already pointed out by Sapir [1929: 226], which compares the conventional “referential symbolism” to some “expressive symbolism” noticeable at the phonetic level. Sapir’s [1929: 233] “phonetic symbolism” is echoed by Jespersen [1922: 396-411], one of the first to talk about “sound symbolism”, defined as “a natural correspondence between sound and sense” [1922: 396]. Some early authors even mention comparable phenomena without naming them explicitly, as when Bloomfield [1914: 103] underlines the “phonetic similarity between the forms” in the words “*flame*, *flare*, *flimmer*, *flash* or in *flash*, *crash*, *dash*”. These similarities are also what Bolinger [1950: 128] calls the “magnetic attraction” between words that sound alike and share a similar meaning. The phonological structure of certain words has long been noticed to echo their meaning, as Firth [1930: 35-36] pointed out when considering the many well-known nursery rhymes and alliterations.

- 3 Sound symbolism has shown an increase of interest for the last couple of decades (Hinton *et al.* [1994], Monneret [2020: 2]), although the exact reasons behind its existence are not fully understood yet. The status of phonesthemes is challenging since conventional theories in morphology and word-formation studies (Bolinger [1950], Blust [1988]) fail to accurately describe and interpret their nature and behaviour in context). For example, Martinet's [1960] concept of "double articulation" as well as Hockett's [1958] concept of "duality of patterning", in which phonological elements are forbidden from carrying any meaning, are both binary approaches that do not adequately account for the semantic and formal complexity of phonesthemes (see Kwon & Round [2014: 3] on the theoretical issues induced by phonesthemes).
- 4 On the other hand, many psycholinguistic (Hutchins [1998], Abelin [1999], Bergen [2004]) and corpus-based statistical studies (Drellishak [2006], Otis & Sagi [2008], Liu *et al.* [2018]) have yielded positive results, showing that phonesthemes do exist on a psychological level, and are statistically significant across the lexicon. Gonnerman *et al.* [2007] brought experimental evidence that semantic-phonological overlapping triggered a higher priming effect than morphological decomposition. What is still largely unclear are the precise conditions of the emergence of phonesthemes and their role in the evolution of the lexicon. An increasingly large body of evidence now shows that they have a regulation role in the organisation of the mental lexicon (Benczes [2019], Smith [2022b: 129-134], Tsur & Gafni [2022]). Phonesthemes are also thought to act as multimodal cues that shape the structure of the lexico-grammatical continuum (Smith [2022b: 130], see also Rhodes [1994: 287-288] on the synesthetic aspects of phonesthesia and the transmodal embedment of phonesthemes, and Nobile [2020] on the psychological and multimodal aspects of sound symbolism).
- 5 Sound symbolism appears in a multitude of languages, and from different language families (see e.g. Blust [1988] on Austronesian languages, Abelin [1999] on Swedish, Hamano [1998] on Japanese, and Nobile [2020] for an overview of the evidence on sound symbolism). But English phonesthemes do not work like ideophones in Japanese or Korean, as they represent a less direct type of iconicity (Dingemanse *et al.* [2015]). While ideophones are marked forms that have distinct grammatical characteristics (Dingemanse [2012]), phonesthemic words in English do not feature the same level of divergence from the rest of the lexicon.
- 6 Phonesthemes in English mostly appear as meaning-carrying consonant onsets. The words *grumble*, *groan*, *grunt*, *grieve* or *grudge* all relate to a form of complaint (Waugh [1994: 59]), which has led early observers to tag this recurrent /gr/ sequence as a phonestheme. Because of their hybrid status as transitory elements between phonology and morphosemantics, phonesthemes invite to further investigate phonological aspects of lexicology.

1.2. Usage-based approach

- 7 Firth [1930: 47] includes phonesthemes in his own classification of lexical units, defining them primarily as instances of a "phonetic habit", which is "an attunement, a setting of the central nervous system, which will be touched off by the appropriate phonetic stimulus." Certain phonological sequences may have acquired meaning after being used by speakers over long periods of time. Firth quotes *sl-* words like "*slack*, *slouch*, *slush*, *sludge*, *slime*, *slosh*, *slash*, *sloppy*, *slug*, *slut*, *sly*" and many more as

entrenching a “pejorative phonetic habit” [1930: 51]. This sound-sense association therefore seems to have emerged from and to be determined by usage: “But a group of words such as the above has a cumulative suggestive value that cannot be overlooked in any consideration of our habits of speech” (Firth [1930: 51]).

- 8 Words with similar “phonetic links” are “brought together by alliterative and experimental analogy”, this notion of analogy being at the core of what Monneret [2020: 11] terms the “iconic function of analogy”. Firth [1930: 48-49] adds:

The general opinion is, however, that words, not phones or phonemes or phoneme systems, are the units of speech. But just as phones are grouped in phonemic habits, so “words” group themselves into families of linked words or related habits. Some words are lonelier than others.

- 9 This paper adopts the cognitive view that lexical knowledge is drawn from memory representations and that the structure of language is based on sequential chunking (Bybee [2010: 76]). Phonesthemes are thus understood as phonological chunks that entrench a form-meaning pairing through usage. As Bybee [2007: 279] puts it:

The data examined provide support for the proposals that much of linguistic knowledge is procedural knowledge, that chunks of linguistic experience much larger than the analytic units of morphemes or even words are the usual units of storage and processing, that there is no real separation of lexicon from grammar, and that phonological alternations whose domain is larger than a word can indicate the size of processing units.

- 10 The non-compositional properties of phonesthemes are thus interpreted as a consequence of their emergence and evolution. Phonological aspects of the lexicon are therefore not forbidden from acquiring meaning. The semantic content of phonesthemes, although difficult to tackle, must have emerged through usage and can only be described by observing how phonesthemic words are used in context (see Lenci [2008: 7] on the relation between use and meaning). Phonesthemes have also been shown to alter the evolution of the lexicon, by affecting semantic change (Smith [2022a: 277]). As such, phonesthemes show that phonological aspects of language affect, and are affected by, language use and evolution.
- 11 Even though phonesthemes might show several semantic components¹, this paper holds the cognitive view that meaning is shaped through time by usage and does not contain any constant and static core meaning. Evidence drawn from the study of ideophones suggests that sound is of primary importance in the “degree of penetration of iconicity in the language” (see Flaksman [forthcoming] on the coining of iconic words): “there are no reports of languages with ideophones for textures or inner feelings which do not also have ideophones for sounds and movements.” (Dingemanse [2012: 663]) This multimodal aspect of phonesthemes will not be further inquired here, but our perspective is that language users’ ability to innovate is what entrenches meaning-form associations. It is still unclear whether the sound-to-sound mapping is what constitutes the primary entrenchment of phonesthemic motivation or not, and further studies would be required to investigate this issue. The fact that *gr-* exhibits both sound-based motivation (as in *groan*, *grunt*) as well as motivation based on something else than sound (as in *grasp*, *grim*) is an interesting characteristic of this phonestheme, although this paper does not focus on transmodality.
- 12 The cognitive approach to language, combined with distributional semantics and a corpus-based methodology (see Fabre [2015] and Heylen & Bertels [2016]) motivate my choice to work from both lexicographic and corpus-based data.

1.3. Aim of the paper

- 13 The present paper focuses on the emergence, evolution and lexical role of the phonestheme *gr-*, by applying a twofold method drawn from both lexicographic and corpus-based material. Waugh [1994: 59] distinguishes between three semantic fields concerning *gr-*:
- (1) something unpleasant (*grim, grisly, gritty, gruesome, gruff, grumpy*); (2) complaint (*grumble, groan, grunt, grieve, grudge, gripe* and even *disgruntled*); (3) undesirable rubbing (*grind, grate, grovel, grub*).
- 14 Swedish, as a Germanic language, seems to exhibit a comparable *gr-* sound symbolic element evoking a “bad mood”, as reported by Abelin [1999: 87]. Similarly, Drellishak [2006: 43] found out *gr-* to be associated with a “deep or complaining noise”. Drellishak’s [2006: 37–45] statistical study confirmed the phonesthemic status of *gr-*, alongside *sl-* “slide; careless”, *gl-* “light, vision”, *fl-* “motion, repeated or fluid” and many more.
- 15 The key words “threatening noise, anger, grip” were found to be prominent in *gr-* words, as in *growl* (Abramova *et al.* [2013: 1698]). The word *growl* itself had previously been defined as an “onomatopoeic expression” (Crystal [2008: 234]). English words starting with *gr-* denote “animal cries” as in “*growl*, [...] *groan, grunt*” (Wright [2012: 3–4]) and some *gr-* verbs appear to relate to an act of “eating noisily and greedily”, alongside words starting with /tʃ/ and /skr/ (Wright [2012: 6]).
- 16 Another common meaning conveyed by *gr-* is that of “prehension” as in the words “*grab, grapple, grip, grope, grub*” (Philps [2008: 128]). The phonological sequence /gr/ has also been compared to /kr/ in *crack, crash, creak* or *crunch* (see Chadelat [2008] on the sublexical meaning of *cr-*). These two phonesthemes share a common /r/ sound, which is “frequently associated with noise” across languages, as reported by Tsur & Gafni [2022: 27]. They also indicate that “[r] serves as onomatopoeia for noise as in *roar, rustle*.” Although the question of the exact transmodal interface between sound and meaning will not be asked directly in this paper, it is worth mentioning that sounds have been proven to express different levels of emotion or affection (see Smith [2020b: 49–50] for a semantic analysis and multimodal interpretation of the articulatory and acoustic features of *fl-*, following a method proposed by Tsur & Gafni [2022]).
- 17 All those observations are used as preliminary clues to test out. Some of them seem to be based on intuition, while others are backed up with statistical data or corpus-based material. My purpose is to assess how divergent my results will be, with the final aim of identifying key recurrent patterns that can explain the emergence of *gr-*.
- 18 Since phonesthemes are at the interface between sounds and meaning, how can we use corpus-based data to investigate the interrelation between phonology and lexicology? In order to answer this broad question and to narrow down the scope of the study, I ask:
1. Since the phonesthemic status of *gr-* has been statistically confirmed, why are there different subsemantic fields conveyed by *gr-*? And how did those affect language use?
 2. Each submeaning of *gr-* seems to feature a lot of synonyms or near synonyms (e.g. *grab, grasp, grope*, etc.). Why are there so many words that denote the same meaning and what are the implications? What is the role of these groups of form-meaning associations?

The methodology is twofold, combining a lexicographic analysis and a corpus analysis.

2. Lexicographic analysis

2.1. Key word-based analysis from the OED

- 19 The method was first laid out by Smith [2016] to study the phonestheme *fl-* (see also Smith [2020b]), and was subsequently applied to *gr-* words by Farina [2020] and to *sw-* words by Smith [2022a]. These studies have brought evidence of an internal lexical cohesion of phonesthemic words in the *Oxford English Dictionary* and an intrinsic organising role of phonesthemes. As Smith [2022a: 275-276] points out, the common ground between lexicography, cognitive linguistics and usage-based semantics needs to be further consolidated, as those methods are interrelated (see Allan [2001], Allan [2012] and Durkin [2016] on using the OED as lexicographic evidence). Those findings need to be further tested out through corpus-based evidence.
- 20 Starting from the entry definitions searchable on the OED3², recurring key words that share extended semantic (synonymous, metonymic, metaphorical) properties are grouped together into semantic categories. Since the purpose of this paper is to test the internal semantic cohesion of *gr-* and not its overall representation in the lexicon, certain *gr-* words were discarded, including frequent words such as *green* or *great*, which do not contain enough recurring key words in their OED definitions.
- 21 The semantic traits are good indicators of the semantic coherence of the phonestheme. Three types of analyses were conducted: 1) a general statistical overview, which showed which features were the most frequently attested, and which ones combined the most with other features; 2) an examination of semantic change, in order to tackle the convergence of senses towards a particular phonosemantic feature; and 3) an isolation of etymological roots in order to see if the existence of those phonosemantic features could be explained by etymology alone or if other processes were at stake.
- 22 The purpose of this lexicographic study is to evaluate how phonesthemic senses influence each other across the OED by identifying recurring features in the definitions. Key words are used as indicators of semantic cohesion inside the OED. This method is based on the assumption that lexicographers must have left indications of semantic evolution in the definitions, indirectly influenced by the corpus database.
- 23 Headwords starting with the initial consonant cluster *gr-* were selected by hand from OED definitions (See Smith & Farina [forthcoming] for a detailed account of the selection procedure). Only monomorphemes were kept for the analysis: morphemes which cannot be further divided into smaller regular compositional elements. For example, only *grey* was kept, as opposed to *greyback*, *grey-backed*, *greybeard*, *grey-blue*, *grey-faced*, *grey-haired* and so on. However, certain historical morphemes that are no longer productive in Modern English were kept: *-le* (as in *gripple* or *griddle*), certain *-er* endings (as in *grater*, *grover*), as well as *-el(l)* (as in *grummel* or *gravell*) and *-et* (as in *grummet*). Following Smith [2016, 2020b], homonyms were treated as different entries, so that each sense could be analysed individually, with the final aim of examining recurring semantic features. Contrary to what Drellishak [2006] postulates, the shared historical roots were not excluded, because of the need to examine the divergences from a same root as well as processes of blending and potential phonosemantic change. The sample corpus is composed of a total of 219 monomorphemes, which correspond to 834 senses, among which 510 are non-obsolete (61%), i.e. still in use nowadays.

- 24 Table 1 shows how the key word process was conducted for *grunt* v., and how key words serve as a basis for the construction of conceptual categories. Every semantic trait is named after its most recurring key words. Each word of the dataset can correspond to several traits, so that traits combine.

Table 1. Key word collection from *gr-* monomorphemes in the OED

Entry word	Sense	OED definition	Date	Use	Etymology	Key words
grunt	v. (1a)	Of a hog: To utter its characteristic low gruff sound. Also of other animals and of persons (with conscious allusion to the pig): To utter a sound resembling this.	725	In use	Old English <i>grunnēttan</i> (= Old High German, modern German <i>grunzen</i>), frequentative of <i>grunian</i> (compare Middle High German <i>grunnen</i>) to grunt, an echoic formation parallel with Latin <i>grunnire</i> .	UTTER, LOW, SOUND
grunt	v. (1b)	To groan.	1340	Obsolete		GROAN
grunt	v. (2a)	To utter a similar sound, expressive of discontent, dissent, effort, fatigue, etc.; to grumble, murmur.	1325	In use		UTTER, SOUND, DISCONTENT, GRUMBLE, MURMUR
grunt	v. (3a)	To grind (the teeth).	1400	Obsolete		GRIND, TEETH
grunt	v. (3b)	To grind with the teeth; cf. <i>grind</i> v.1, <i>grint</i> v.	1426	Obsolete		GRIND, TEETH
grunt	n. (1)	The characteristic low gruff sound made by a hog; a similar sound uttered by other animals.	1615	In use	< <i>grunt</i> v.	LOW, SOUND, UTTER
grunt	n. (2a)	A similar sound, uttered by a human being; sometimes expressive of approbation, or the opposite. †In early use, a groan.	1553	In use		SOUND, UTTER

grunt	n. (2b)	An infantry soldier.	1969	U.S. slang		-
grunt	n. (3a)	A name for American fishes of the genus <i>Hæmulon</i> and allied species (as <i>Orthopristis chrysopterus</i>). So called from the noise they make when taken.	1705	In use	Apparently not connected with Dutch <i>gront</i> , <i>grunt</i> , which is a shortened form of <i>grondel grundel</i> n., and denotes a different fish (<i>Cyprinus gobio</i>).	-
grunt	n. (3b)	An English fish, ?the perch.	1851	In use		-

The attestation dates allow us to determine how many words acquire the trait through time, thus giving an evolutive indication. The etymological information given by the OED, combined with the raw frequencies of the traits across the sample and the attestation dates of the different senses allowed us to keep track of the semantic changes that occurred.

2.2. Semantic features

- 25
- Table 2 displays all the categories that emerged through the protocol. Key words that were not recurrent enough were naturally discarded as the process went on. After a quantitative comparison of the categories, four of them appeared to stand out: 1) words expressing bad humour or negative emotions (*grump*, *grunch*, *grutch*, *grouse*, *grisly*), represented by the *WEEP/COMPLAIN/ANGER* (WCA) category; 2) words relating to unpleasant sensations (*grit*, *grind*, *grate*), represented by the *HARSH/ROUGH/SCRAPE* (HRS) category; 3) unpleasant or deep sounds (*groan*, *growl*, *grunt*, *graunch*, *gruntle*), represented by the *SOUND/VOICE/UTTER* (SVU) category; and finally 4) the notion of prehension (*grip*, *grobe*, *grab*, *grasp*), represented by the *HOLD/CLUTCH/TOUCH* (HCT) category.
- 26
- These phonosemantic features confirm what has been observed in the literature about the submeaning of *gr-*. The major traits were the most widely represented across the sample and were also the ones with best internal cohesion, meaning that their key words were semantically very close to each other.

Table 2. Key words grouped into 8 conceptual features for *gr-* monomorphemes in the OED

Feature abbr.	Conceptual categories	Example words	Number of senses	Proportion within the sample (%)
WCA	WEEP/ COMPLAIN/ ANGER	<i>grouch</i> , <i>grudge</i> , <i>grump</i> , <i>grumble</i> , <i>grutch</i> , <i>grouse</i> , <i>grieve</i> , <i>grauly</i> , <i>grisly</i>	330	32.5
HCT		<i>grab</i> , <i>grabble</i> , <i>grapple</i> , <i>grasp</i> , <i>grip</i> , <i>grobe</i>	137	13.5

	HOLD/ CLUTCH/ TOUCH			
HRS	HARSH/ ROUGH/ SCRAPE	<i>grash, grate, grind, grist, grint, graze</i>	121	11.9
SVU	SOUND/ VOICE/UTTER	<i>graunch, groan, growl, grunt, grundle</i>	114	11.2
LDD	LOW/DEEP/ DIG	<i>grave, groove, ground</i>	97	9.6
PSF	PLANT/SOIL/ FEED	<i>graft, grape, grass, graze, groot, grove, grub, gruel</i>	95	9.4
LTB	LARGE/ THICK/BULK	<i>grand, great, gross, gruff</i>	72	7.1
STB	SNOUT/ TEETH/BODY	<i>groin, grume, graisle, gralloch, grebe</i>	48	4.7

The less quantitatively dominant categories are not as discriminating, and most of them are in the same order of magnitude. The minor categories PLANT/SOIL/FEED, LARGE/THICK/BULK and SNOUT/TEETH/BODY are much less semantically coherent and recurring. They probably correspond to false positives and were therefore discarded from the rest of the study (see Drellishak [2006: 21] on statistical filters and discarding false positives).

2.3. Feature combinations

- 27 Features that attract a lot of senses and influence the evolution of monomorphemes tend to appear in combination with other features inside the definitions. These attractive features must have played a role in the entrenchment of the phonestheme in the mental lexicon. Combination patterns of co-emergent features indicate the lexical productivity of features, while post-attested features indicate whether senses converge or diverge from each other. They indicate a phonesthemic convergence. Table 3 shows the number of features each category combines with.

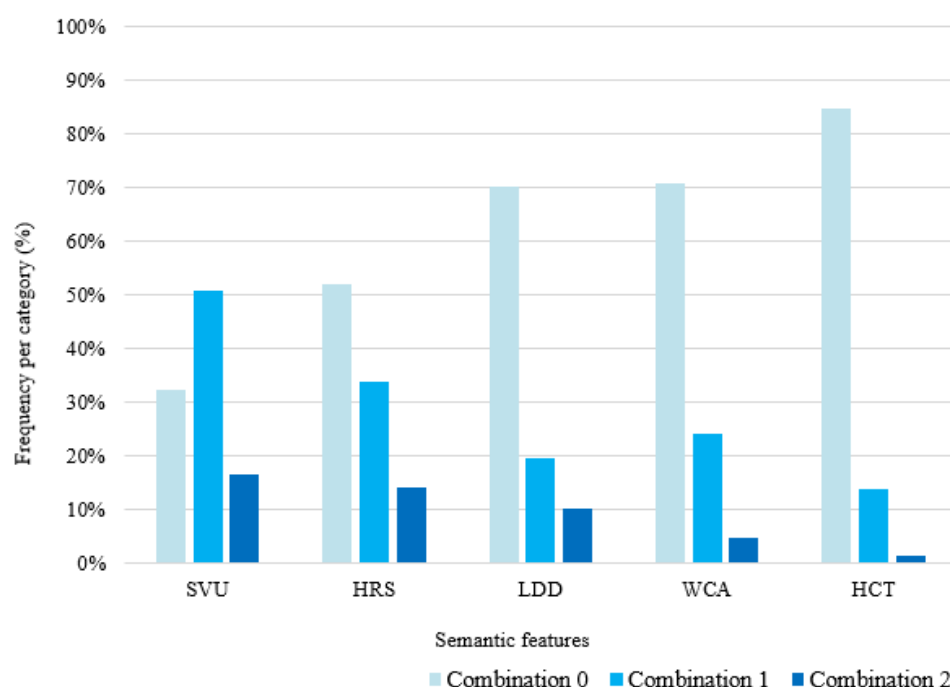
Table 3. Combinations of features in the OED.

Feature	Combination 0		Combination 1		Combination 2		Total	
SOUND/VOICE/UTTER	37	32.5%	58	50.9%	19	16.7%	77	67.5%
HARSH/ROUGH/SCRAPE	63	52.1%	41	33.9%	17	14.0%	58	47.9%
LOW/DEEP/DIG	68	70.1%	19	19.6%	10	10.3%	29	29.9%

WEEP/COMPLAIN/ANGER	234	70.9%	80	24.2%	16	4.8%	96	29.1%
HOLD/CLUTCH/TOUCH	116	84.7%	19	13.9%	2	1.5%	21	15.3%

The “combination 0” column shows the number of senses that only carry one feature and do not combine with any of the other features. The “combination 1” column shows the number of senses whose feature combines with 1 other feature. The “combination 2” column shows occurrences of category that combine with 2 other features. Figure 1 renders those data into a bar chart.

Figure 1. Combinations of features in the OED.



- 28 The categories SVU (SOUND/VOICE/UTTER) and HRS (HARSH/ROUGH/SCRAPE) are the ones that combine the most, which means that words which refer to these features also tend to refer a lot to other features. On the other hand, HCT (HOLD/ CLUTCH/TOUCH) combines very rarely, on top of not being well attested overall. SVU is not amongst the most attested features but it combines with a lot of other ones. This shows that the notion of sound is inherent to a lot of *gr*- words, whatever their category.

2.4. Semantic change

- 29 The SVU feature exhibits a lot of semantic change. Most *gr*- words that relate to sound are particularly polysemous and a lot of them show a semantic shift towards other categories, as the combinatory data pointed out. Semantic shift from etymological meaning to another phonosemantic feature is interpreted as evidence of a phonesthemic impact on the lexicon. Table 4 shows that the adjective *gruff* has shifted from an original meaning dating back to Old English *hréof* “rough, scabby”, relating to the HRS feature, to the OED sense adj. (3b) “Of the voice and speech, implying the utterance of hoarse or guttural sounds”, relating to the SVU category.

Table 4. Senses of *gruff* adj. [1533] in the OED.

Entry word	Sense	OED definition	Date	Use	Semantic features
gruff	adj. (1a)	Coarse, coarse-grained; containing coarse or rough particles.	1533	Obsolete exc. Scottish and technical.	LARGE/THICK/BULK (LTB) HARSH/ROUGH/SCRAPE (HRS)
gruff	adj. (1b)	Of immaterial things: Rude, gross, unpolished. Also said of a guess = 'rough'.	1681	Scottish	HARSH/ROUGH/SCRAPE (HRS)
gruff	adj. (2)	Of a surface: Rough, rugged.	1697	Obsolete. Rare.	HARSH/ROUGH/SCRAPE (HRS)
gruff	adj. (3a)	Rough, surly, or sour in aspect or manner; said also of appearances.	1691	In use	HARSH/ROUGH/SCRAPE (HRS) WEEP/COMPLAIN/ANGER (WCA)
gruff	adj. (3b)	Of the voice and speech, implying the utterance of hoarse or guttural sounds.	1712	In use	SOUND/VOICE/UTTER (SVU) HARSH/ROUGH/SCRAPE (HRS)
gruff	adj. (3c)	Quasi-adv.	1841	In use	SOUND/VOICE/UTTER (SVU) HARSH/ROUGH/SCRAPE (HRS)
gruff	n. (1a)	In pharmacy, the coarse residue, which will not pass through the sieve in pulverization.	1853	Pharmacology	LARGE/THICK/BULK (LTB)
gruff	n. (2)	A quarrel, 'tiff'.	1857	? U.S.; regional	WEEP/COMPLAIN/ANGER (WCA)

2.5. Summary

30 The lexicographic analysis of *gr-* has shown the following points (See Smith & Farina [forthcoming] for a comparison between *fl-*, *sw-* and *gr-*):

- The terms used by lexicographers vary, but all in all 11% of the sample words are dialectal words, regional peculiarities or slang words, 12% are said to be rare, archaic or specific and 39% of all the senses are obsolete;
- The 3 major features, WCA, HRS and SVU, account for 56% of all the senses (294 senses, out of 522);

- In general, high level of polysemy can be observed across the sample;
- Homonymy tends to be rather common: see e.g. the nouns *graft* n.1 [1871], *graft* n.2 [1644], *graft* n.3 [1620], *graft* n.4 [slang; 1853] and *graft* n.5 [U.S.; 1865], as well as the verbs *graft* v.1 [1483], *graft* v.2 [dialect; 1823], *graft* v.3 [slang; 1859] and *graft* v.4 [U.S.; 1859];
- The semantic features do not all behave in the same way. Words that belong to the categories WCA, HRS and SVU combine a lot with other features, they show a high degree of semantic variation and they also seem to acquire new features through semantic change. They also show a lot of post-attested features, i.e. words that did not originally contain them, but came to acquire those semantic elements overtime;
- On the other hand of the spectrum, the HCT category seems to undergo very little semantic change, if any at all, and words that trigger this category do not acquire new features overtime.

3. Corpus analysis: methodology and data

3.1. Selecting *gr-* words

- 31 The previous section showed that 1) the semantic features SVU, WCA and HRS display more semantic change than the feature HCT and that 2) SVU, WCA and HRS show evidence of phonesthemic convergence, as opposed to HCT.
- 32 Those preliminary results drawn from the OED need to be tested through a corpus analysis. Analysing the collocational behaviour of *gr-* words in context will give the frequency of use and the nature of the texts they appear in. This will show which collocates may have had an influence on the semantic change of *gr-* words. The initial hypothesis is that a few *gr-* words have played a key role in entrenching the form-meaning association between /gr/ and the submeanings pointed out by the key word-based lexicographic results. The postulate is that the more widely used a word is, the more impact it has on the lexicon, based on the view that “lexical storage is highly affected by language use” (Bybee [2007: 280]), and that lexical use is a form of procedural knowledge (Bybee [2007: 282]). As Benczes [2019: 17] puts it: “the use of forms and patterns has an effect on their mental representation; those that are used more often will have stronger representations and will also be accessed more easily.”
- 33 In addition, a smaller number of occurrences of a word in a usage-based corpus means it is more difficult to assess the level of prototypicality of the contexts. That being said, frequency was not the only factor taken into account. It is also possible that the phonesthemic entrenchment might be restricted to certain semantic domains, and not to the whole lexicon. As Kilgariff [2004] points out, different word senses may be the most common senses of different lexical domains. The overall frequency of a word is not necessarily a good indication of its role inside its specific lexical domain.
- 34 The selected sample words are: *groan*, *grunt*, *grudge*, *grip* and *grasp*. These are all initially verbs, although they also convert to nouns. Three of them denote sounds, while the other two refer to an act of prehension. None of them are obsolete or dialectal words. The fact that the first three on the one hand, and the last two on the other, are so semantically close raises the question of synonymy. My hypothesis is that these two groups of words should display divergent nodes of synonyms in the corpus, and their lexical behaviour in context is expected to show some degree of variation. Table 3

shows the number of occurrences of these selected *gr-* words across the corpus, both for verbs and nouns.

Table 5. Frequencies of the selected *gr-* words in the OEC

<i>Gr-</i> word	Verb	Noun	Total
<i>groan</i>	9,294	3,973	13,267
<i>grunt</i>	3,656	3,782	7,438
<i>grudge</i>	542	4,702	5,244
<i>grip</i>	17,929	37,709	55,638
<i>grasp</i>	25,194	14,023	39,217

- 35 This handful of *gr-* words acts as a gateway to tracking down the semantic and distributional behaviour of the phonestheme *gr-*. As Lenci [2008:1] puts it: “the statistical distribution of words in context plays a key role in characterizing their semantic behavior”. The corpus analysis of *gr-*words will thus help determine the semantic content of *gr-*.
- 36 The lexicographic data have established that among the four sets of major semantic features, three of them entertain close semantic bonds (both metaphorical and metonymic) and extensively combine with each other. Therefore, is this statement also confirmed by corpus data? If so, what can explain such a coherence? Is there evidence of phonesthemic clustering within the collexeme network of our *gr-* word sample?

3.2. The OEC

- 37 I chose a corpus that could be searched by Sketch Engine and that was large enough to allow for statistically valid interpretations. The Oxford English Corpus was chosen because of its large inventory of two billion words and the broad variety of texts it contains. It encompasses both UK and US English contexts, as well as contexts from Australia, New Zealand, the Caribbean, Canada, India, Singapore, and South Africa³. The OEC spans over a short period of time, from 2000 to 2006, which makes it a micro-diachronic investigating tool. The dataset is mostly drawn from the Internet and processed to make it searchable by the Penn Treebank tag set (Culpeper [2009: 66]).

3.3. Sketch Engine

- 38 The OEC was treated via the distributional online tool Sketch Engine with the aim of tracking the grammatical and collocational behaviour of the selected *gr-* words. The large amount of textual material provided by the OEC combined with the distributional proximity analysis tools offered by Sketch Engine were judged profitable to my investigation.
- 39 The collocation scores as well as syntactic templates searchable on Sketch Engine allow to see how *gr-* words are used in context and if some semantic aspects are triggered

over others according to the context (see Kilgarrieff *et al.* [2004] and Kilgarrieff *et al.* [2012] on using Sketch Engine as linguistic evidence). A protocol was established to treat the data in a profitable manner.

3.4. Protocol

40 In order to tackle the semantic and distributional behaviour of my sample of *gr*- words, two functions of Sketch Engine are used:

- The Thesaurus presents a list of the most frequent and most similar lexicogrammatical collexemes. Note that the terminology can be confusing since Sketch Engine uses the term “synonym” to refer to the semantic network-induced collexemes;
- The Word Sketch function relies on lexicogrammatical parsing, which allows to choose the most frequent or most similar collocates to be looked at in more details. As mentioned further below, the parsing algorithm shows numerous mistakes.

41 A number of constraints had to be respected:

- Only the 20 first typical collexemes generated by Sketch Engine via the Thesaurus were looked at, since the typicality scores become insignificant as one scrolls down the list for too long;
- Collexemes that show a similarity of less than 0.1% were discarded, as well as those that have a score smaller than 1;
- For each of the 5 *gr*- words, only a limited number of collexemes were looked at in more details. This number varies depending on the reliability of the tagging and parsing established by Sketch Engine, and on the potential for semantic change. But in general, at least 2 collocates for each syntactic category were selected to be further investigated;
- Because the scope of this study had to be constricted, grammatical collexemes were not taken into account;
- Proper names were also discarded, for the sake of clarity and time, and because onomastics is a special case that needs extra care with its own questions that will not be addressed here;
- When possible, I tried to match the context of use of *gr*- words to the OED definitions in order to assess the reliability of the OED and also to determine what contextual elements might have triggered this particular sense.

42 However, Sketch Engine corpus probing has shown a number of tagging and parsing errors. These difficulties are addressed, and a number of methodological solutions are proposed:

- Most web links gathered in the OEC date back to the early 2000s and are no longer active;
- Some syntactic functions are not well identified by the algorithm. The wrong attributions were not discarded straight away, because although the quantitative data must be at least partly wrong (typically the general frequencies and proximity scores), the contexts themselves might still be valuable;
- In general, the more occurrences of a collocate, the fewer tagging and parsing errors, which is also why the size of the corpus matters. In the end, the syntactic parsing category that proved to be the most reliable was the *and/or* group. Most of these collocates were exploitable as they contained much less attribution errors than the rest;
- It is common to encounter copies of the same original work treated as distinct sources, which skews the quantitative data. Sometimes the sentences are not exactly the same, but the core text is very similar;

- There were many more mistakes with nouns than verbs, thus the final data sheet contained more verbal contexts than nominal ones.

4. Results

4.1. Groan

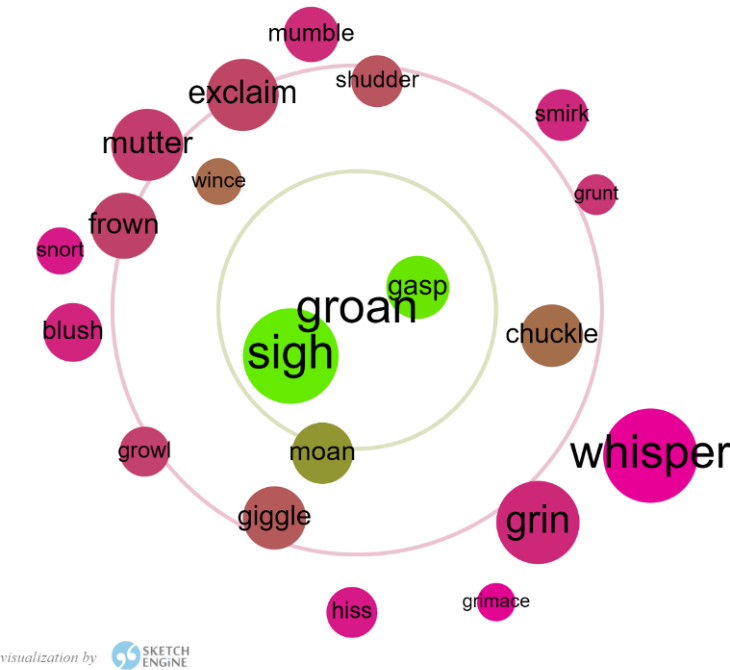
43 Tables 6 and 7 show the Thesaurus data for *groan*. Table 6 shows the most similar collexemes of the verb *groan*, while Table 7 shows the most similar collexemes of the noun *groan*. Figures 2 and 3 show those same collexemes as a visual representation. The listed collexemes are based on the similarity of collocational behaviour and their overall frequency. The closer to *groan* on the collexeme space, the higher the collocation similarity, while the bigger the circle, the more frequent the collexeme across the OEC. *Groan* is the most frequent of the five *gr-* words selected. Both the verb and noun collexemes relate to a sound production of some sort, mostly human (*sigh*, *mumble*) or animal (*howl*, *roar*, *hiss*) in origin. In most cases the subject of such verbs can be either human or animal. Four *gr-* words are among the collexemes, displaying relatively high similarity scores, compared to what can be found elsewhere. Some of the collexemes also carry a phonesthemic part on top of *gr-* (*sm-* in *smirk*, *bl-* in *blush*, *sn-* in *snort*, *wh-* in *whisper*, *shr-* in *shriek*, *squ-* in *squeal*, *scr-* in *scream*) or seem to be onomatopoeic or mimetic in origin (*chuckle*, *giggle*, *mumble*, *grunt*, *growl*, *howl*, *hiss*). There is even a case of rhyming with the word *moan*. More generally, a lot of these words have expressive meanings (*giggle*, *exclaim*). A lot of these collexemes also convey a negative connotation or feeling (*wince*, *chuckle*, *frown*, *wail*, *sob*). Some of them also depict facial expressions (*frown*, *grimace*), or a distorted smile (*grin*, *smirk*). This suggests that *groan* tends to appear in multimodal contexts, in combination with other means of communication and expression. The element *-le* is also present in three of them (*chuckle*, *giggle*, *mumble*). Most collexemes correspond to the semantic category SOUND/VOICE/UTTER, and a few to the category WEEP/COMPLAIN/ANGER (*sigh*, *wail*, *sob*).

Table 6. Frequency and similarity scores of the collexemes of *groan* v.

Collocate	Frequency	Similarity
sigh	33,402	0.343
gasp	12,221	0.340
moan	11,317	0.298
chuckle	11,899	0.276
wince	5,437	0.274
giggle	12,251	0.264
shudder	7,267	0.260
exclaim	17,017	0.254

frown	13,602	0.251
growl	6,568	0.249
mutter	16,916	0.248
grunt	3,656	0.244
mumble	8,640	0.239
grin	24,045	0.237
smirk	7,223	0.236
blush	10,153	0.235
snort	5,573	0.228
hiss	6,893	0.227
grimace	3,015	0.217
whisper	32,378	0.215

Figure 2. Thesaurus representation of *groan* v.



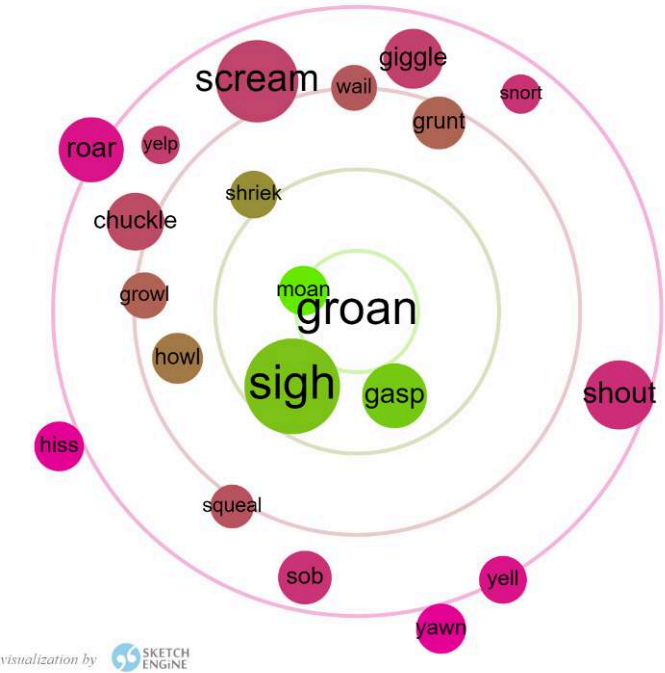
44 A substantial amount of the noun colllexemes are verbs misrecognised by the algorithm. Virtually, all the colllexemes presented as verbs, on the other hand, seem to be real verbs. Only *sigh*, *gasp* and *moan* are close semantic relatives of *groan*, which indicates

that *groan* probably has a key role to play in the mental lexicon, potentially as a foundation word (see Smith [2022a: 284]).

Table 7. Frequency and similarity scores of the collexemes of *groan* n.

Collexeme	Frequency	Similarity
moan	3,034	0.358
gasp	7,134	0.335
sigh	20,593	0.329
shriek	2,661	0.293
howl	3,359	0.277
grunt	3,782	0.263
growl	2,396	0.261
wail	2,326	0.254
squeal	1,947	0.250
chuckle	5,036	0.245
scream	13,931	0.239
giggle	5,653	0.236
yelp	1,134	0.234
snort	1,268	0.226
sob	3,966	0.226
shout	8,616	0.223
yell	2,690	0.204
roar	7,229	0.204
hiss	3,093	0.192
yawn	3,167	0.191

Figure 3. Thesaurus representation of *groan* n.



45 The lexicogrammatical positions provided by the Word Sketch show that the *and/or* category contains the most frequent and the most similar colllexemes. *Moan* is the most frequent as well as the most similar colllexeme here, as it was already in the Thesaurus. The *X* in N* category shows the source of groaning. Most convey a negative connotation (*pain, agony, despair*) and only a few have a positive connotation (*pleasure*).

Table 8. Colllexemes for *groan* v. in the OEC (Word Sketch)

And/or	Freq.	Score	N subj V*	Freq.	Score	X* in N	Freq.	Score
moan	316	11.4	shelf	31	8.4	travail	11	9.3
creak	84	10.5	creation	33	7.8	pain	115	9.3
grunt	77	10.1	table	29	7.0	frustration	38	8.8
roll	61	8.8	earth	12	6.1	agony		
wince	12	7.6	[...]			annoyance		
gasp	16	7.6				exasperation		
grumble	11	7.5				ecstasy		
sigh	31	7.4				sympathy		
slump	9	7.4				despair		

complain	16	7.4				disgust		
weep	15	7.3				pleasure		
shriek	10	7.2				[...]		
writhe	9	7.2						
shudder	9	7.2						
strain	8	7.0						
hiss	9	6.9						
whimper	7	6.9						
[...]								
gripe	6	6.9						
[...]								
grimace	6	6.7						
[...]								
mumble	6	6.6						
[...]								
grieve	5	6.3						
[...]								
mutter	5	6.3						
bleed	6	6.2						
crack	7	6.2						
growl	5	6.1						
cry	17	6.1						
[...]								

Table 9. Collexemes for *groan* n. in the OEC (Word Sketch)

And/or	Freq.	Score	X mod N*	Freq.	Score	V obj N*	Freq.	Score
moan	114	11.0	audible	35	8.2	stifle	43	7.5

grunt	83	10.4	strangle	8	7.0	elicit	46	7.0
creak	38	10.0	muffle	12	6.9	emit	33	6.8
sigh	61	9.7	guttural	8	6.9	utter	17	6.0
shriek	27	9.1	pained	8	6.7	suppress	30	5.4
cry	39	8.1	exasperated	8	6.5	smother	4	5.2
gasp	10	7.7	unearthly	6	6.5	hear	213	4.7
scream	22	7.6	smother	5	6.4	repress	4	4.7
sob	8	7.5	[...]			swallow	4	3.5
grumble	6	7.4	loud	66	6.4	prompt	14	3.4
grimace	6	7.2	frustrated	20	6.4	induce	9	3.0
squeak	7	7.2	orgasmic	5	6.2	provoke	5	2.6
cheer	16	7.1	agonized	4	6.1	draw	22	2.1
gripe	5	7.0	disgusted	4	5.9	ignore	5	1.0
boo	6	7.0	stifle	7	5.9			
guffaw	4	6.8	[...]					
giggle	7	6.8	anguished	4	5.4			
yell	6	6.8	ache	5	5.3			
laugh	17	6.8	mournful	4	5.3			
squeal	5	6.7	disappointed	4	5.0			
yawn	4	6.7	faint	11	4.9			
lamentation	4	6.7	[...]					
rattle	5	6.6	agonizing	4	4.8			
chuckle	4	6.5	[...]					
curse	7	6.3	slight	25	4.0			
whisper	5	6.3	hollow	4	3.8			
shout	5	6.0	soft	29	3.7			
tear	17	5.7	[...]					

crack	7	5.6	deep	31	2.7			
laughter	9	5.5	[...]					
complaint	8	5.1	low	47	1.6			
click	4	4.7						
noise	5	3.4						
[...]								
sound	7	3.1						
ground	4	2.2						
[...]								

- 46 The nature of the contexts of use of *groan* greatly depends on the collocates. In general, phonesthemic and onomatopoeic collocates tend to trigger contexts that contain a large proportion of phonesthemic and onomatopoeic words. They also tend to contain more expressive marks, like capital letters, expression points, insults and repetitions, although it is not systematic. They also tend to appear in dialogues and conversations. Collocates starting with *cr-* are particularly prolific in onomatopoeic contexts, like in (1). Intensifying adverbs also seem to trigger more phonesthemic and onomatopoeic contexts, as in (2). The OEC does not always provide the source from which the context is quoted, and the web links are dead for most of them, but they are still included here when indicated.

(1) As the sound of the thunder rolled away, they all heard a noise of **creaking** and **groaning** coming from outside the house. Rushing to the windows, they saw the kaldis tree – split and blackened where it had been struck – sway for a moment and then crash to the ground. Oh, no! cried Dunelm in anguish. (source unknown)

(2) As I walked towards Josh's motionless body, glass cracked and wood crunched. Tile crumbled from the walls and sparks erupted from falling lights. The floor was shimmering with the metal from instruments. A soft wind blew my hair and rain moistened my bloody face. I glared down at the back of Josh's head. A maroon stream of blood was slithering down the back of his it, dyeing the color of his hair deep red. My lips trembled as he **groaned loudly**. "Y-yeah." he sputtered. I smiled widely. "W-W-What's going on?" Josh said with a hint of terror in his tone. "It must be Josh." I thought to myself. Another piece of weight was added. I assumed it was the kid. The car door slammed shut from the wind pressure, crushing my already pulsing leg in the door. Another gust of wind ripped it open, deafening my screams of pain. (source: <http://www.fictionpress.com/read.php?storyid=1754021&chapter=1>)

4.2. Grunt

- 47 Tables 10 and 11 show the most frequent collexemes of *grunt* v. and *grunt* n., respectively. The same goes with Figures 4 and 5. The collexeme network of *grunt* is very similar to that of *groan*, since they share the same collexemes, and in roughly the same order, from most to least similar. They both exhibit the same *gr*-collexemes, with the addition of *grumble* here, and the absence of *grin*. Once again, there are words that depict facial expressions (*grimace*, *scowl*, *smirk*). A substantial amount of collexemes contain the long vowel /i:/ (*squeal*, *shriek*, *squeak*, *scream*) or the short vowel /ɪ/ (*grimace*, *whimper*, *hiss*, *giggle*). Although high acoustic frequencies and closed vowels have been statistically correlated with smallness (cf. *teeny*, *wee*, *itsy-bitsy*) (Ohala [1994: 335-336]), which has also been confirmed by experimental evidence (Hoshi *et al.* [2019]), these collexemes do not follow this pattern here.

Table 10. Frequency and similarity scores of the collexemes of *grunt* v.

Collexeme	Frequency	Similarity
groan	9,294	0.244
growl	6,568	0.239
moan	11,317	0.215
mumble	8,640	0.208
snort	5,573	0.207
gasp	12,221	0.200
grimace	3,015	0.199
whimper	2,233	0.198
squeal	4,103	0.185
shriek	5,252	0.184
hiss	6,893	0.184
pant	3,817	0.182
chuckle	11,899	0.177
mutter	16,916	0.168
grumble	6,685	0.168
murmur	7,821	0.168
sigh	33,402	0.168

scowl	3,501	0.167
smirk	7,223	0.166
yelp	1,671	0.166

Figure 4. Thesaurus representation of *grunt* v.

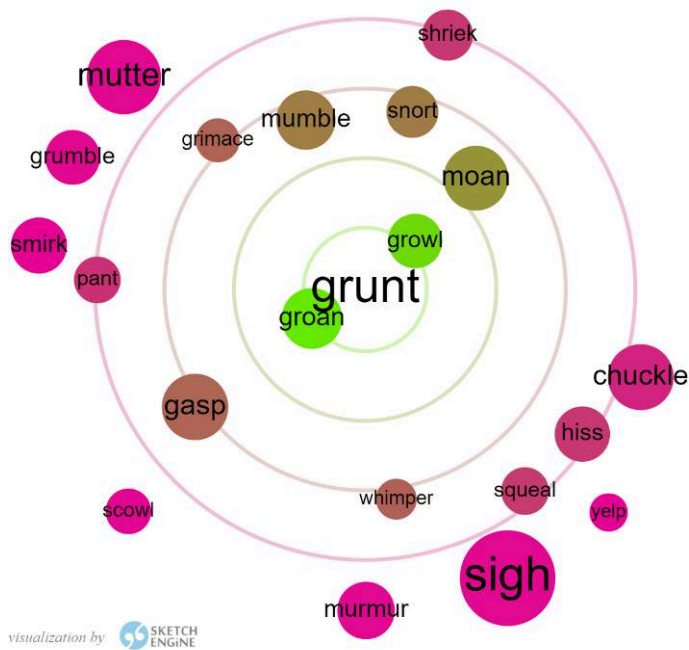
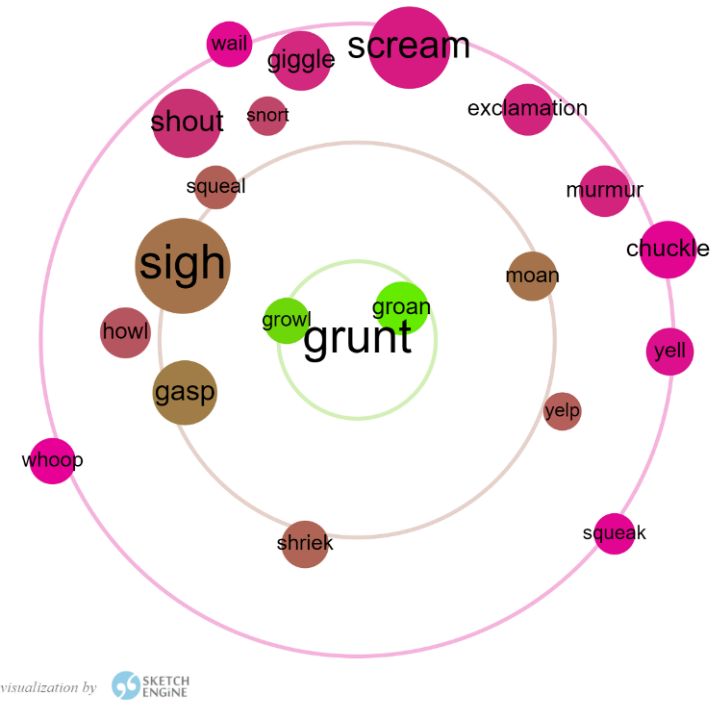


Table 11. Frequency and similarity scores of the collxemes of *grunt* n.

Collxeme	Frequency	Similarity
groan	3,973	0.263
growl	2,396	0.253
gasp	7,134	0.210
moan	3,034	0.206
sigh	20,593	0.206
shriek	2,661	0.198
squeal	1,947	0.196
yelp	1,134	0.194

howl	3,359	0.190
snort	1,268	0.183
shout	8,616	0.173
giggle	5,653	0.167
exclamation	3,560	0.166
murmur	3,472	0.165
scream	13,931	0.162
yell	2,690	0.155
wail	2,326	0.153
chuckle	5,036	0.151
squeak	1,576	0.151
whoop	2,424	0.149

Figure 5. Thesaurus representation of *grunt* n.



48 The collocation profile of *grunt* is very similar to that of *groan*. Once again, the *and/or* category contains the most frequent and the most similar collexemes. *Groan* is the most similar collexeme of the category. The *X* in N* category, although less coherent, is very

similar to that of *groan*. These observations show that these two words are distributionally close. There are a few verbs of body movement (*heave*, *nod*, *shrug*, *slump*), suggesting that *grunt* also has a multimodal behaviour.

Table 12. Collexemes for *grunt* v. in the OEC (Word Sketch)

And/or	Freq.	Score	V* obj N	Freq.	Score	X* in N	Freq.	Score
groan	77	10.1	acknowledg- ment	5	6.0	annoyance	5	8.1
sweat	36	9.3	pig	10	5.8	pain	28	7.3
growl	16	8.5	greeting	6	5.7	reply	22	7.2
moan	28	8.3	hello	4	5.0	satisfaction	6	7.2
snort	12	8.3	reply	8	4.6	frustration	10	7.0
strain	10	8.1	approval	9	3.5	surprise	9	6.8
heave	7	7.8	response	5	1.2	disgust	6	6.3
wince	7	7.7				agreement	13	5.7
grumble	7	7.6				response	36	4.7
squeak	6	7.6				return	5	2.8
wheeze	7	7.6						
squeal	7	7.6						
howl	7	7.4						
mumble	6	7.4						
scowl	5	7.3						
swear	11	7.2						
grimace	4	7.0						
point	12	7.0						
struggle	8	6.9						
snarl	4	6.8						
sniff	4	6.7						
shriek	4	6.6						

gasp	5	6.5						
curse	5	6.3						
cough	6	6.2						
grind	4	6.0						
lay	4	6.0						
scream	16	6.0						
puff	4	5.9						
shout	8	5.7						
nod	8	5.3						
sigh	5	5.0						
[...]								

Table 13. Collexemes for *grunt* n. in the OEC (Word Sketch)

And/or	Freq.	Score	X mod N*	Freq.	Score	V obj N*	Freq.	Score
groan	83	10.4	guttural	13	7.5	utter	12	5.5
moan	24	8.8	annoy	12	7.4	emit	13	5.5
squeal	19	8.7	grunt	10	7.3	elicit	5	3.8
growl	14	8.3	non-committal	8	7	hear	68	3.1
snapper	13	8.1	blackberry	7	6.7	lack	5	1.0
sigh	19	8.1	blue-striped	5	6.7	manage	6	1.0
squeak	9	7.7	muffle	10	6.6			
gasp	8	7.4	irritated	7	6.5			
howl	7	7.3	satisfied	10	6.5			
scream	17	7.3	audible	11	6.4			
croak	5	7.2	mono-syllabic	5	6.4			
whimper	5	7.2	Cherub	4	6.3			
snort	5	7.2	unintelligible	5	6.2			

nod	12	7.1	animalistic	4	6.0			
shrug	6	7.1	low-end	8	5.9			
mono-syllable	4	7.0	inarticulate	4	5.9			
hoot	5	7.0	frustrated	11	5.5			
grind	6	7.0	appreciative	5	5.4			
twitch	5	6.9	loud	26	5.1			
sniff	4	6.8	infantry	7	4.9			
yelp	4	6.7	pig	8	4.8			
snarl	4	6.6	low-level	6	4.7			
yell	5	6.6	gaming	11	4.4			
roar	5	6.5	monkey	4	4.4			
slump	5	6.5	occasional	30	4.3			
shriek	4	6.4	Marine	10	4.1			
hiss	5	6.2	angry	12	3.7			
cry	10	6.2	sheer	13	3.4			
grunt	4	6.1	soft	19	3.1			
shout	5	6.0	army	9	3.0			
gesture	12	5.9	level	7	2.8			
glance	4	5.9	mighty	4	2.8			
whistle	8	5.6	graphics	4	2.8			
jack	4	5.6	army	9	2.5			
cough	6	5.4	processing	4	2.5			
laugh	5	5.0	slight	8	2.3			
sweat	6	4.9	engine	4	2.2			
breathing	4	4.9	intellectual	10	2.1			
click	4	4.7	enemy	4	2.1			
crash	4	4.5	odd	7	2.0			

noise	5	3.4	marine	4	1.9			
call	4	2.6	happy	6	1.4			
sound	5	2.6	animal	6	1.3			
word	5	1.9						
[...]								
music	6	1.0						
[...]								

- 49 Some collexemes (*acknowledgment*, *reply*, *hello*, *gesture*) show a high level of interaction across the contexts, as well as the expression of emotions, especially in the X^* in N group (*annoyance*, *satisfaction*, *frustration*). Those emotions are predominantly negative and occur in arguments and disputes. In most cases, the word *grunt* does not appear directly inside the dialogue, but near it, as in (3). In this case, *grunt* is used as a reporting verb and serves to convey the disapproving tone of the subject.

(3) “Anyone checked the basement for pods?” Jake mumbled. “I beg your pardon, sir?” Eight inquired quizzically. “We have no basement and therefore, no pods.” “It was a joke, Eight.” Jake replied. Jake **grunted** an **acknowledgment** and continued his inspection of the eggs. (source unknown)

- 50 Overall, contexts including *grunt* are very similar to the ones including *groan*. *Grunt* appears extensively in collocation with *groan* and *moan*, and those contexts tend to feature a lot of other phonesthemic or iconic collocates, as in (4). Once again, the intensifier *loudly* also triggers phonesthemic collocates, as well as expressive markers (exclamative points and question marks), as in (5).

(4) It was the raw, infectious beat of tracks like I Feel Good that truly revealed his art. To witness a James Brown concert was to see “performance” taken to its extreme. His gravelly voice extended to include every conceivable screech, scream, **grunt** and **moan**; he wore eye make-up, his trousers were tight, his pompadoured hair could appear to defy gravity; he would shuffle and shimmy and perform flying splits. (source: <https://www.telegraph.co.uk/news/obituaries/1537815/James-Brown.html>)

(5) Dimitri was relieved that he had not noticed how long it had taken him to whip up something from scratch. “It’s pasta sir,” He replied. I made it you bloody git! How could he think that it was frozen food!? Dimitri cringed away from the raging monster and quickly stumbled towards the door. He heard his father **grunt loudly** and mutter. He grabbed his leather jacket from the stand in the corridor and quickly exited the house. He yawned and hauled himself up onto the bus. It was so much effort. He groaned and leaning his head on the seat in front of him, turning away from his friend. (source: <https://www.fictionpress.com/read.php?storyid=1646777&chapter=7>)

- 51 Contexts are often conversational, even though a lot of those conversations are fictional. Using phonesthemes seems to produce expressive contexts, rather than purely descriptive and informational ones.

4.3. Grudge

- 52 As for the previous case study words, Tables 14 and 15, as well as Figures 6 and 7, show the Thesaurus results for *grudge*, both verb and noun. The situation is very different than for the first two words, as this time there are hardly any words that are phonesthemic or iconic in any way, apart from *grievance*, which also conveys a negative meaning. The frequencies are much more irregular and chaotic than with the collexemes of *groan* and *grunt*, and the similarity scores are lower. Some of the collexemes of *grudge* v. are paradigmatic forms (*repining*, *forebode*, *missing*), indicating that not all the forms of each word have been successfully parsed by Sketch Engine. This issue may have distorted the figures, but not as to show such discrepancies in frequencies and such low scores. Some of the collexemes are in fact not even verbs at all (*naïve*, *jar*, *gall*), which may be partly explained by the fact that a lot of instances of *grudge* v. in the OEC correspond to the set phrase “to hold a grudge against [...]”.
- 53 However, the collexemes virtually all show some level of negative meaning or connotation. Some of them are synonyms, especially nouns (*animosity*, *resentment*, *enmity*, *rancor*), but their similarity scores are low. Most of them match the OED-drawn category *WEEP/COMPLAIN/ANGER*. A large number of collexemes cling around *grudge*, which suggests that *grudge* does not play the same lexical role as *groan* and *grunt* do. It probably does not hold a special place in the mental lexicon of native speakers as *groan* and *grunt* do.

Table 14. Frequency and similarity scores of the collexemes of *grudge* v.

Collexeme	Frequency	Similarity
naïve	1,204	0.098
condescend	2,373	0.097
repining	28	0.094
begrudge	2,075	0.088
underwhelm	2,208	0.087
forebode	88	0.082
nauseate	1,410	0.079
cloy	1,347	0.074
disbelieve	1,888	0.066
convolute	1,205	0.065

pixelate	580	0.063
jar	3,322	0.057
gall	2,269	0.056
missing	35	0.055
discomfort	726	0.055
dispirit	1,595	0.054
garble	1,342	0.054
oversimplify	1,709	0.054
misguide	4,249	0.051
abash	431	0.051

Figure 6. Thesaurus representation of *grudge* v.

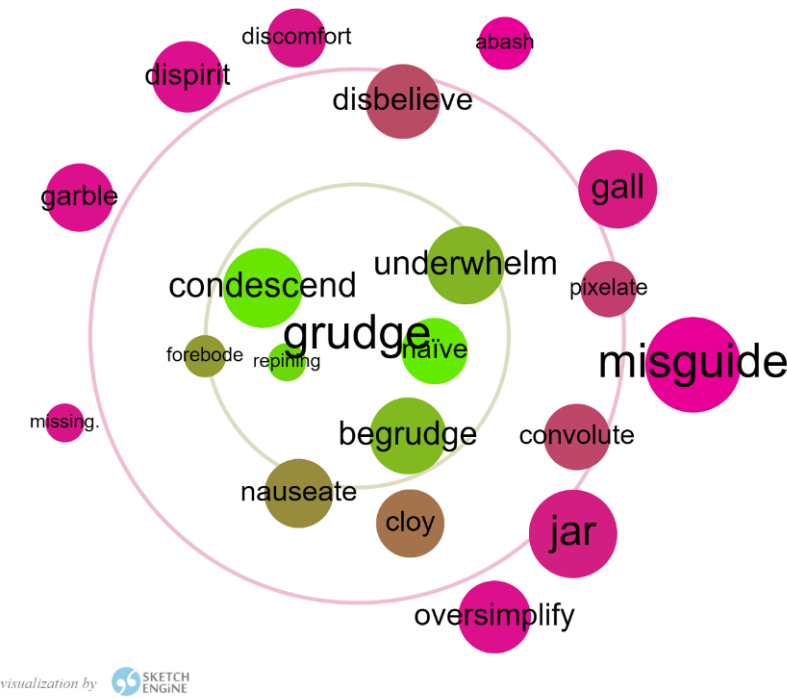
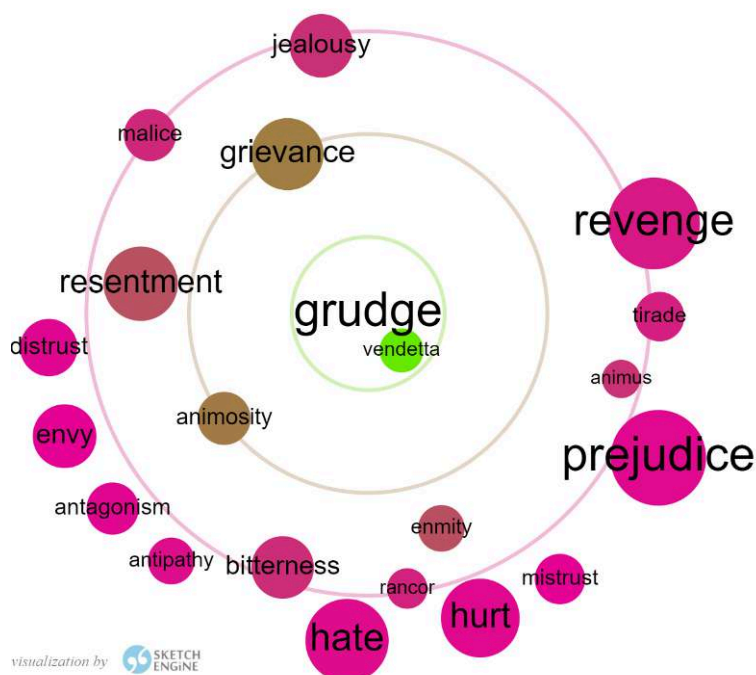


Table 15. Frequency and similarity scores of the colllexemes of *grudge* n.

Colllexeme	Frequency	Similarity
vendetta	2,326	0.214

grievance	13,492	0.153
animosity	4,916	0.151
resentment	14,817	0.128
enmity	2,963	0.127
animus	1,171	0.110
jealousy	9,087	0.109
bitterness	8,647	0.107
malice	4,620	0.104
rancor	1,573	0.101
tirade	3,764	0.099
revenge	26,940	0.095
antipathy	3,006	0.089
hate	20,596	0.088
hurt	17,553	0.086
prejudice	30,075	0.086
antagonism	4,614	0.085
distrust	6,488	0.085
mistrust	4,044	0.082
envy	9,228	0.082

Figure 7. Thesaurus representation of *grudge* n.

- 54 The *and/or* category shows more semantic cohesion than the others. All collexemes in this category relate to a form of negative emotion. Overall, there are much more nouns than verbs. The Word Sketch announces 4,702 nouns for 542 verbs, and a lot of the alleged verbs are nouns. The amount of collexemes that feature a high similarity score is rather low, especially compared to what was observed for *groan* and *grunt*. This means that *grudge* does not have very close semantic relatives, which is confirmed by the Thesaurus data. The Word Sketch gives a more qualitative picture and shows that only a restricted meaning of *grudge* is observable in the OEC.

Table 16. Collexemes for *grudge* v. in the OEC (Word Sketch)

N subj V*	Freq.	Score	X* in N	Freq.	Score	V* obj N	Freq.	Score
respect	3	6.5	praise	5	5.9	expense	2	8.4
parliament	2	3.3	quarter	2	2.3	prepared-ness	2	6.6
sound	2	2.8	support	3	1.6	admiration	4	4.8
Moore	2	2.6				acknowledg-ment	2	4.7
part	2	2.6				respect	12	3.6
						acceptance	3	3.5
						resignation	2	2.9

					rival	2	2.7
					sacrifice	2	2.5
					recognition	3	2.3
					match	6	2.2
					tribute	2	1.6

Table 17. Collexemes for *grudge* n. in the OEC (Word Sketch)

And/or	Freq.	Score	X mod N*	Freq.	Score	V obj N*	Freq.	Score
vendetta	6	8.0	long-held	10	6.6	harbor	134	8.3
grievance	16	7.9	deep-seated	5	5.5	nurse	101	8
animosity	9	7.7	long-standing	29	5.5	bear	445	7.5
feud	8	7.6	bear	12	5.2	hold	993	6.1
resentment	14	6.6	petty	14	5	settle	36	5.2
rivalry	6	6.0	long-running	6	4.5	nurture	10	4.8
hurt	6	5.9	personal	170	4	carry	90	3.7
alliance	8	5.5	[...]			forget	11	2.7
jealousy	5	5.5	last	8	3.7	overcome	5	1.8
hate	5	5.1	bitter	9	3.2	have	489	1.5
hatred	8	4.8	lifelong	5	2.9	pursue	6	1.3
[...]			ancient	17	2.6			
prejudice	5	4.3	hidden	5	2.4			
[...]			old	112	2.3			
			deadly	5	2.1			
			deep	20	2			
			historical	13	1.8			
			tremendous	5	1.7			
			secret	7	1.6			

			serious	17	1.1			
			[...]					

- 55 Most uses of *grudge* in the OEC contexts correspond to the two senses defined in the OED: 1) “To envy (a person). Also intransitive. To be envious.” [sense: v. (3); date: 1577]; and 2) “Ill-will or resentment due to some special cause, as a personal injury, the superiority of an opponent or rival, or the like.” [sense: n. (3a); date: 1477]. But instances of the verb are very rare. The nominal use can be found in (6). The sense “To murmur; to utter complaints murmuringly; to grumble, complain; to be discontented or dissatisfied.” [v. (1a); 1440] can hardly be found across the corpus. It is found in (7), which evidently is a copy of a much older text, although both the web link and the original source are unspecified.

(6) The killers of Meredith Kercher had no obvious motive for murder and displayed no “animosity or grudge” towards the British student, an Italian court has concluded. Meredith Kercher’s murder was “without planning, without any **animosity** or **grudge** against the victim” ruled the judges. (source: <https://www.telegraph.co.uk/news/worldnews/europe/italy/7369255/Meredith-Kerchers-killers-had-no-grudge-against-her-rule-judges.html>)

(7) What he himself spake on his death-bed for example to other, I thought not less to pretermitt. Who hearing that he should die, and that there was no remedy, **murmured** and **grudged**, wherefore he should die, having so much riches, saying, that if the whole realm would save his life, he was able either by policy to get it, or by riches to buy it; adding and saying, moreover, “Fie,” quoth he, “Will not death be hired? Will money do nothing? [...]” (source unknown)

- 56 Overall, the contexts in which *grudge* appears are less expressive than for *groan* and *grunt*. The nature of the contexts is different, as there are fewer dialogues, and more descriptive and political contexts, as in (8), historical content as in (9), or sport commentating as in (10).

(8) Yorkshire in fine old style. But hacks imprisoned on the Tory battlebus for the last three weeks or so were **grudging** in their **praise**. Britain’s first General Election of the new millennium pressed kitchens, pubs and even a fish and chip shop into service as polling stations. (source: <https://www.yorkshirepost.co.uk/viewarticle2.aspx?sectionid=55&articleid=192022>)

(9) In the end Melville won but the monument was not erected on the first site proposed, Calton Hill, but in its present position in the square, 16 years after work began. If that **sounds grudging**, the Americans took 100 years to complete the national monument to General Washington. (source: https://www.findarticles.com/p/articles/mi_qn4156/is_20001029/ai_n13955308)

(10) Moving to Jaguar last year, he accounted for 17 of the 18 points carded by the Big Cat. Impressive in a sport where everything is relative and **respect** can be **grudging**. After early-season struggles, the French GP last weekend was a better race for Jaguar. (source: <https://www.scotsman.com/sport>)

4.4. Grip

- 57 *Grip* is the first of the selected sample words to refer to the HOLD/CLUTCH/TOUCH category. Some of its collexemes relate to diseases or health issues (*plague*, *paralyse*, *cripple*), and more generally, to the semantic field of affliction (*trouble*, *afflict*, *ravage*, *hurt*). Surprisingly, the intuitive “prehension” meaning that was expected does not prevail in the verb list (only *clutch*, *touch* and *seize*, displaying a rather low score). The noun list, however, shows a number of words relating to prehension (*hold*, *grasp*, *handle*, *touch*), which strongly resonate with the key words collected from the OED. Once again, a substantial amount of these are verbs misinterpreted as nouns, but the semantic cohesion of the lexicography-based features is partly confirmed by these corpus data.
- 58 Once again, a few phonesthemic collexemes are in the semantic network (*grab*, *cripple*, *wrack*, *crush*), among which some are onomatopoeic (*wrack*, *crush*). The only close collexeme of *grip* is *hold*, which happens to be the most frequent key word of the conceptual category HOLD/CLUTCH/TOUCH in the OED. The word *grip* must therefore occupy a key place in the mental lexicon, as *groan* and *grunt* do, although its overall collocation behaviour is very different.
- 59 However, a specific submeaning of *grip*, associated with the lexical field of disease, affliction and infirmity seems to have taken over in usage. It has stepped over most of the other submeanings of *grip*, namely that of prehension. The prehension meaning is defined as following in the OED: “To grasp or seize firmly or tightly with the hand; to seize with the mouth, claw, beak or other prehensile organ” [sense: verb 1 (1a); date: 950]. Another sense that originated from this prehension meaning developed from semantic shift: “Transferred. Said of a disease” [sense: v.1 (1c); date: 1818].
- 60 Following Flaksman’s model of the iconic treadmill [2017: 18], which states that iconic words gradually become less expressive, it is possible that an originally iconic meaning of *gr-* associated with prehension gradually lost its motivated sense overtime, to the benefit of other submeanings. This model postulates that motivated forms usually acquire new collocation abilities, which leads to the development of polysemy (Flaksman [2017: 28]), but it has rarely been acknowledged in corpus studies. The collocational profile of *grip* is an example of a semantic restriction that led to the de-iconisation of *gr-*, and therefore constitutes a case of phonesthemic divergence.

Table 18. Frequency and similarity scores of the collexemes of *grip* v.

Collexeme	Frequency	Similarity
plague	16,773	0.246
haunt	19,534	0.236
overwhelm	25,012	0.227
rock	28,285	0.223
beset	5,172	0.222
paralyze	12,625	0.213

trouble	31,237	0.210
touch	110,652	0.206
engulf	9,055	0.206
grasp	25,194	0.202
afflict	9,643	0.201
clutch	11,605	0.201
devastate	42,598	0.198
ravage	6,595	0.197
grab	85,225	0.197
overtake	16,050	0.182
overshadow	11,131	0.182
disturb	26,461	0.179
ruin	35,618	0.179
hurt	107,724	0.178
cripple	10,770	0.175
wrack	2,264	0.168
crush	37,605	0.167
shatter	23,005	0.166
seize	60,278	0.162

Figure 8. Thesaurus representation of *grip* v.

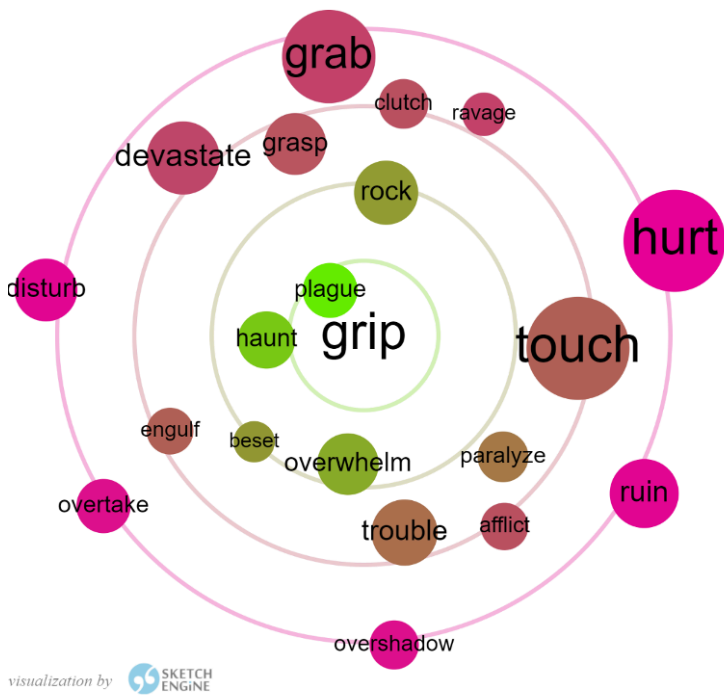
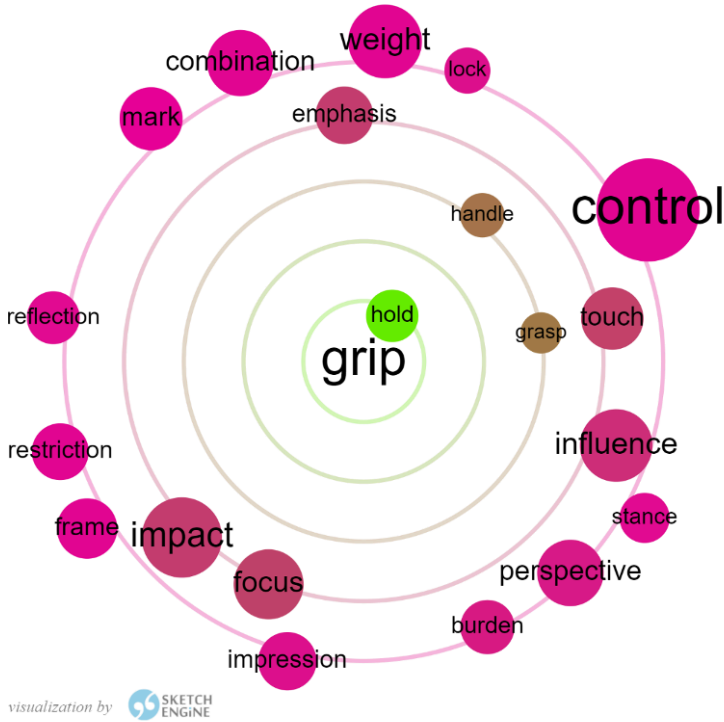


Table 19. Frequency and similarity scores of the colllexemes of *grip* n.

Colllexeme	Frequency	Similarity
hold	49,439	0.223
grasp	14,023	0.181
handle	21,990	0.179
focus	149,508	0.160
touch	99,792	0.159
emphasis	73,828	0.158
impact	233,318	0.157
influence	169,428	0.152
burden	57,293	0.145
perspective	124,901	0.144
impression	77,293	0.141
lock	26,721	0.140

stance	40,474	0.138
reflection	51,546	0.138
restriction	69,899	0.137
weight	177,967	0.137
control	484,375	0.136
frame	88,376	0.136
combination	124,043	0.136
mark	104,165	0.135

Figure 9. Thesaurus representation of *grip* n.



61 Many more Word Sketch categories were relevant this time. Not all the categories are presented because it would be too long, and only the most similar collexemes are presented. For *grip* v., the Word Sketch shows that the *N subj V** category is the construction pattern where the metaphorical sense of affliction emerged. Most subjects of *grip* are nouns denoting negative emotions (*fear, anxiety, terror, horror*) or some form of physical or mental illness (*crisis, paralysis, hysteria, paranoia*). The *and/or* category contains verbs of motion and manual action, but contains very few collexemes overall. The *V* obj N* category, on the other hand, contains the object nouns that can be gripped. A lot of them are physical objects (*wheel, handle, hilt*) and body parts (*wrist, arm, throat*), but some also correspond to a metaphorical sense (*nation, imagination, country*). Overall,

this shows that the prehension meaning of *grip* is not as productive as the metaphorical sense.

Table 20. Collexemes for *grip* v. in the OEC (Word Sketch)

And/or	Freq.	Score	V* obj N	Freq.	Score	N subj V*	Freq.	Score
grip	10	9.2	wheel	136	7.7	fear	237	9.2
squeeze	8	7.8	handle	89	7.4	panic	90	9.0
pull	8	6	shoulder	128	7.4	fever	83	9.0
move	20	5.8	nation	243	7.2	hand	318	8.4
hold	15	5.8	imagination	94	7.1	tension	54	7.5
			railing	40	7.1	anxiety	30	7.4
			wrist	43	6.6	crisis	74	7.2
			armrest	26	6.6	finger	44	7
			hilt	26	6.6	paralysis	14	6.9
			handlebar	26	6.6	terror	22	6.9
			edge	90	6.5	panic	11	6.6
			arm	215	6.5	urge	12	6.5
			cock	31	6.4	hysteria	11	6.5
			sword	48	6.3	chaos	14	6.4
			rail	30	6.3	drought	14	6.4
			country	366	6.1	tension	9	6.3
			[...]			unrest	11	6.3
			forearm	19	5.9	paranoia	10	6.3
			chest	27	5.9	madness	10	6.2
			throat	32	5.9	insurgency	11	6.2
			[...]			delusion	9	6.2
			hand	250	5.4	recession	16	6.2
			heart	83	5.4	excitement	11	6.1
			[...]			famine	9	6.1

			chin	15	5.3	horror	10	6
			hip	15	5.2	excitement	7	6
			doorknob	10	5.2	uncertainty	12	5.9
			stomach	17	5.1	[...]		
			[...]			grief	8	5.8
			elbow	14	5.1	[...]		
			[...]					
			thigh	10	5			
			[...]					
			flesh	10	4.5			
			[...]					
			ankle	9	4.4			
			[...]					
			knee	12	4.4			
			[...]					

- 62 For *grip* n., the *and/or* category essentially contains technical terms and industry-related objects (*traction*, *downforce*, *frame*, *polymer*, *shaft*). The *V obj N** and *N* subj V* categories mainly contain verbs relating to manual work, although some metaphorical senses can also be observed.

Table 21. Collexemes for *grip* n. in the OEC (Word Sketch)

And/or	Freq.	Score	V obj N*	Freq.	Score	N* subj V	Freq.	Score
beavertail	35	8.9	tighten	1,157	10.6	loosen	46	9.6
traction	30	8.2	loosen	594	10.0	tighten	101	9.5
pistol	49	8	relax	174	8.0	lessen	7	6.8
stance	39	8	consolidate	115	7.2	weaken	10	5.7
grip	36	8.0	strengthen	227	7	slip	17	5.2
downforce	18	7.9	lose	1,452	6.8	fit	11	4.3
forearm	23	7.6	loose	57	6.7	allow	12	2.2

grin	16	7.0	relinquish	58	6.6	feel	17	2.1
frame	42	6.7	maintain	499	6.3	hold	16	1.9
strap	13	6.6	weaken	70	6.3	fail	8	1.3
barrel	17	6.4	release	364	6.2	remain	13	1.2
trigger	11	6.4	get	2,705	5.9	keep	7	1.2
polymer	9	6.2	exert	47	5.7	cause	8	1
posture	12	6.2	retain	134	5.6			
shaft	9	6.1	break	218	5.5			
sight	20	6	keep	620	5.4			
handle	10	6	cement	22	5.2			
finish	15	5.9	adjust	43	5.2			
blade	12	5.9	slacken	15	5.1			
lever	7	5.9	[...]					
hammer	10	5.8	feel	89	3.9			
screw	8	5.8	[...]					
handling	17	5.8	twist	9	3.8			
steel	22	5.4	[...]					
feel	9	5.3	slip	9	3.7			
swing	8	5.3	[...]					
hand	47	5	grasp	9	3.4			
peak	11	4.9	[...]					
balance	18	4.9	threaten	18	3.2			
leather	7	4.9	[...]					
tape	10	4.5						
[...]								
arm	12	3.5						
[...]								

body	9	2.1						
[...]								

- 63 Uses of *grip* in context can be literal, as in (11) and (12), or metaphorical, as in (13) and (14). Both subjects of *grip* v. in (13) and (14) are negative emotions: *grief* and *fear*. *Grip* does not appear in conversational contexts as *groan* and *grunt* tend to do, but rather serves to describe movements (11 and 12) or emotions (13 and 14).

(11) It looked like it had once been bright and cheerful, but now darkness - evil - had taken over. The shutters on the window - like those on old Victorian houses, hung in awkward positions. The windows were cracked and some were even shattered, as if some neighborhood pranksters had thrown rocks at the window. "Well it's almost time for my break," the taxi driver told them, his knuckles white and his hands **gripping** the steering wheel as if it was going to run away. "Queer fellow," Cougre said grinning. (source: <http://www.fictionpress.com/read.php?storyid=1453281&chapter=3>)

(12) "Your life is going to depend on these training sessions, so I suggest you cut the sarcastic teenage wise cracks and pay attention. I'm dead serious, girly. These vampires don't fool around, and if you don't know how to defend your self you can just kiss your sorry ass goodbye." Inside Azerith's house, Rika was slowly being set down on the couch while **tightly gripping** her shoulder and screaming as loudly as she possibly could every few seconds. (source: <http://www.fictionpress.com/read.php?storyid=521768&chapter=9>)

(13) On Tuesday morning, a 35-year-old air traffic controller told Congress what it was like to be on the other end of the pilot's calm radio exchanges. The controller, Patrick Harten, 35, of Long Beach, N.Y., told a Congressional panel in Washington that raw moments of shock and **grief** have **gripped** him since the controlled crash of US Airways Flight 1549 on Jan. 15, which was caused by a double-engine failure following a bird strike. (source: <http://www.nytimes.com/2009/02/25/nyregion/25crash.html?scp=1212&sq=&st=nyt>)

(14) Leaving what? A stump? And what did one cut through? Bone, tendon? Or did one find the joint as in a chicken? I would sooner be dead, thought Alison. But I know why. It is because I am a vain, a wicked woman, who thinks too much of this world, and of her own body. I am not humble, I cannot face old age, I cannot face ugliness and decay. She shivered. She was afraid. A large, a terrible **fear gripped** her. Of death? No, not of death. To die in one's sleep, to fade away, seemed easy enough, as a prospect. Of mutilation? Why, of mutilation? Nobody had ever threatened her with it, so why, so unnaturally, so wastefully, at least so prematurely, face it, fear it? (source: http://awopbopalooop.blogspot.com/2008_10_01_archive.html)

4.5. Grasp

- 64 *Grasp* is characterised by only two *gr-* collexemes (*grab* v. and *grip* n.) and even fewer phonesthemic collexemes than *grip*, and no onomatopoeic or mimetic collexemes at all. *Grasp* and *grip* do not share the same close semantic relationship as *groan* and *grunt* do, contrary to my expectations.
- 65 The word *grasp* features a specific collexeme network, which is oriented towards the semantic field of comprehension (*understand*, *grab*, *reach*), mental ability (*master*,

imagine, reflection) and intellectual perception (*articulate, discern, sense*) as well as interpersonal communication (*appreciate, embrace, manipulate, ignore*). These words are instances of a submeaning of *grasp* that can be summed up by the following OED definition: “To lay hold of with the mind; to become completely cognizant of or acquainted with; to comprehend” [sense: verb (6); date: 1680]. It is possible that this specific sense of *grasp*, as was the specific sense of *grip* relating to illness, may have become more prevalent at some point in time and overcome the other senses. An in-depth analysis across a diachronic corpus would explain how and when this sense became dominant, and to what extent it is. The fact that only the word *comprehend* is in the closer zone of the mapping representation reveals the overrepresentation of this submeaning⁴.

Table 22. Frequency and similarity scores of the collexemes of *grasp* v.

Collexeme	Frequency	Similarity
comprehend	12,966	0.366
appreciate	115,264	0.311
embrace	65,931	0.292
realize	317,138	0.288
master	17,982	0.282
articulate	25,011	0.269
understand	526,263	0.267
grab	85,225	0.263
discern	10,797	0.261
sense	27,887	0.253
clarify	33,187	0.246
shape	47,041	0.243
possess	68,950	0.241
ignore	152,260	0.240
manipulate	31,233	0.237
fulfill	59,444	0.237
explore	130,469	0.237
imagine	186,852	0.236

notice	173,656	0.235
transcend	14,184	0.232

Figure 10. Thesaurus representation of *grasp* v.

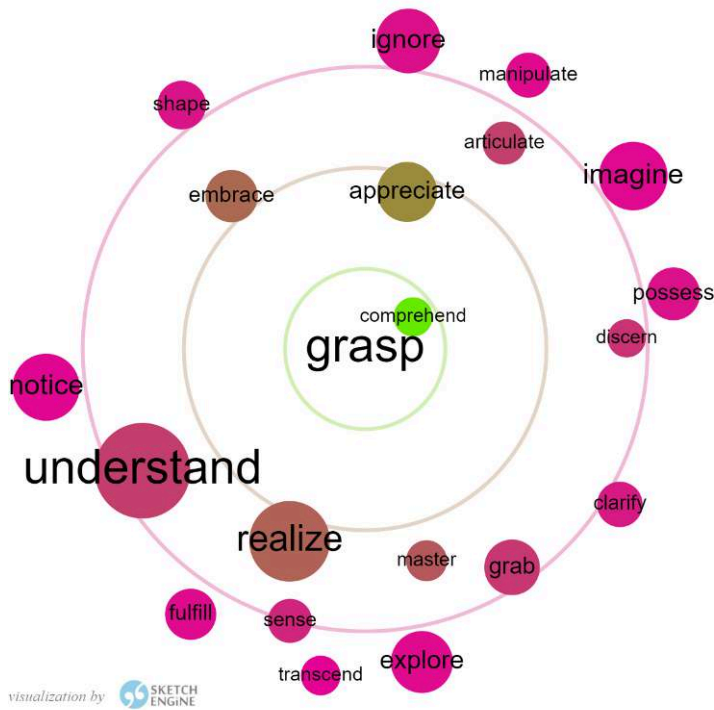
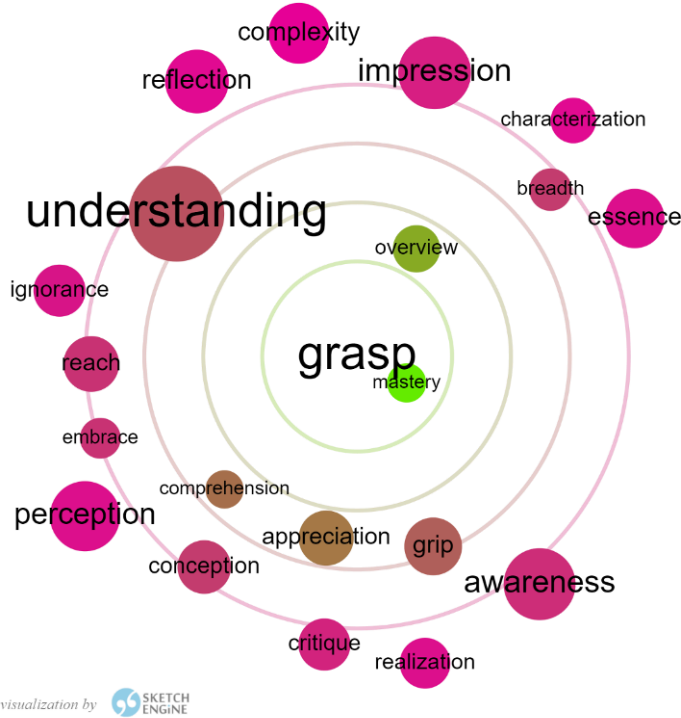


Table 23. Frequency and similarity scores of the colllexemes of *grasp* n.

Colllexeme	Frequency	Similarity
mastery	8,356	0.236
overview	18,566	0.212
appreciation	32,304	0.191
comprehension	7,465	0.188
grip	37,709	0.181
understanding	163,835	0.176
breadth	12,053	0.167
conception	29,221	0.167
reach	33,601	0.164

embrace	10,072	0.163
awareness	74,545	0.161
critique	26,623	0.157
impression	77,293	0.155
ignorance	26,632	0.152
essence	41,377	0.150
perception	69,215	0.150
realization	24,225	0.149
characterization	15,908	0.147
reflection	51,546	0.147
complexity	44,871	0.144

Figure 11. Thesaurus representation of *grasp* n.



66 The Word Sketch function provides evidence of specific patterns of use of the word *grasp* in context, both for verbal and nominal uses. The *and/or* function confirms the Thesaurus data and shows a dominant use within the semantic field of comprehension and intellectual interactions (*comprehend, understand, explain*). The same goes for the

other functions, although the semantic field of prehension is more present, especially with a few prehensive or prehensible body parts (*hand, finger, claw, arm, wrist*).

Table 24. Collexemes for *grasp* v. in the OEC (Word Sketch)

And/or	Freq.	Score	N subj V*	Freq.	Score	V* obj N	Freq.	Score
comprehend	12	8.0	hand	166	7.5	nettle	418	9.9
reach	20	7.7	mind	84	7	concept	533	8.2
master	6	7.1	intellect	11	6.7	handle	161	7.9
hold	35	7.0	finger	22	6.1	significance	242	7.8
articulate	8	6.9	claw	7	6.1	meaning	300	7.4
appreciate	19	6.7	understanding	7	5.5	essence	95	7.2
understand	54	6.4	philosopher	6	5	enormity	61	7.1
pull	9	6.1	reason	9	5	wrist	73	6.9
express	8	6.1	arm	11	4.9	reality	179	6.9
manipulate	9	6.0	viewer	13	4.8	implication	133	6.8
embrace	6	5.9	listener	6	4.8	nature	179	6.7
reject	8	5.7	public	25	4.8	magnitude	55	6.7
explain	10	5.6	sense	7	4.6	opportunity	528	6.6
experience	6	5.5	reader	25	4.5	nuance	47	6.5
accept	9	4.8	student	65	4.3	complexity	68	6.5
find	8	3.9	audience	13	4.2	dumbbell	39	6.5
see	14	3.9	being	7	4.1	shoulder	78	6.4
control	6	3.6	brain	6	4	basic	48	6.4
use	8	3.5	opponent	8	4	importance	162	6.4
try	17	3.1	male	7	3.9	extent	76	6.3
			thought	6	3.7	fact	273	6.2
			class	7	3.4	hand	442	6.2
			[...]			truth	150	6.1
						gravity	35	6.0

						subtlety	31	6.0
						bar	79	6.0
						seriousness	33	6.0
						hold	77	5.9
						[...]	34	5.9

Table 25. Collexemes for *grasp n.* in the OEC (Word Sketch)

And/or	Freq.	Score	X mod N*	Freq.	Score	V obj N*	Freq.	Score
reach	9	6.3	firm	619	8.8	elude	79	8.3
understanding	18	4.5	intuitive	100	8.1	exceed	138	6.6
insight	6	4.1	tenuous	66	7.9	loosen	23	6.3
knowledge	17	3.5	shaky	44	6.9	escape	106	6.3
mind	10	3.3	instinctive	32	6.8	evade	24	5.9
sense	7	3.1	rudimentary	31	6.6	demonstrate	129	5.6
view	6	3	feeble	20	6	tighten	16	5
intelligence	6	2.8	thorough	48	6	display	67	4.8
memory	6	2.8	encyclopedic	14	5.9	slip	11	4.8
skill	8	2.1	sure	41	5.7	possess	26	4.2
experience	7	1.8	masterful	15	5.7	relax	6	3.9
			keen	36	5.5	lack	33	3.7
			well	255	5.4	have	2,209	3.6
			solid	88	5	retain	26	3.4
			masterly	7	5	exhibit	13	3.2
			uncertain	17	4.9	get	413	3.2
			tenacious	7	4.9	acquire	19	3.1
			vague	17	4.8	show	139	3
			innate	11	4.8	gain	37	3

		sophisticated	36	4.7	imply	6	2.9
		astute	9	4.7	extend	22	2.8
		imaginative	13	4.7	maintain	35	2.6
		frail	7	4.7	release	27	2.5
		articulate	7	4.7	strengthen	8	2.4
		uncanny	8	4.6	lose	60	2.3
		conceptual	16	4.6	reveal	17	2.1
		limp	6	4.6	question	7	2
		flimsy	7	4.6	indicate	11	1.9
		ready	11	4.6	obtain	16	1.8
		icy	10	4.5	require	28	1.3
		inadequate	17	4.5	combine	6	1.3
		speculative	11	4.5	need	32	1.2
		weak	43	4.5	avoid	11	1.2
		confident	9	4.3	reflect	9	1.2
		fragile	12	4.3	keep	33	1.2
		intellectual	46	4.3	achieve	11	1.1
		slender	7	4.3	develop	22	1.1
		imperfect	6	4.3	suggest	8	1
		[...]					
		greedy	6	4.1			
		[...]					

- 67 These data show lexical subpatterns observable in discourse that all trigger the same conceptual feature of *grasp*, either used in its primary physical sense or in its figurative sense. A closer analysis of the specific contexts shows that the literal sense tends to trigger more phonesthemic clustering, in (15), than the figurative sense, as in (16). Again, this indicates that the prehension submeaning of *gr-* might have seen a de-iconisation process.

(15) The loud crash of shattering glass interrupted him, and a **hand grasping** a long dagger snaked into the backseat of the car. Alex and Alastair screamed

in one voice and both jumped to the opposite side of the car. The hand blindly threw the dagger and managed to slice the boy's upper left arm. Alex, who was cowering away from the broken glass, heard him scream in pain and agony as the shadow crept off into the night. (source: <http://www.fictionpress.com/read.php?storyid=1157429&chapter=4>)

(16) It is not possible for ordinary aspirant to **comprehend** and **grasp** the essence of scriptures or religious philosophy (e.g. Vedanta, Yoga, The Gita) by merely reading the books or listening to talks. (source: <http://www.boloji.com/hinduism/046.htm>]

5. Discussion and Interpretation

- 68 The aim of this paper was to tackle the semantic characteristics and collocation behaviour of *gr-* words in usage, by combining two methods: 1) a lexicographic analysis based on data drawn from the OED and 2) a corpus-based analysis in the OEC, via the distributional tool Sketch Engine. The article set to answer two main questions: 1) how do the different subsemantic fields conveyed by *gr-* affect language use? and 2) how do meaning-carrying phonological elements behave in context?
- 69 The lexicographic approach showed that the phonestheme *gr-* is associated with several submeanings and not with a single easily identifiable meaning. Four main form-meaning associations are induced by *gr-*: 1) vocal activity, both human and animal (*groan*, *grunt*); 2) vocally expressed negative emotions and bad humour (*grudge*, *grieve*, *grump*); 3) unpleasant sensations (*grate*, *grind*); and 4) prehension activity, with both a physical, manual meaning, and an abstract metaphorical meaning (*grasp*, *grab*, *grip*). The first three traits show a high level of semantic change, feature combination and phonesthemic convergence. On the other hand, the last trait was much more semantically inert.
- 70 The corpus study showed that these semantic categories differ in usage. The set of case study words pertaining to the SVU and WCA categories tend to show comparable collexeme networks and share some collocational properties. In particular, the corpus analysis showed that *groan* and *grunt* shared a semantic space. The fact that these two words are so close semantically and distributionally raises the question of their relevance in the mental lexicon as near-synonyms. They also appear in contexts of a similar nature, mainly dialogues, and they combine with other phonosemantic forms, as well as expressive markers. A lot of these contexts also convey negative emotions. On the contrary, the corpus analysis showed that my set of case study words pertaining to the HCT category (*grip* and *grasp*) may have undergone phonesthemic divergence. Deiconisation processes might be at stake.
- 71 These different submeanings of the phonestheme *gr-* are thought to play a different role in different lexical domains. In fact, the analysis in the OEC showed that *gr-* words relating to the HCT semantic category have much more specific uses than the other *gr-* words. These uses are mainly metaphorical and restricted to specific semantic fields (the field of COMPREHENSION for *grasp* and the field of ILLNESS for *grip*). They also tend to be unique in their synonym network, but because they are more distributionally isolated than *groan* and *grunt*, they probably hold a special place in their specific domain.

- 72 *Groan* and *grunt* show much more phonesthemic clustering than *grudge*, *grip* and *grasp*. Comparing the first three case words, it is possible that *groan* acts as an in-between category, along the continuum that goes from the raw onomatopoeic *grunt* to the more conventionalised *grudge*. From this perspective, *grudge* is to be viewed as a partially de-iconised word that might have been onomatopoeic in origin but that, overtime, specialised in restricted senses due to semantic change. It is not entirely clear yet how this could play out from a diachronic perspective. Flaksman [forthcoming] suggests that some iconic and imitative words may lose their “original (sound- or articulatory-gesture related) meaning” overtime, although the precise conditions of this potential semantic loss are still unclear.

6. Conclusion

- 73 This paper showed that the semantic behaviour of phonesthemic words depends on their surrounding collocates, and the nature of the context they appear in. Some semantic aspects of *gr-* words are triggered by certain lexical fields or multimodal cues. I observed a clustering of phonesthemic words and expressive markers in context. The different modes of expression that a text features play a key role in triggering a more or less iconic or phonesthemic tone.
- 74 Some questions remain unanswered:
- How semantically diverse is *gr-* compared to other phonesthemes? Only a broad-scale comparative study will allow to answer this question, but Smith & Farina [forthcoming] has already shown that *fl-*, *sw-* and *gr-* behave differently from one another.
 - The contexts of usage of *grudge*, *grip* and *grasp* are very specific. This raises the question of the typicality of the contexts. Can the results drawn from such specific uses be generalised to the whole lexicon? Are the results of this study only imputable to the behaviour of *gr-* words, or do they primarily depend on the nature and composition of the corpus?
 - The exact processes at stake behind the transmodality of *gr-* are still largely unknown. In particular, the relation between submeanings of *gr-* pertaining to sound imitation (see *groan* and *grunt*) and submeanings relating to visual representation (see *grip* and *grasp*) is not fully understood yet (see Nobile [2020] for an insight on transmodality within the scope of language motivation and iconicity).
 - To what extent can my statistical data be conclusive? The corpus study dataset contained only five words, which calls for a more broad-scale study. My aim is to pursue this study with an in-depth and fine-grained context analysis, which is much more time-consuming. Analysing the pragmatic aspects on a broader scale will give a more detailed picture. Sketch Engine is a powerful tool, but it also shows some limitations. The same is true for the OEC.
- 75 My conclusions are to be understood in the scope of my dataset, and I still need to apply my method to other corpora. The EHBC, searchable via Sketch Engine, as well as the COHA, are good candidates for a diachronic study, which is the next step towards understanding the emergence and evolution of phonesthemes. The method exposed in this paper can be replicated to other phonesthemes (see Smith [2016; 2022a]), as well as more conventional lexical units (see Smith [2020a] on *-some* and *-able* derivatives). I aim to pursue these investigations by analysing other phonesthemic and phonosemantic formations in a usage-based approach.

BIBLIOGRAPHY

- Abelin, Åsa. 1999. *Studies in Sound Symbolism*. Göteborg University.
- Abramova, Ekaterina, Raquel Fernandez & Federico Sangati. 2013. Automatic Labeling of Phonesthemic Senses. *UC Merced* 35.35. 1696-1701.
- Allan, Kathryn. 2012. Using OED Data as Evidence. In Kathryn Allan & Justyna A. Robinson (eds.), *Current Methods in Historical Semantics, Topics in English Linguistics*, Berlin/Boston: De Gruyter Mouton. 17-39.
- Allan, Keith. 2001. *Natural Language Semantics*. Oxford: Blackwell.
- Benczes, Reka. 2019. *Rhyme over Reason: Phonological Motivation in English*. Cambridge University Press.
- Bergen, Benjamin K. 2004. The Psychological Reality of Phonesthemes. *Linguistic Society of America* 80.2. 290-311.
- Bloomfield, Leonard. 1914. *An Introduction to the Study of Language*. London: G. Bell and Sons.
- Blust, Robert. 1988. *Austronesian Root Theory: An Essay on the Limits of Morphology*. Amsterdam: John Benjamins.
- Bolinger, Dwight L. 1950. Rime, Assonance, and Morpheme Analysis. *Word* 6.2. 117-136.
- Bottineau, Didier. 2008. The Submorphemic Conjecture in English: Towards a Distributed Model of the Cognitive Dynamics of Submorphemes. *Lexis* 2. 17-40.
- Bybee, Joan L. 2007. *Frequency of Use and the Organization of Language*. New York: Oxford University Press.
- Bybee, Joan L. 2010. *Language, Usage and Cognition*. Cambridge: Cambridge University Press.
- Chadelat, Jean-Marc. 2008. Le symbolisme phonétique à l'initiale des mots anglais: l'exemple du marqueur sub-lexical <Cr->. *Lexis* 2. 75-101. [DOI: <https://doi.org/10.4000/lexis.711>]
- Crystal, David. 2008. *A Dictionary of Linguistics and Phonetics*. Oxford: Blackwell.
- Culpeper, Jonathan. 2009. The Metalanguage of Impoliteness: Using Sketch Engine to Explore the Oxford English Corpus. In Paul Baker (ed.), *Contemporary corpus linguistics*. London & New York: Continuum. 64-86.
- Dingemanse, Mark. 2012. Advances in the Cross-Linguistic Study of Ideophones. *Language and Linguistics Compass* 6.10. 654-672.
- Dingemanse, Mark, Damián E. Blasi, Gary Lupyan, Morten H. Christiansen & Padraic Monaghan. 2015. Arbitrariness, Iconicity, and Systematicity in Language. *Trends in Cognitive Sciences* 19.10. 603-615.
- Drellishak, Scott. 2006. *Statistical Techniques for Detecting and Validating Phonesthemes*. University of Washington: Washington.
- Durkin, Philip. 2016. The OED and HTOED as Tools in Practical Research: A Test Case Examining the Impact of Loanwords on Areas of the Core Lexicon. In Merja Kytö & Päivi Pahta (eds.), *The Cambridge handbook of English historical linguistics*. Cambridge University Press. 390-406.

- Fabre, Céline. 2015. Proximité distributionnelle automatique : la Proximité distributionnelle comme mode d'accès au sens. *Éla. Études de Linguistique Appliquée* 4.180. 395-405.
- Farina, Mael. 2020. Analyse lexicologique diachronique du profil phonosémantique des monomorphèmes en gr- dans l'*Oxford English Dictionary*. *Sciences de l'Homme et Société*.
- Firth, John R. 1930. *Speech*. London: Ernest Benn.
- Flaksman, Maria. 2017. Iconic Treadmill Hypothesis: The Reasons Behind Continuous Onomatopoeic Coinage. In Angelika Zirker, Matthias Bauer, Olga Fischer & Christina Ljungberg (eds.), *Dimensions of Iconicity, Iconicity in Language and Literature*. John Benjamins.
- Flaksman, Maria. Forthcoming. Skeletons in the Cupboard: Semantic Evolution of Imitative Words. Paris: John Benjamins.
- Gonnerman, Laura M., Elaine S. Andersen & Mark S. Seidenberg. 2007. Graded Semantic and Phonological Similarity Effects in Priming: Evidence for a Distributed Connectionist Approach to Morphology. *Journal of Experimental Psychology General* 136.2. 323-345.
- Hamano, Shoko. 1998. *The Sound-Symbolic System of Japanese*. Cambridge University Press.
- Heylen, Kris & Ann Bertels. 2016. Sémantique distributionnelle en linguistique de corpus. *Armand Colin* 1.201. 51-64.
- Hinton, Leanne, Johanna Nichols & John J. Ohala (eds.). 1994. *Sound Symbolism*. Berkeley: Cambridge University Press.
- Hockett, Charles F. 1958. *A Course in Modern Linguistics*. New York: Macmillan.
- Hoshi, Hideyuki, Nahyun Kwon, Kimi Akita & Jan Auracher. 2019. Semantic Associations Dominate Over Perceptual Associations in Vowel-Size Iconicity. *I-Perception* 10.4. 1-31.
- Hutchins, Sharon S. 1998. The Psychological Reality, Variability, and Compositionality of English Phonesthemes. Emory University, Atlanta.
- Jespersen, Otto. 1922. *Language: Its Nature*. London: Allen & Unwin.
- Kilgarrieff, Adam. 2004. How Dominant Is the Commonest Sense of a Word? In Petr Sojka, Ivan Kopeček & Karel Pala (eds.), *Text, Speech and Dialogue*, vol. 3206, *Lecture Notes in Computer Science*. Berlin: Springer. 103-111.
- Kilgarrieff, Adam, Milos Husak & Robyn Woodrow. 2012. The Sketch Engine as Infrastructure for Historical Corpora. *Proceedings of KONVENS 2012*, Vienna. 351-356.
- Kilgarrieff, Adam, Pavel Rychlý, Pavel Smrz & Tugwell David. 2004. The Sketch Engine. *Euralex Proceedings Computational Lexicography and Lexicology*. 105-115.
- Kwon, Nahyun & Erich R. Round. 2014. Phonaesthemes in Morphological Theory. *Morphology* 25. 1-27.
- Lenci, Alessandro. 2008. Distributional Semantics in Linguistic and Cognitive Research. *Italian Journal of Linguistics*.
- Liu, Nelson F., Gina-Anne Levow & Noah A. Smith. 2018. Discovering Phonesthemes with Sparse Regularization. *Proceedings of the Second Workshop on Subword/Character Level Models*. 49-54.
- Marchand, Hans. 1960. *The Categories and Types of Present-Day English Word-Formation: A Synchronic-Diachronic Approach*. Wiesbaden: Otto Harrassowitz.
- Martinet, André. 1960. *Éléments de Linguistique Générale*. Paris: Armand Colin.

- Mompean, Jose A., Amandine Fregier & Javier Valenzuela. 2020. Iconicity and Systematicity in Phonaesthemes: A Cross-Linguistic Study. *Cognitive Linguistics* 33.3. 515-548.
- Monneret, Philippe. 2020. Le symbolisme phonétique et la fonction iconique de l'analogie. *Signifiances* 3.1. 1-19.
- Nobile, Luca. 2020. Phonetic Symbolism and Transmodality. *Signifiances* 3.1. 37-68.
- Ohala, John J. 1994. The Frequency Code Underlies the Sound-Symbolic Use of Voice Pitch. In Leanne Hinton, Johanna Nichols & John J. Ohala (eds.), *Sound Symbolism*. Berkeley: Cambridge University Press. 325-347.
- Otis, Katya & Eyal Sagi. 2008. Phonaesthemes: A Corpus-Based Analysis. *UC Merced* 30.30. 65-70.
- Philps, Dennis. 2002. Le concept de marqueur sub-lexical et la notion d'invariant sémantique. *De Boeck Supérieur* 2.45. 103-123.
- Philps, Dennis. 2008. Submorphemic Iconicity in the Lexicon: A Diachronic Approach to English 'gn- Words'. *Lexis* 2. 123-137. [DOI: <https://doi.org/10.4000/lexis.728>]
- Philps, Dennis. 2012. Le concept de 'marqueur sub-lexical' : bilan d'un ballon d'essai. *Anglophonia/Sigma* 16.32. 183-202.
- Rhodes, Richard A. 1994. Aural Images. In Leanne Hinton, Johanna Nichols & John J. Ohala (eds.), *Sound Symbolism*. Berkeley: Cambridge University Press. 276-292.
- Sapir, Edward. 1929. A Study in Phonetic Symbolism. *Journal of Experimental Psychology* 12.3. 225-239.
- Smith, Chris A. 2016. Tracking Semantic Change in *fl-* Monomorphemes. *Journal of Historical Linguistics* 6.2. 165-200.
- Smith, Chris A. 2020a. A Case Study of *-some* and *-able* Derivatives in the OED3: Examining the Diachronic Output and Productivity of Two Competing Adjectival Suffixes. *Lexis* 16. [DOI: <https://doi.org/10.4000/lexis.4793>]
- Smith, Chris A. 2020b. Approche cognitive diachronique de l'émergence du phonesthème *fl-* : réanalyse phonosymbolique et transmodalité dans le *Oxford English Dictionary*. *Signifiances* 3.1. 36-62.
- Smith, Chris A. 2022a. Are Phonesthemes Evidence of a Sublexical Organising Layer in the Structure of the Lexicon? Testing the OED Analysis of Two Phonesthemes with a Corpus Study of Collocational Behaviour of *sw-* and *fl-* Words in the OEC. In Annette Klossa-Kückelhaus, Stefan Engelberg, Christine Möhrs & Petra Storjohann (eds.), *Dictionaries and Society. Proceedings of the XX EURALEX International Congress*. Mannheim: IDS-Verlag. 273-294.
- Smith, Chris A. 2022b. La combinatoire motivationnelle dans le lexique de l'anglais : approche ascendante empirique des liens lexicaux en usage. HDR ms., Université Lyon 3. [<https://hal.science/tel-04453812>]
- Smith, Chris A. & Mael Farina. Forthcoming. Comparing the Function of the Three Phonesthemes *fl-*, *sw-* and *gr-* in the Organisation of the Lexicon Using the *Oxford English Dictionary*. Paris: John Benjamins.
- Tsur, Reuven & Chen Gafni. 2022. Phonetic Symbolism: Double Edgedness and Aspect-Switching. *Sound-Emotion Interaction in Poetry: Rhythm, Phonemes, Voice Quality, Linguistic Approaches to Literature*. John Benjamins. 45-66.
- Waugh, Linda R. 1994. Degrees of Iconicity in the Lexicon. *Journal of Pragmatics* 22.1. 55-70.

Wright, David. 2012. Scrunch, Growze, or Chobble?: Investigating Regional Variation in Sound Symbolism in the Survey of English Dialects. *Leeds Working Papers in Linguistics and Phonetics* 17.

Corpora and tools

The Oxford English Dictionary (OED3), online subscription version, 3rd edition: <https://www.oed.com/>

Sketch Engine: <https://www.sketchengine.eu/>

The Oxford English Corpus (OEC), via Sketch Engine

NOTES

1. See the three meanings of *gr-* (mentioned by Waugh [1994]) in the next section of this paper.
2. OED online subscription version, 3rd edition.
3. See <https://www.sketchengine.eu/oxford-english-corpus/> for more information.
4. To what extent the word *grasp* might have known a similar fate as the Latin *com-prehend*, which originally also referred to a movement of prehension, is yet unknown, and still needs further diachronic corpus-based research.

ABSTRACTS

Phonesthemes can be defined as meaning-carrying sound elements that challenge the arbitrariness of language (first acknowledged by Jespersen [1922] and Firth 1930)). Conventional morphological theories (Bolinger [1950], Blust [1988]) struggle to pin down their origin and behaviour [Kwon & Round 2014]. In English, they appear as meaning-carrying consonant onsets, such as *gr-* in the words *grumble*, *groan*, *grunt*, *grieve* or *grudge*, which all relate to a form of complaint (Waugh [1994: 59]). Psycholinguistic (Bergen [2004]) and statistical (Drellishak [2006]) data have brought evidence for the existence of phonesthemes both in the mental and institutional lexicon. They have also been demonstrated to play a regulation role in the construction of meaning and organisation of the lexicon (Smith [2022b], Benczes [2019], Tsur & Gafni [2022]). As transitory elements between phonology and morphosemantics, phonesthemes call for a need to investigate phonological aspects of lexicology. This paper shows how sounds can carry a semantic dimension from a usage-based approach. I apply a twofold method, combining a lexicographic analysis in the OED, and a corpus analysis in the OEC using the distributional tool Sketch Engine. The lexicographic analysis revealed four semantic traits associated with the phonestheme *gr-*: 1) bad humour or negative emotions (*grump*, *grunch*, *grutch*, *grouse*, *grisly*), 2) unpleasant sensations (*grit*, *grind*, *grate*), 3) unpleasant or deep sounds (*groan*, *growl*, *grunt*, *graunch*, *gruntle*), and 4) prehension movements (*grasp*, *grip*, *grab*). The aim of this paper is to test the validity of those results across a usage-based corpus. The words *groan*, *grunt*, *grudge*, *grip* and *grasp* were selected as a case study sample. This paper shows that certain phonesthemic words share a semantic space and similar collocational behaviour, while others do not. In particular, clustering of phonesthemic words and expressive markers in context are at stake for *groan* and *grunt*, and for *grudge* to a lesser extent, but not so much in the case of *grip* and *grasp*.

Les phonesthèmes (d'abord mentionnés par Jespersen [1922] et Firth [1930]) peuvent être définis comme éléments sonores porteurs de sens remettant en question la notion d'arbitraire du langage. Les théories morphologiques conventionnelles (Bolinger [1950], Blust [1988]) peinent à cerner leur origine et leur comportement (Kwon & Round [2014]). En anglais, ils apparaissent sous la forme d'attaques consonantiques porteuses de sens, telles que *gr-* dans les mots *grumble*, *groan*, *grunt*, *grieve* ou *grudge*, qui se rapportent tous à un sens de plainte (Waugh [1994 : 59]). Les données psycholinguistiques (Bergen [2004]) et statistiques (Drellishak [2006]) ont prouvé l'existence des phonesthèmes dans le lexique mental et institutionnel. Leur rôle de régulation dans la construction du sens et l'organisation du lexique a également été démontré (Smith [2022b], Benczes [2019], Tsur & Gafni [2022]). Puisqu'il s'agit d'éléments transitoires entre phonologie et morphosémantique, les phonesthèmes soulignent l'importance d'étudier les aspects phonologiques de la lexicologie. Cet article traite de la dimension sémantique des sons à partir d'une approche basée sur l'usage. Nous appliquons une méthode en deux temps, combinant à la fois une analyse lexicographique dans l'OED, et une analyse de corpus dans l'OEC à l'aide de l'outil d'analyse distributionnelle Sketch Engine. L'analyse lexicographique révèle l'existence de quatre traits sémantiques associés au phonesthème *gr-* : 1) une notion de mauvaise humeur ou d'émotions négatives (*grump*, *grunch*, *grutch*, *grouse*, *grisly*), 2) des sensations désagréables (*grit*, *grind*, *grate*), 3) des sons désagréables ou gutturaux (*groan*, *growl*, *grunt*, *graunch*, *gruntle*), et enfin 4) un mouvement de préhension (*grasp*, *grip*, *grab*). L'objectif de cet article est de tester la validité de ces résultats dans un corpus basé sur l'usage. Les mots *groan*, *grunt*, *grudge*, *grip* et *grasp* ont été sélectionnés comme cas d'étude. Notre article montre que certains mots phonesthémiques partagent un espace sémantique et un comportement collocationnel commun, alors que ce n'est pas le cas pour d'autres. On remarque notamment un regroupement des mots phonesthémiques et des marqueurs d'expressivité en contexte, dans le cas de *groan* et *grunt*, ainsi que pour *grudge* dans une moindre mesure, mais pas pour *grip* et *grasp*.

INDEX

Mots-clés: morphophonologie, phonesthèmes, OED, Sketch Engine, linguistique de corpus, morphosémantique, symbolisme phonétique, submorphèmes

Keywords: morphophonology, phonesthemes, OED, Sketch Engine, corpus linguistics, morphosemantics, sound symbolism, submorphemics

AUTHOR

MAEL FARINA

Université Caen Normandie - CRISCO
mael.farina@unicaen.fr