



HOKKAIDO UNIVERSITY

Title	Onomatopoeia in Spoken and Written English : Corpus- and Usage-based Analysis
Author(s)	Sugahara, Takashi
Degree Grantor	北海道大学
Degree Name	博士(文学)
Dissertation Number	甲第9777号
Issue Date	2011-03-24
DOI	https://doi.org/10.14943/doctoral.k9777
Doc URL	https://hdl.handle.net/2115/45138
Type	doctoral thesis
File Information	Dissertation by Takashi SUGAHARA.pdf



Onomatopoeia in Spoken and Written English: Corpus- and Usage-based Analysis

(英語の話し言葉・書き言葉におけるオノマトペ：コーパスと用法に基づく分析)

A Dissertation

Presented to

The Graduate School of Letters

Hokkaido University

In Partial Satisfaction

Of the Requirements for the Degree of

Doctor of Philosophy

In Linguistics

by

Takashi SUGAHARA

2010

TABLE OF CONTENTS

List of Figures.....	iv
List of Tables.....	iv
Acknowledgements.....	v
1. Introduction.....	1
1. 1 Aims and Scope.....	1
1. 2 Method and Data.....	3
1. 3 The Structure of the Dissertation.....	9
1. 4 Main Findings.....	9
2. Previous Studies.....	13
2. 1 Kloe (1977), Kaida et al. (1985) and Taylor (2006).....	13
2. 2 Schourup (1993).....	14
2. 3 Tamori and Schourup (1999).....	15
2. 3. 1 Nouns or Verbs as General Grammatical Classes of English Onomatopoeia....	17
2. 3. 2 Onomatopoeic Nouns as Verbs.....	21
2. 3. 3 Mimeticity.....	25
2. 4 Inadequacies with Previous Studies.....	32
3. Onomatopoeic Words in the OED.....	34
3. 1 Method of Making a List of Onomatopoeic Words.....	34
3. 2 Classification of Onomatopoeic Words.....	36

3. 3 The Number of Grammatical Classes of Onomatopoeic Words.....	43
3. 4 Summary.....	63
4. Onomatopoeic Words in Spoken English.....	64
4. 1 Selection of the Most Frequent and Most Onomatopoeic Words in Spoken Corpus.....	64
4. 2 Detailed Descriptions of the Most Onomatopoeic Words.....	68
4. 2. 1 Pop.....	70
4. 2. 2 Bash.....	77
4. 2. 3 Bounce.....	82
4. 2. 4 Tick.....	87
4. 2. 5 Clash.....	92
4. 2. 6 Crash.....	95
4. 2. 7 Dash.....	98
4. 2. 8 Pat.....	101
4. 2. 9 Bump.....	105
4. 2. 10 Clatter.....	108
4. 2. 11 Chatter.....	112
4. 2. 12 Crisp.....	114
4. 2. 13 Flap.....	117
4. 2. 14 Jabber	119
4. 3 Summary.....	121
Notes to Chapter 4.....	124

5. Onomatopoeic Words in Written English.....	126
5. 1 Selection of the Most Frequent and Most Onomatopoeic Words in Written Corpus.....	126
5. 2 Detailed Descriptions of the Most Onomatopoeic Words.....	129
5. 2. 1 Murmur.....	129
5. 2. 2 Flap.....	136
5. 2. 3 Mutter.....	144
5. 2. 4 Crash.....	149
5. 2. 5 Dash.....	157
5. 2. 6 Clash.....	163
5. 2. 7 Fumble.....	169
5. 2. 8 Quiver.....	173
5. 2. 9 Chatter.....	178
5. 2. 10 Lash.....	183
5. 2. 11 Bump.....	186
5. 2. 12 Pop.....	191
5. 2. 13 Puff.....	195
5. 3 Summary.....	199
6. Comparison between Spoken and Written Registers.....	204
7. Conclusion.....	206
References.....	210
Data Sources.....	211

LIST OF FIGURES

Figure 1: <i>Pop</i> and <i>Crash</i> as Labels in Comics.....	13
--	----

LIST OF TABLES

Table 1: A Result of Measuring Mimeticity of Some Words.....	31
Table 2: The List of Onomatopoeic Words in the OED.....	36
Table 3: Grammatical Classes of Onomatopoeia in English.....	37
Table 4: Combination Patterns of Grammatical Classes.....	44
Table 5: 30 Most Frequent Onomatopoeic Words in LLC.....	65
Table 6: Both Most Frequent and Most Onomatopoeic Words in LLC.....	67
Table 7: Most Frequent but Not Very Onomatopoeic Words in LLC.....	68
Table 8: Characteristics of the Most Frequent and Most Onomatopoeic Words in Spoken Corpus.....	122
Table 9: 30 Most Frequent Onomatopoeic Words in LOB.....	127
Table 10: Both Most Frequent and Most Onomatopoeic Words in LOB.....	128
Table 11: Most Frequent but Not Very Onomatopoeic Words in LOB.....	129
Table 12: Characteristics of the Most Frequent and Most Onomatopoeic Words in Written Corpus.....	200
Table 13: Top Five Most Frequent and Most Onomatopoeic Words across the Two Registers.....	204

ACKNOWLEDGEMENTS

It goes without saying that many people provided academic, physical, and mental help with the completion of the present thesis.

First and foremost, I would like to express my deepest gratitude to my dissertation advisor, Hidemitsu Takahashi, who has provided continual and devoted guidance in my academic life at Hokkaido University for the past ten years. He has been a patient and encouraging advisor, putting a tremendous amount of time and energy into reading and critiquing earlier versions of this dissertation. I am grateful to him for instilling in me a deep respect for the data, for sharing his wisdom, and for making me realize the attractiveness of studying languages and linguistics.

I also owe a debt of gratitude to Masuhiro Nomura for his encouragement, guidance, and help as I worked on this dissertation. His invaluable comments and suggestions have profoundly influenced this work. Moreover, I was fortunate to have the opportunity to attend his exciting, inspiring, and enjoyable seminars, which led to a better understanding of cognitive and functional linguistics. His seminars also taught me careful and thoughtful reading of scientific works.

I am also grateful to the staff and my fellow students in the course of Linguistics and Western Languages at Hokkaido University. My thanks especially go to Emi Yokomura, Keisuke Sanada, Nina Petrishceva, Yasuhiro Tsushima, Yayoi Miyashita, and Yuko Mizuno. I had many fruitful discussions and conversations on both linguistics and non-linguistics issues with each of them.

I am also grateful to my colleagues at Gifu National College of Technology for their kind support.

I would like to thank Randy L. Evans and Jeremy Scott for helping me to write this thesis by suggesting stylistic improvements. Any remaining errors or confusions are mine alone.

Last but not least, I want to thank my parents, Ken and Yoko Sugahara, and my sister Akiko. They allowed me to study as much as I like.

Chapter 1. Introduction

1. 1 Aims and Scope

Onomatopoeia is a special language expression because its phonological form appears to be more directly associated with its meaning. Onomatopoeic words can convey imaginative, animated, and picturesque meanings that ordinary (i.e. non-onomatopoeic) words do not indicate. Unfortunately, onomatopoeia (especially in English) is one of the most undeveloped fields at the present day (Tamori and Schourup 1999: 1). In fact, onomatopoeia has been regarded as a “peripheral, immature, unnecessary, or less-linguistic” (Schourup 1993: 52; my translation) phenomenon in Europe and the United States, and little attention has been given to it. This tendency can date back to the argument by Saussure that onomatopoeia is not an element of language systems, and the number of onomatopoeic words is very small (Saussure 1972: 102).

It is interesting to note, however, that while some languages (like English) possess a relatively small number of onomatopoeic words, other languages possess a great deal of them. For instance, Japanese is said to have approximately 2000 to 4500 onomatopoeic words (Yamaguchi 2003, Ono 2007). In Japanese, onomatopoeic words play an important role in everyday conversation and in works of literature as well (Tamori and Schourup 1999: 1).

One important question that naturally arises is why some languages (such as Japanese) possess a large number of onomatopoeic words while in other languages (such as English) the number is far smaller. How is the number of onomatopoeic words

in a language related to other lexical or grammatical aspects of that language? A detailed survey of the onomatopoeic system of a language like English, in terms of grammar and/or actual usage, may provide a basis for answering this important question; it may also lead to a comprehensive survey of onomatopoeia across languages.

Previous studies on English onomatopoeia have focused on glossaries and studies that are mostly introspective in approach. Kloe (1977), Kaida et al. (1985) and Taylor (2006) are glossaries of onomatopoeic words in English. They collect words with obscure criteria or from a very limited register (i.e. comics). Schourup (1993) and Tamori and Schourup (1999) observe the grammatical and semantic characteristics of onomatopoeia but only introspectively. Schourup (1993) argues that onomatopoeic words in English frequently occur as verbs. Tamori and Schourup (1999) observe that onomatopoeic words generally function either as verbs or nouns in English, and that almost all onomatopoeic nouns also serve as verbs.

However, these previous studies are inadequate because 1) no reliable sources for onomatopoeic words in English are provided; 2) no quantitative studies based on actual data are carried out; and 3) little consideration is given to differences across registers.

This study has three aims:

- (i) to provide a non-intuitive (dictionary-based) list of onomatopoeic words in English;
- (ii) to conduct a quantitative, corpus- and usage-based analysis to clarify grammatical/semantic features of representative onomatopoeic words; and

(iii) to examine register variations of onomatopoeic words.

1. 2 Method and Data

First, I used the Oxford English Dictionary (the OED) to obtain a list of onomatopoeic words in English. Specifically, I chose words judged as (apparently or probably etc.) onomatopoeic or as having onomatopoeic origins using the etymologies in the OED released in 2004. The OED is more reliable than previous glossaries because it is not only edited by a large group of native speakers, but it has also been continuously updated. As a consequence, I obtained a list of 287 onomatopoeic words.

Next, I employed two corpora to come up with frequent lists of these 287 onomatopoeic words. One was the London Lund Corpus (the LLC). The LLC contains a total of 500,000 words from 100 spoken British English texts recorded from 1953 to 1987. These 100 texts are further divided into 12 sections (Conversations between equals (Sections 1 and 2) / Conversations between dispartes / Conversations between intimates and equals / Non-surreptitious public conversations between equals (radio discussions), non-surreptitious private conversations between equals, committee meeting, academic meeting / Non-surreptitious conversations between dispartes / Surreptitious telephone conversations between personal friends / Surreptitious telephone conversations between business associates / Surreptitious telephone conversations between dispartes / Spontaneous commentary/ Spontaneous oration / Prepared but unscripted oration). The other corpus was the Lancaster-Oslo/Bergen Corpus of British English (the LOB Corpus). This corpus contains a total of 1,000,000

words from 500 written British English texts recorded from 1961. The 500 texts are divided into 15 categories (Press: reportage / Press: editorial / Press: reviews / Religion / Skills, trades, hobbies / Belles letters, biography, essays / Miscellaneous (documents, reports, etc.) / Learned and scientific writings / General fiction / Mystery and detective fiction / Science fiction / Adventure and Western fiction / Romance and love story / Humor). This study treated the top 30 frequent words in each corpus as the most frequent words because they were almost 10% of all onomatopoeic words in my list. As a result of this survey, I obtained the following lists of the most frequent items in each of the two corpora.

30 Most Frequent Onomatopoeic Words in LLC

Ranking	Most Frequent Onomatopoeic Words	Number of Tokens
1	touch	77
2	push	33
3	pop	21
4	hurry	20
5	chat	19
6	jump	18
7	bat	17
8	bash	13
8	bounce	13
8	flag	13
8	tick	13
12	bunch	12
12	chuck	12
12	lob	12
15	box	11
16	clash	8
16	flash	8
16	flog	8
19	crash	7
19	dash	7
19	jam	7
19	pat	7
23	bump	6
23	clatter	6
25	bob	5
25	chatter	5
25	flush	5
28	bum	4
28	crisp	4
28	dump	4
28	flap	4
28	jabber	4

30 Most Frequent Onomatopoeic Words in LOB

Ranking	Most Frequent Onomatopoeic Words	Number of Tokens
1	touch	154
2	push	105
3	jump	71
4	flash	50
4	hurry	42
6	brush	37
7	scatter	33
8	murmur	30
9	flap	27
10	mutter	23
10	flush	23
12	crash	21
13	dash	20
14	chat	19
14	clash	19
16	bunch	17
16	flatter	17
18	fumble	16
19	quiver	15
20	chatter	14
20	plump	14
22	grab	12
22	jam	12
22	lash	12
25	bump	11
25	flag	11
27	box	10
27	hurl	10
27	pop	10
27	puff	10
27	swirl	10

Next, I extracted from these lists only those words that native speakers of English judged as genuinely onomatopoeic. I used this approach because some of the “onomatopoeic words” in the OED have lost much of their onomatopoeic ring after going through phonological and/or semantic changes.

While Tamori and Schourup (1999) offer a set of eight criteria for measuring the degree of iconicity (or “mimeticity,” as they term it), some of the criteria are problematic and hard to apply to all kinds of onomatopoeic words.

For this reason, I chose to use the introspective judgment of native speakers of English to measure the degree of iconicity. Specifically, I asked five native speakers of English to rate each of the top 30 most-frequent words on a scale of 0 to 2 (and x):

0 = This word is not onomatopoeic.

1 = This word is a little (slightly, maybe, etc.) onomatopoeic.

2 = This word is totally (very, most, etc.) onomatopoeic.

x = I don't know this word.

When each native speaker gave a word two points, the sum would be ten points. In this case, the word would be recognized as highly onomatopoeic. In contrast, if each native speaker gave a word zero points or x (an unknown word), the sum would be zero points, and the word would be judged as non-onomatopoeic. In the group of most-frequent words from each corpus, this study treated words scoring six or more points as the most onomatopoeic words. As a result of this investigation, I obtained a list of the 14 most frequent and highly onomatopoeic words in the spoken corpus examined and a list of 13 words in the written corpus.

Both Most Frequent and Most Onomatopoeic Words in LLC

Ranking of Frequency	Most Frequent and Most Onomatopoeic Words	Total Score	Number of Tokens
1	pop	10	21
2	bash	9	13
2	bounce	8	13
2	tick	10	13
5	clash	9	8
6	crash	9	7
6	dash	6	7
6	pat	7	7
9	bump	7	6
9	clatter	8	6
11	chatter	7	5
12	crisp	7	4
12	flap	7	4
12	jabber	8	4

Both Most Frequent and Most Onomatopoeic Words in LOB

Ranking of Frequency	Most Frequent and Most Onomatopoeic Words	Total Score	Number of Tokens
1	murmur	10	30
2	flap	7	27
3	mutter	7	23
4	crash	9	21
5	dash	6	20
6	clash	9	19
7	fumble	6	16
8	quiver	8	15
9	chatter	7	14
10	lash	7	12
11	bump	7	11
12	pop	10	10
12	puff	9	10

In the next step, I closely examined the actual usage of each onomatopoeic expression of these frequent and most onomatopoeic words (i.e. representative onomatopoeic words) in the two corpora.

Finally, I compared the features of these words in spoken and written corpus.

1. 3 The Structure of the Dissertation

Chapter 2 will outline previous studies of onomatopoeia in English and point out their inadequacies. Moreover, Chapter 2 will present the aims of this study.

Chapter 3 will make a non-intuitive (dictionary-based) list of onomatopoeic words based on the OED and classify these words according to their grammatical classes.

Chapter 4 will conduct a corpus-based, quantitative study to clarify grammatical/semantic features of the most frequent and most onomatopoeic words in spoken English. In 4. 1, I will select these words by using the LLC. In 4. 2, I will examine the usages of these words. In 4. 3, I will find the tendencies of the most frequent and most onomatopoeic words in spoken English.

Chapter 5 will conduct a corpus-based, quantitative study to clarify grammatical/semantic features of the most frequent and most onomatopoeic words in written English. In 5. 1, I will select these words by using the LOB corpus. In 5. 2, I will examine the usages of these words. In 5. 3, I will show general tendencies of the most frequent and most onomatopoeic words in written English.

Chapter 6 will compare the characteristics of the most frequent and most onomatopoeic words in spoken and written corpus, in order to examine whether there are any register variations.

Chapter 7 will present the conclusions of this study.

1. 4 Main Findings

The main findings of this dissertation can be summarized as follows.

First, a list of 287 onomatopoeic words was obtained, based on the OED. 252 words in the list occur as verbs, and 226 occur as nouns. 194 words function as both verbs and nouns (85.8% of the 226 nouns).

Second, the most frequent and most onomatopoeic words in spoken English, based on the LLC, are *pop*, *dash*, *bash*, *bounce*, *tick*, *clash*, *crash*, *pat*, *bump*, *clatter*, *chatter*, *crisp*, *flap*, and *jabber*, in order of frequency. Four of these words (*pop*, *bash*, *bounce*, and *dash*) typically denote a change of location, especially in their verbal usages. Three of these words (*crash*, *clash*, and *pat*) denote hitting, as in a collision or conflict. Two (*chatter* and *jabber*) denote talking. In addition, *tick* often refers to a check mark, *bump* to encountering, *crisp* to “friable,” *flap* to a state of panic, and *clatter* to a kind of sound emission.

Third, the most frequent and most onomatopoeic words in written English, based on the LOB, are *murmur*, *flap*, *mutter*, *crash*, *dash*, *clash*, *fumble*, *quiver*, *chatter*, *lash*, *bump*, *pop*, and *puff*, in order of frequency. Four of these words (*crash*, *clash*, *lash*, and *bump*) typically denote, across different grammatical classes, hitting. Three of these words (*murmur*, *mutter*, and *chatter*) denote talking. Two (*dash* and *pop*) denote a change of location. In addition, *flap* frequently indicates a state of swinging, *fumble* indicates a motion of the hands, *quiver* refers to shaking, and *puff* to smoking.

Fourth, the top five most frequent and most onomatopoeic words in the spoken corpus (*pop*, *bash*, *bounce*, *tick* and *clash*) are totally different from those in the written corpus (*murmur*, *flap*, *mutter*, *crash* and *dash*). Especially, *murmur* and *mutter* ranked in the top five of the written corpus. They frequently occur as verbs and are often

followed by quotations of speech or *that*-clauses and objectives which indicate contents of speech. Similar communication verbs were not listed in even the top fourteen words of the spoken corpus.

Fifth, verbs are the most common grammatical class across the two registers. Nine out of the fourteen words in the spoken corpus (*pop, bash, bounce, crash, dash, pat, bump, clatter, and jabber*) occur most frequently as verbs, and ten out of the thirteen words in the written corpus (*murmur, mutter, crash, dash, fumble, quiver, chatter, bump, pop, and puff*) occur most frequently as verbs.

Sixth, the dominant type of event in the verbal usage is a change of location in the spoken corpus. Five words (*pop, bash, bounce, dash, and clatter*) typically denote a change of location with the assist of a directional phrase, as in *pop in, bash through, bounce up and down, dash from, clatter out of*, and so on, in their verbal usages. In contrast, in the written corpus, the dominant type of event is hitting. Four words in the written corpus (*crash, clash, lash, and bump*) frequently refer to hitting in their verbal usages.

The first finding is consistent with the claim by Tamori and Schourup (1999) that onomatopoeic words generally function either as verbs or nouns in English. Tamori and Schourup (1999) also argue that almost all onomatopoeic nouns serve as verbs. However, this finding shows that it is more accurate to say that a majority of onomatopoeic nouns serve as verbs instead of “almost all” of them. In addition, the first finding serves a sharp contrast between English and Japanese onomatopoeia. In Japanese, almost all onomatopoeic words occur as manner adverbs (Tamori and Schourup 1999: 47).

The fifth finding proves the argument by Schourup (1993) that onomatopoeic words in English frequently occur as verbs. This finding is also different from Japanese onomatopoeic words, which are generally used as adverbs (Schourup 1993; 50).

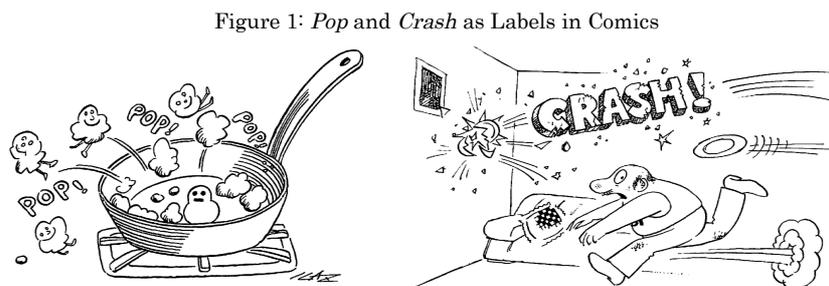
Chapter 2. Previous Studies

Previous studies about English onomatopoeia can be divided into two groups. One is comprised of glossaries of onomatopoeic words collected in an arbitrary fashion. The other includes studies focusing on the grammatical and semantic characteristics of onomatopoeia. The former includes Kloe (1977), Kaida et al. (1985) and Taylor (2006), and the latter Schourup (1993) and Tamori and Schourup (1999). Chapter 2 will summarize these previous studies and point out their inadequacies.

2. 1 Kloe (1977), Kaida et al. (1985) and Taylor (2006)

Kloe (1977) is a pioneering work on English onomatopoeia. He collected a total of 191 English words which he introspectively judged as onomatopoeic sounds, tones, or noises. He compared them with Spanish words.

Kaida et al. (1985) presents the most extensive glossary of English onomatopoeia. He collected about 1500 English words of onomatopoeia or of onomatopoeic in origin. In addition to listing these 1500 words, Kaida et al. (1985) presents examples of about 350 words used as labels (i.e. sound-effects) in comics, such as *pop* and *crash* as seen in Figure 1.



(Kaida et al. 1985: 58, 129)

Taylor (2006) lists about 1500 onomatopoeic words used in comics.

2. 2 Schourup (1993)

Schourup (1993) puts forward two claims on frequency of onomatopoeic words in English (although he does not provide quantitative data to support his claims).

First, onomatopoeic words in English frequently occur as verbs, while onomatopoeic words in Japanese frequently occur as manner adverbs (Schourup 1993: 50). Schourup (1993) introduces five grammatical classes of English onomatopoeia: verbs, usages as quotations, nouns, gerundives, and adjectives, as in (1).

- (1) a. The duck quacked[.] (Verbs)
- b. The road zig-zagged[.](Verbs)
- c. The duck went “quack”[.] (Quotations)
- d. The ice-cream cone fell splat! (Quotations)
- e. with a splat (Nouns)
- f. the quacking of a duck (Gerundives)
- g. sleek (Adjectives)

(Schourup 1993: 50)

Schourup (1993) claims that verbal usage (such as (1a) and (1b)) is the most frequent among these five usages (Schourup 1993: 50). On the other hand, typical and predominantly frequent usage of Japanese onomatopoeia is manner adverbs. Manner

adverbial usages of Japanese onomatopoeia often co-occur with the particle *to*, as in (2).

(2) Namida ga potari to tsukue no ue ni ochita

(= Tears fell onto a desk)

(Schourup 1993: 50)

The same argument can be seen in other previous studies (Takehi (1988), Kato and Sakaguchi (1996), Takeuchi (1999)). However, they also lack data to support their arguments.

Second, onomatopoeic words occur in informal conversation (especially in conversation with/between children) more frequently than formal written language in both English and Japanese (Schourup 1993: 51). In connection with this claim, Schourup (1993) observes a strong tendency that transparently onomatopoeic words in English such as *clickety-clack*, *tick-tock*, and *dilly-dally* occur only in informal (both spoken and written) situations or situations without an adult around. These words are avoided in formal situations because they sound too emotive (Schourup 1993: 51)).

2.3 Tamori and Schourup (1999)

Tamori and Schourup (1999) is the most extensive study about grammatical features of English/Japanese onomatopoeia and the gradient of iconicity of English/Japanese words (which they term as mimeticity). They define the term *onomatopoeia* as follows:

“[O]nomatopoeia, in the most general definition, is a word that imitates sound in the world, or is assumed as imitating it (*gishigishi*, *quack* etc.). However, this term is usually used not only as a word indicating sound (including voice), but also as a word indicating manner of action (*kunekune*, *zigzag*) or physical/mental state (*pocchari*, *plump*) (*mosaQ*, *sluggish*). This book takes the term in a broad sense, i.e. in the latter sense. When we need to distinguish words indicating voices or sound from those indicating manner or state, we will call the former *gion*-onomatopoeia, the latter *gitai*-onomatopoeia.”

(Tamori and Schourup 1999: 10; my translation)

Tamori and Schourup (1999) treat the terms *gisei-go*, *gion-go* (i.e. *gion*-onomatopoeia), *gitai-go* (i.e. *gitai*-onomatopoeia) and *gijo-go* as subclasses of onomatopoeia (Tamori and Schourup 1999: 5-6). Tamori and Schourup (1999) treat *gisei-go* (i.e. words imitating voices) as a subcategory of *gion*-onomatopoeia. They treat *gijo-go* (i.e. onomatopoeic words indicating mental states) as a subcategory of *gitai*-onomatopoeia (Tamori and Schourup 1999: 56). These are common terms in traditional Japanese grammar.

Tamori and Schourup (1999) make three points about English onomatopoeia. First, onomatopoeic words generally function either as verbs or nouns in English. Second, almost all onomatopoeic nouns also serve as verbs. Third, Tamori and Schourup (1999) offer a set of eight criteria for measuring the degree of iconicity. In 2. 3. 1 to 2. 3. 3, I outline these claims.

2. 3. 1 Nouns or Verbs as General Grammatical Classes of English Onomatopoeia

Tamori and Schourup (1999) illustrate onomatopoeic words as nouns, as in (3) (*gion*-onomatopoeic words), and (4) (*gitai*-onomatopoeic words).

(3) *Gion*-onomatopoeic words as nouns

- a. I heard a loud pop and turned to my right.
- b. It was not a bang exactly. It was more of a thud.
- c. We heard two ghastly shrieks followed by silence.
- d. The pitter-patter of rain on the window ...
- e. With a squawk, the crow raised its wings and flew off.

(4) *Gitai*-onomatopoeic words as nouns

- a. There was still a glimmer of hope in his eyes.
- b. The news of her mother's death gave her a jolt.
- c. He walked with a kind of waddle.
- d. With a violent lurch, the truck started down the alley.
- e. Where the signature should have been there was only a splotch of ink.

(Tamori and Schourup 1999: 93)

Tamori and Schourup (1999) argue that onomatopoeic words in English are generally used as nouns (Tamori and Schourup 1999: 92-93).

Tamori and Schourup (1999) illustrate *gion*-/*gitai*-onomatopoeic words used as verbs, as in (5) and (6).

(5) *Gion*-onomatopoeia as verbs

- a. The frog croaked.
- b. The gold glittered irresistibly.
- c. A bee was buzzing.
- d. The wave splashed against the sea wall.
- e. Listen! A crow is cawing.

(Tamori and Schourup 1999: 99)

(6) *Gitai*-onomatopoeia as verbs and nouns

- a. to lurch / a lurch
- b. to waddle / a waddle
- c. to nibble / a nibble
- d. to flash / a flash
- e. to ripple / a ripple

(Tamori and Schourup 1999: 100)

Verbs are also a typical grammatical class of English onomatopoeic words, as well as nouns (Tamori and Schourup 1999: 113).

In addition to nominal and verbal usages of English onomatopoeia, Tamori and Schourup (1999) illustrate three other grammatical classes of English onomatopoeia: gerundives, interjections, and manner adverbs. Moreover, they introduce two additional usages: usage with *go* and usage as labels (i.e. sound-effects) in comics.

Tamori and Schourup (1999) illustrate gerundive usages of English onomatopoeia with examples (7).

- (7) a. The cawing of a crow ...
- b. The cooing of the pigeons ...
- c. The zigzagging upset our stomachs.
- d. The twinkling of the lights ...

(Tamori and Schourup 1999: 99)

Onomatopoeic words serve as gerundives if these words indicate repetition of sounds or manners (Tamori and Schourup 1999: 102).

Tamori and Schourup (1999) show onomatopoeic words used as interjections, as in (8).

- (8) a. The chandelier fell onto the dining room table – crash!
- b. Click. He turned off the TV set and went to bed.
- c. He had no sooner pushed the toast down than – pop! – up it came again.
- d. I was pulling at the wire with all my might when – ping! – it snapped, and I
 fell backward.

(Tamori and Schourup 1999: 103)

As shown in (8a) and (8b), “onomatopoeic interjections are generally used in front/back

of main clauses that indicate actions causing sounds” (Tamori and Schourup 1999: 104; my translation). “If onomatopoeic interjections occur inside sentences [such as (8c) and (8d)], they typically follow the adverbial conjuncts concerning time (such as *no sooner ... than*, *when*, *until*, *as*). In such cases, they are generally used with exclamation marks” (Tamori and Schourup 1999: 103; my translation).

Tamori and Schourup (1999) illustrate onomatopoeic words as manner adverbs, as in (9).

- (9) a. His wristwatch fell kerplop into the swimming pool.
b. The train moved clickety-clack down the tracks.
c. Rain fell pitter-patter against the windowpane.
d. Peter Rabbit ran hippety-hop down the trail.
e. My ice-cream cone fell splat onto the pavement.

(Tamori and Schourup 1999: 104)

Tamori and Schourup (1999) observe that the manner adverbial usage is not common in English onomatopoeia, and that onomatopoeic manner adverbs are generally used with verbs such as *fall*, *move*, *run*, *slide*, *drop* and *blow* (as in (9)). Furthermore, such adverbial words must occur with phrases indicating directions (Tamori and Schourup 1999: 105).

Tamori and Schourup (1999) illustrate a usage with quotational *go*, as in (10).

(10) Ducks go “quack, quack, quack.”

(Tamori and Schourup 1999: 107)

Go is the only verb in English to quote the non-linguistic sound (Tamori and Schourup 1999: 108). In general, only *gion*-onomatopoeic words (not *gitai*-onomatopoeic words) occur with *go* for quotation (Tamori and Schourup 1999: 110).

Tamori and Schourup (1999) argue that onomatopoeic words occur as labels (i.e. sound-effects) in both English and Japanese comics. Although they do not illustrate examples of such a usage (like Figure 1 in 2. 1), they observe similarities as well as differences between English and Japanese in this usage. First, both in English and Japanese, nonce *gion*-onomatopoeic words typically occur in this usage (Tamori and Schourup 1999: 112). Second, some Japanese onomatopoeic words indicating mental states (such as *isoiso*, *ukiuki*, *karikari*, *uzuuzu*, *bikubiku*, *iraira*, *sowasowa*, *kushakusha*, which are unavailable in English) occur in this usage (Tamori and Schourup 1999: 112). Finally, *gitai*-onomatopoeic words do not generally occur in English comics, whereas all *gitai*-onomatopoeic words do occur in Japanese comics (Tamori and Schourup 1999: 113).

2. 3. 2 Onomatopoeic Nouns as Verbs

In connection with the grammatical classes of English onomatopoeia, Tamori and Schourup (1999) claim that almost all onomatopoeic nouns serve as verbs. This claim consists of two separate assertions by Tamori and Schourup (1999). One is that “almost

all *gion*-onomatopoeic nouns serve as verbs” (Tamori and Schourup 1999: 98; my translation). The other is that *gitai*-onomatopoeic nouns function as verbs (Tamori and Schourup 1999: 101).

The first assertion is related to *gion*-onomatopoeia. Tamiri and Schourup (1999) illustrate *gion*-onomatopoeic words serving as both nouns and verbs with (11) and (5).

(11) *Gion*-onomatopoeia as nouns

- a. We heard the croak of a frog.
- b. The glitter of gold is irresistible.
- c. The buzz of a bee could be heard.
- d. The apple fell into the tub with a splash.
- e. Listen! I can hear the caw of a crow.

(Tamori and Schourup 1999: 99)

(5) *Gion*-onomatopoeia as verbs

- a. The frog croaked.
- b. The gold glittered irresistibly.
- c. A bee was buzzing.
- d. The wave splashed against the sea wall.
- e. Listen! A crow is cawing.

(Tamori and Schourup 1999: 99)

Tamori and Schourup (1999) introduce three types of *gion*-onomatopoeic words as

exceptions to this assertion. The first is that nonce *gion*-onomatopoeic verbal usage is less acceptable than nominal usage, as in (12) and (13).

(12) Nonce *gion*-onomatopoeic words as nouns

- a. With a loud “schlook,” the puppy licked up the spilled water.
- b. With a “skrank,” he twisted the knob right off.
- c. With a “groahhrrr,” the beast leaped from behind the curtain.
- d. There was a soft “kerflonk” as the paperback fell beside the desk.
- e. We heard the “ploop. ploop. ploop” of someone walking in wet galoshes.

(Tamori and Schourup 1999: 96)

(13) Nonce *gion*-onomatopoeic words as verbs

- a. ?The puppy shlooked up the spilled water.
- b. ?He skranked the knob right off.
- c. *The beast groahhrrred and leaped from behind the curtain.
- d. ?The paperback kerflonked beside the desk.
- e. ?He plooped across the floor in wet galoshes.

(Tamori and Schourup 1999: 99)

The second exception is that *gion*-onomatopoeic verbal usages are more acceptable than nominal ones, such as (14).

(14) bawl, coo, gurgle, guzzle, grumble, low, mutter, munch, trundle, mumble

(Tamori and Schourup 1999: 100)

The third exception is that nonce *gion*-onomatopoeic words do not function as nouns and verbs, like *boing* in (15).

(15) a. *the boing of a ball

b. *The ball boinged.

(Tamori and Schourup 1999: 100)

According to Tamori and Schourup (1999), there are many nonce *gion*-onomatopoeic words like *boing* in English (Tamori and Schourup 1999: 100).

The second assertion concerns *gitai*-onomatopoeia. They observe that *gitai*-onomatopoeic nouns function as verbs (Tamori and Schourup 1999: 101), as in (6) (which is re-stated).

(6) *Gitai*-onomatopoeia as verbs and nouns

a. to lurch / a lurch

b. to waddle / a waddle

c. to nibble / a nibble

d. to flash / a flash

e. to ripple / a ripple

(Tamori and Schourup 1999: 100)

As I have outlined before, Tamori and Schourup (1999) divide onomatopoeic words into *gion*-onomatopoeic words and *gitai*-onomatopoeic words. Thus, the two separate points in 2. 3. 2 can be brought together into one bigger claim. That is, almost all onomatopoeic nouns serve as verbs.

2. 3. 3 Mimeticity

Tamori and Schourup (1999) offer criteria for measuring the degree of iconicity of English words. Tamori and Schourup introduce the term *mimeticity*, which refers to the degree that the word is recognized as the non-arbitrary (= iconic) representation of the sound/manner/state (Tamori and Schourup 1999: 189). Mimeticity is a contrastive term to *lexicality*, which refers to the degree that a word is assumed to be a totally ordinary (that is, a non-onomatopoeic one) (Tamori and Schourup 1999: 189). “*Gisei/gion/gitai*-onomatopoeic words have the lowest degree of lexicality [= the highest mimeticity], and are the most concrete, descriptive, iconic, direct, vivid, realistic etc., that is, the most onomatopoeic. In contrast, words having highest lexicality [like ordinary words] have the reverse characteristics” (Tamori and Schourup 1999: 189-190; my translation).

Tamori and Schourup (1999) suggest a set of eight criteria to measure the mimeticity of English words. First, “the word indicates sound” (Tamori and Schourup 1999: 201; my translation). Tamori and Schourup (1999) show that nonce (i.e. new, ad hoc) onomatopoeic words are assumed to have high mimeticity (as described later

especially in Table 1). In addition, they argue that it is easier to make nonce *gion*-onomatopoeic words (i.e. sound imitative words) than nonce *gitai*-onomatopoeic words (i.e. manner imitative words) in English (Tamori and Schourup 1999: 101).

Second, “the word is not used in the plural” (Tamori and Schourup 1999: 201; my translation). Tamori and Schourup (1999) claim that *gion*-onomatopoeic words indicating animal cries (such as *caw*, *baa*, *whinny*, *mew*, and *arf*) are more unstable (i.e. have lower lexicality, that is, higher mimeticity) than *gion*-onomatopoeia denoting sounds except for animal cries (such as *thump*, *pop*, *bang*, *shriek*, and *groan*). Because of their instability, many of these words imitating animal cries will be less acceptable without appropriate contexts in nominal usages, as in (16).

(16) a. ??I heard baas.

b. It was two baas and then a loud screech following immediately by the gunshots.’

(Tamori and Schourup 1999: 198)

Third, “the word occurs with *go*” (Tamori and Schourup 1999: 201; my translation). As mentioned in 2.3.1, Tamori and Schourup (1999) argue that only *gion*-onomatopoeic words occur with *go* for quotation, in general (Tamori and Schourup 1999: 110). They illustrate this criterion by comparing *gion*-onomatopoeic *quack* in (10) to *sparkle*, *glare*, and *shimmer* in (17) (that are related to vision, not *gion*-onomatopoeic).

(10) Ducks go “quack, quack, quack.”

(Tamori and Schourup 1999: 107)

(17) a. *The Christmas lights went sparkle.

b. *The sun went glare.

c. *The surface of the lake went shimmer.

(Tamori and Schourup 1999: 110)

Fourth, “the word occurs as a quotation” (Tamori and Schourup 1999: 201; my translation). Tamori and Schourup (1999) use the term “quotation” or “quotative” for illustrating quotative nouns (that is nouns with quotation marks), quotation marks with *gion*-onomatopoeic adverbs, and *go* for quotation. As to quotative nouns, Tamori and Schourup (1999) illustrate that nonce *gion*-onomatopoeic words function as quotative nouns, with (12) (which is restated).

(12) a. With a loud “schlook,” the puppy licked up the spilled water.

b. With a “skrank,” he twisted the knob right off.

c. With a “groahhrrr,” the beast leaped from behind the curtain.

d. There was soft “kerflonk” as the paperback fell beside the desk.

e. We heard the “ploop, ploop, ploop” of someone walking in wet galoshes.

(Tamori and Schourup 1999: 96)

In contrast, “entrenched [i.e. not-nonce or stable] *gion*-onomatopoeic words” (Tamori

and Schourup 1999: 95; my translation) cannot be used as quotative nouns in most cases, as in (18).

- (18) a. *The cupboard fell over with a “clatter.”
b. *Ann closed the door with a “rattle.”
c. *He leaped into the pit with a “scream.”
d. *The lion strode into the kitchen with a “roar.”
e. *With a “shriek,” the child fled the room.

(Tamori and Schourup 1999: 95)

As to quotation marks with onomatopoeic adverbs, Tamori and Schourup (1999) argue that “*gion*-onomatopoeic adverbs occur with quotation marks, while *gitai*-onomatopoeic adverbs occur with dash marks [i.e. hyphens] in general” (Tamori and Schourup 1999: 106; my translation), as in (19) (cf. (9) in 2. 3. 1).

- (19) a. His wristwatch fell “kerplop” into the swimming pool.
b. The train moved “clickety-clack” down the tracks.
c. Rain fell “pitter-patter” against the windowpane.
d. Peter Rabbit ran - hippety-hop - down the trail.
e. My ice-cream cone fell “splat” onto the pavement.

(Tamori and Schourup 1999: 106)

As to co-occurrence with *go* for quotation, “only *gion*-onomatopoeic words occur with the verb *go*” (Tamori and Schourup 1999: 110; my translation).

Fifth, “the word occurs as an interjection” (Tamori and Schourup 1999: 201; my translation), as shown in (20).

- (20) a. Crunch! I bit into the pretzel.
b. Thud! The book fell onto the desk.
c. Bam! The police fired a warning shot into the air.
d. Bonk! The brick hit him on the head.
e. Smooch! He kissed me on the lips.

(Tamori and Schourup 1999: 105-106)

Sixth, “the word is not used as a gerundive” (Tamori and Schourup 1999: 201; my translation). Tamori and Schourup (1999) show that nonce onomatopoeic words do not occur as gerundives (as in (21)). This tendency is stronger than the case with verbs (Tamori and Schourup 1999: 102) (c.f. (13)).

- (21) a. ??The shlooking up of the spilled water ...
b. ??His skranking of the knob ...
c. ??The groahhrrring of the beast ...
d. ??The kerflonking of the paperback ...

(Tamori and Schourup 1999: 102)

Seventh, “the word occurs as a label (i.e. sound-effects) in comics” (Tamori and Schourup 1999: 201; my translation). Although Tamori and Schourup (1999) do not present examples of this criterion, Tamori and Schourup (1999) observe two points relevant to this criterion. First, nonce *gion*-onomatopoeic words typically occur in this usage both in English and Japanese (Tamori and Schourup 1999: 112). Second, *gitai*-onomatopoeic words do not occur in English comics (Tamori and Schourup 1999: 113) (c.f. 2. 3. 1).

Eighth, “the word is not used as a verb” (Tamori and Schourup 1999: 201; my translation). As mentioned before, nonce onomatopoeic verbs are less acceptable (Tamori and Schourup 1999: 102), as in (13) (which is restated).

- (13) a. ? The puppy shlooked up the spilled water.
b. ? He skranked the knob right off.
c. * The beast groahhrrred and leaped from behind the curtain.
d. ? The paperback kerflonked beside the desk.
e. ? He plooped across the floor in wet galoshes.

(Tamori and Schourup 1999: 99)

So far, I have outlined each of eight criteria for measuring mimeticity by Tamori and Schourup (1999). These can be summarized in (22). With these criteria, Tamori and Schourup (1999) show a result of measuring mimeticity of some English onomatopoeic

words, as shown in Table 1.

(22) Criteria for measuring mimeticity of English onomatopoeia

- a. The word indicates sound.
- b. The word is not used in the plural.
- c. The word occurs with *go*.
- d. The word occurs as a quotation.
- e. The word occurs as an interjection.
- f. The word is not used as a gerundive.
- g. The word occurs as a label (i.e. sound-effect) in comics.
- h. The word is not used as a verb.

(Tamori and Schourup 1999: 201; my translation)

Table 1: A Result of Measuring Mimeticity of Some Words

	a	b	c	d	e	f	g	h
Mmmm	○	○	○	○	○	○	○	○
groahhrrr	○	○	○	○	○	??	○	○
skrank	○	○	○	○	○	??	○	??
buzz	○	○	×	○	○	×	○	○
caw	○	??	×	○	○	×	○	×
bleat	○	○	×	×	×	×	×	×
twinkle	×	○	×	×	×	×	○	?
lurch	×	○	×	×	×	×	×	×
jerk	×	×	×	×	×	×	×	×

(Tamori and Schourup 1999: 202)

Although Tamori and Schourup (1999) do not illustrate the differences in acceptability between these words in Table 1., the table shows that *Mmmm*, which is a “nonce

gion-onomatopoeic words” (Tamori and Schourup 1999: 201; my translation), meets all the criteria *a* to *h* (*a* to *h* in Table 1 correspond to (22)). In contrast, *jerk* (which is a *gitai*-onomatopoeic word since it does not meet criterion *a*) does not meet any criteria. The other words in Table 1 are located between them (Tamori and Schourup 1999: 201).

In summary, Tamori and Schourup (1999) claim that degree of iconicity (which they term as mimeticity) in English words can be measured with a set of eight criteria.

2. 4 Inadequacies with Previous Studies

In 2. 1 to 2. 3, I have outlined previous studies of onomatopoeia in English. This section points out some of their inadequacies.

First, no reliable sources for onomatopoeic words in English are provided. Glossaries by Kloe (1977) and Kaida et al. (1985) are arbitrary in terms of criteria for collecting words. Taylor (2006) gathers words only from a very limited register (i.e. comics).

Second, no quantitative studies have been conducted. Schourup (1993) argues that onomatopoeic words in English frequently occur as verbs and that they occur in conversation more frequently than written language. However, he does not statistically analyze it. Tamori and Schourup (1999) is the most exhaustive study discussing characteristics of English onomatopoeia, but they did not show authentic data to support their claims.

Third, little consideration is given to register differences (cf. Schourup (1993)). Biber et al. (1999) maintain that lexical items may vary a great deal in usage across

registers. For instance, the twelve most common verbs in the LSWE corpus (*say, get, go, know, think, see, make, come, take, want, give, mean*) occur much more frequently in conversation than in fiction, news and academic prose. They argue that this difference between registers is motivated by the length of time available to draw on lexical items (Biber et al. 1999: 373-374). In such a case, it is possible for actual usage of onomatopoeic words in English to vary across registers.

This study has the following three aims:

- (i) to provide a non-intuitive (dictionary-based) list of onomatopoeic words in English;
- (ii) to conduct a quantitative, corpus- and usage-based analysis to clarify grammatical/semantic features of representative onomatopoeic words;
and
- (iii) to examine register variations of onomatopoeic words.

Chapter 3. Onomatopoeic Words in the OED

In Chapter 3, I will make a list of onomatopoeic words based on the OED, and classify these words according to their grammatical classes. In addition, I will examine claims by Tamori and Schourup (1999) that onomatopoeic words generally function either as verbs or nouns in English and that almost all onomatopoeic nouns also serve as verbs.

3. 1 Method of Making a List of Onomatopoeic Words

I choose words judged as (apparently or probably etc.) onomatopoeic words or as having onomatopoeic origins in the etymologies in the OED released in 2004. I am not assuming that the OED provides a perfectly objective and/or reliable data source, because the OED also does not refer to criteria for judging words as onomatopoeia. Nevertheless, the OED is more reliable than previous glossaries such as Kloe (1977) and Kaida et al. (1985) because it is edited by a large group of native speakers, and it has been continuously updated through the years as well.

I made a list of onomatopoeic words using the following three steps. First, I searched entries (i.e. head words) in the OED, including terms such as *onomatopoeia/onomatopoeic/onomatopoetic* etc. in their etymologies. Specifically, I typed *onomatop** into the “FIND WORD” box in the advanced search of the OED and restricted the search area to etymologies. As a result, 385 entries met this condition.

Second, from these 385 entries, I manually picked out the words judged as (apparently or probably etc.) onomatopoeic words or as having onomatopoeic origins by

the OED. As a result, I collected 304 entries which the OED judges as onomatopoeic words (or origins).

However, the list of these 304 entries is not adequate in itself. The OED often treats different grammatical classes of one word (= lemma) as separate entries. In addition, these separate entries are sometimes not given the same explanation of their etymologies. Many entries would be overlooked if I examined only those entries that included *onomatopoeia/onomatopoeic/onomatopoetic* etc. in their etymologies.

Third, I regarded one onomatopoeic word as a collection of entries (that is, lemma). In so doing, I observed the following two criteria. First, an entry must have the same spelling as other entry(ies) judged as onomatopoeia by the OED. *Ing/-ed*-suffixed forms (such as gerundives and adjectives with *-ing/-ed*) are exceptionally permitted. Second, some kind of connection between these entries must be recognized by the OED.

For instance, the OED treats three separate entries of *pop* as onomatopoeia. They are verbal, nominal, and adverbial (or interjectional) usages of *pop*. The OED states that there is a connection between them. In this study, I grouped multiple entries such as those for *pop* together into one word spelled *pop*.

The case of *crash* is not straightforward like *pop*, although *crash* functions as both verb and noun. The OED gives two separate entries to these two grammatical classes. The dictionary marks verbal *crash* as “onomatopoeia,” but it marks nominal *crash* as “following (i.e. being associated with) verbal *crash*.” In a simple search of entries including *onomatop** in etymologies, only verbal *crash* was found. In this study, I grouped verbal and nominal *crash* together into one word spelled *crash*, since nominal

crash obviously has a connection with verbal *crash*.

Just like *pop* and *crash*, I grouped the 304 entries and many other entries together into 287 words (i.e. lemmas). Table 2 lists these 287 lemmas.

Table 2: The List of Onomatopoeic Words in the OED

<p>bash, bat, birl, blab, blad, blush, blight, blirt, blizzard, blore, blotch, blout, blubber, bluff, blumbering, blunge, blur, blurt, bluster, bluther, bob, bobble, bokmakierie, botch, bounce, box, brash, brastle, brattle, bruit, brunt, brush, buff, buffle, bum, bump, bunch, bungle, buss, bustle, buzz, cangle, chat, chatter, chinkerinchee, chirr, chuck, chuff, chug, chunk, clam, clamp, clash, clatter, clip, clobber, clump, cob, cocker, cockle, coggle, crank, crash, craunch (cranch), crick, crick-crack, crisp, crool, crout, cur, dab, dad (daud), dash, dib, didder, diddle, dindle, dinge, dirl, doss, douse, drant (draunt), dub₁, dub₂, duff, dump, dunner, fidge, fillip, filly-folly, flab, flabby, flack, flacker, flaff, flag, flank, flap, flash₁, flash₂, flatter, flaunt, fleg, flibbertigibbet, flicker, flim-flam, flimmer, flimsy, flip, flip-flap, flip-flop, flirt, flisk, flitch, flizz, flob, flog, flop, flounder, flouse (floush), fluff, flummox, flump, flurr, flurry, flush, frab, fratch, fribble, fridge, frig, fub(b, fudge, fuffle, fumble, funk, fustle, gab, gabble, gag, gaggle, gallop, gam, gargarism, gawf, gibber, gig₁, gig₂, girl, gnaw, gnar, gog, goggle₁, goggle₂, goo, grab, graunch, gush, hadada(h, hatter, hod, hue, hurl, hurrah (hurray), hurry, jabber, jabble, jack, jag, jam, jar, jig, jink, job, jog, jot, jower, jumble, jump, jut, kittle, knell, knoll, la-di-da, lamp, lash, lob, loblolly, log, lollop, lop₁, lop₂, loppet, lounder, lull, lunch, lush, mae, mamble, mire-drum, mirliton, munch, murmur, mush, muss, mutter, narr, pachinko, pang, pash, pat, pech, pee-pee, pernickety, petchary, pew, piffle, pip, pirl, pirr₁, pirr₂, pirrie (pirry), piss, plap, splash, plat, platch, plod, plodge, plout, plump, pop, popple, porr (purrr), poss, prate, prick, prod, puff, pug, punt, push, putter, quaff, quag, quash, quibble, quiver, racket, rash, rat-rime, reesle (reeshle), rumble, scat, scatter, sclaff, scraich (scaigh), scranch, scritch, scrouge, scud, scuff, scutch, stramash, swirl, tattle, thack, thunk, tick, tiff₁, tiff₂, tiffle (tifle), tit₁, tit₂, tittle, tottle, touch, tuffle, twiddle, waff, wallop, whiff, whing, whirr (whir), widgeon (wigeon), wift, wimple</p>
--

3. 2 Classification of Onomatopoeic Words

Next, I classify 287 words on the basis of their grammatical classes and show examples of these usages in the OED (which may be different from words in Table 2 in their spellings because the OED includes old-fashioned quotations). Table 3 below shows the numbers of words categorized into each class. In addition, it indicates

percentages of the words out of total of onomatopoeic words (287 words). Since the majority of onomatopoeic words occur as more than one grammatical class, the sum of percentages exceeds one hundred.

Table 3: Grammatical Classes of Onomatopoeia in English

Grammatical Class	Number of words	Ratio of words out of whole words
Verbs	252	87.8%
Nouns	226	78.7%
Adverbs	32	11.1%
Adjectives	30	10.5%
Interjections	12	4.2%
Gerundives	155	54.0%
<i>Ing</i> -suffixed adjectives	123	42.9%
<i>Ed</i> -suffixed adjectives	78	27.1%
Other <i>ing</i> -suffixed class	2	0.7%
Total	287	100%

As shown in Table 3, the most dominant class is verbs (252 words, 87.8% of all onomatopoeic words), followed by nouns (226 words, 78.7%). Onomatopoeic words in (23) are examples of onomatopoeic verbs, and (24) gives examples of nouns.

(23) Verbs

- a. To have ... personal and domestic affairs harrowed up and cangled over.
- b. His heavy boots clatter upon the round pebbles.
- c. Pikes must shiver ... Haubeck crash, and helmet ring.
- d. It gard the divots stour aff the house riggings and every caber dunner.
- e. If geese gaggle more than usual, these are all signs of rain.
- f. 'Yes, and you saw much of each other, and you became heart friends', gushed

Miss Wolf.

- g. A clerk murmured something inaudible about 'conditions of sales'.
- h. A grinning or scornful opening of ye mouth, as when a dog narreth.
- i. The tradesman plumps into a pond.
- j. The white bears winked their pink eyes, as they plapped up and down by their pool.

(24) Nouns

- a. There comes an accidental brattle of thunder.
- b. Testifying, as his wont is, by loud bruit.
- c. I came back to full consciousness with a bump.
- d. The chug of the engine still filled our ears.
- e. I have seen the smoke from fires in the duff even after the snow has fallen.
- f. The jump of the horse gave ... a lollop to the near wheel.
- g. The only noise was a plash of the water against a jetty.
- h. Each guest having taken a quaff of ale.
- i. By a simple arrangement of ticks and intervals ... the clerk was enabled to copy the [telegraphic] messages with the utmost rapidity.
- j. Give her a whiff of fresh air with the bellows, Charley.

The finding that the most dominant grammatical classes are verbs and nouns supports Tamori and Schourup (1999)'s claim that onomatopoeic words generally function as either verbs or nouns in English.

Table 3 also indicates that 32 onomatopoeic adverbs were found, 30 adjectives, and 12 interjections. (25) shows examples of adverbs, (26) shows adjectives, and (27) shows interjections.

(25) Adverbs

- a. Something came bounce against the door.
- b. The carriage went bump, bump, bump over the sleepers.
- c. Hear his pistol cric-crac! Hear his rifle ping-pang!
- d. One who sharpens his pencil point, instead of seizing his biggest brush and going dab at the mountains with splotches of colour.
- e. Fall with a hackney coach, and he [a horse] will carry you slap dash against it.
- f. Flounders fried in oatmeal [...] with their tails jerking Flip, flap, in the frizzle of the pan.
- g. The lover, with much amazement, came plump into the river.
- h. As soon as any one speaks, pop I slap it down, and make that, too, my own.
- i. The bullet tore through the canvas of the cover and went thunk into a barrel.
- j. Whirr came the wheels—the carriage stopped at the very door.

(26) Adjectives

- a. A species of oak, very brash when newly cut.
- b. Their hair ... black and brown, growing to a tolerable length, and very crisp and curly.

- c. This flabby lump of mortality.
- d. Do you think I regard your flimflam story o' the church?
- e. Music ... with ... butterfly flip-flap flights, and die-away cadences.
- f. The jewels have remained after the flimsy embroidery ... has fallen into decay.
- g. The lush tropical forests of South America.
- h. The grammarian, the purist, the pernicketty stickler for trifles.
- i. In buildings, plump views are objectionable; they should always be taken at an angle.
- j. Thy quick and quiuer wings.

(27) Interjections

- a. At every step - Bounce! When I only thought to stride a pace, I bounded thirty.
- b. Dalled if he didn't fall into the pond, flop!
- c. Anything of consequence to say? Fudge! He is coming begging.
- d. Little mincing feet were heard Pat, pat along the floor.
- e. Captain Hedzoff flung up his helmet, and cried, 'Hurray! Hurray! Long live King Giglio!'
- f. It fell out unexpected—pop, on a sudden; like the going off of a field-piece.
- g. But yonder, whiff! There comes a sudden heat.
- h. Whirr! the exploded cork whizzed through the air.

These three classes are less dominant than verbs and nouns.

Table 3 shows that 155 onomatopoeic words occur as gerundives, 123 as *ing*-suffixed adjectives, and 78 as *ed*-suffixed adjectives, as in (28)-(30).

(28) Gerundives

- a. Thornton and Schultz opened the batting for the Gentleman.
- b. As a lute's [voice] pierceth through the cymbal's clash, Jarr'd but not drown'd
by the loud brattling.
- c. There was bustling to and fro of her and her maids.
- d. Noises of the hammering of rivets, and the dumping down of huge sheets of
metal.
- e. The flattering of court parasites.
- f. With a flickering of mellowed sunlight comes over the eyes.
- g. Like the twittering and gibbering of the "Birds" of Aristophanes
- h. There may be some feminine muttering that in promoting the 'Woman's
Guardian' we are perpetuating the idea of the female ghetto.
- i. There was a scuffing of many feet on the beach below.
- j. So that no discovery ... might be made by any tattling amongst the servants.

(29) *Ing*-suffixed adjectives

- a. Curse me the blabbing lip
- b. A chatting swallow.
- c. The small crisping waves which break upon the shore.

- d. The fidging Prentices, their elbows claws.
- e. She took the great flapping ears of the animal in her two hands.
- f. The portal oped with a gnarring sound.
- g. The wild not ... of the bullfinch ... is a most jarring and disagreeable noise.
- h. Through the plashing streets.
- i. Attended with pricking pains in the right side.
- j. The rapid increase of swirling ornament as a feature of domestic ...
architecture.

(30) *Ed*-suffixed adjectives

- a. The flattered monarch refused to interfere.
- d. The flirted fan, the bridle and the toss.
- e. There were fluffed strokes near the green.
- h. Having borrowed a notched and jagged knife.
- b. The mounted men charging into this jammed crowd every now and then.
- f. A gagged engine working at the full stroke of the pistons.
- g. One eye ... was bigger and more goggled than the other.
- h. And now came a low muttered conference between McDermot and his
companions
- i. A head crowned with masses of platted hair.
- j. Try now to ... find a meaning in the rumbled signals from the bridge.

Gerundive and *ing/ed*-suffixed adjectival usages are more dominant than adverbial,

adjectival and interjectional usages, while they are less dominant than verbal and nominal usages.

Two words, *flip(ping)* and *touch(ing)*, are categorized into the other type of *ing*-suffixed classes. The OED states that *flipping* functions as an adverb, although the dictionary does not present examples of obviously adverbial *flipping*. The OED also states that *ing*-suffixed *touch* serves as a preposition, as in (31).

(31) Touching the bargain, your ... mother was a little too calm.

Someone might judge it as a verbal or participial usage of *touch*. In fact, it is unclear whether prepositional *touching* in (31) differs from other grammatical classes of *touching*.

3. 3 The Number of Grammatical Classes of Onomatopoeic Words

As I have pointed out, the majority of onomatopoeic words occur as more than one grammatical class. Now, let us focus on the grammatical class(es) of each item. I classify onomatopoeic words into three groups on the basis of the number and variety of their grammatical classes, as in Table 4.

Table 4: Combination Patterns of Grammatical Classes

Number of Grammatical Class(es)	Number of words (%)	Details	
		Grammatical Class(es)	Number of Words (%)
One class	63 (22.0%)	Verb	31 (10.8%)
		Noun	29 (10.1%)
		Other	3 (1.0%)
Two classes	50 (17.4%)	Verb + Noun	33 (11.5%)
		Verb + Other	14 (4.9%)
		Noun + Other	3 (1.0%)
More than two classes	174 (60.6%)	Verb + Noun + Other(s)	161 (56.1%)
		Verb + Others	13 (4.5%)
Total		287 (100%)	

Table 4 shows that 63 out of 287 words (22.0%) have only one grammatical class, 50 words two classes (17.4%), 174 words more than two (60.6%).

The 63 words having only one class can be divided into three subgroups. The first consists of 31 words that serve only as verbs, as in (32).

(32) Only as Verb

- a. Children put half-pence on their fingers to bird them ... in the low game of Pitch-and-toss.
- b. To have ... personal and domestic affairs harrowed up and cangled over.
- c. The belly is said to croot, when there is a noise in the intestines.
- d. A few dozen homemade chocolate chip cookies, which they flacked with free samples from the Mrs. Fields Chocolate Chippery.
- e. What work to plodge through it [heather] for hour after hour!

The second subgroup includes 29 words that function only as nouns, as in (33).

(33) Only as Noun

- a. I am hunted away ... by every barking cur about the house.
- b. She looks pretty good ... no flab round the thighs yet.
- c. The best guide to the Hadada's identity lies in its loud note-*kah-a-a-a*-uttered frequently, both in flight and on the ground.
- d. His ineffectual struggles caused him to sink farther to the flanks in the loblolly which the tramping of the cattle had caused.
- e. A very promising tit named Woodstock.

The last subgroup consists of three words *flabby*, *pernickety* and *blumbering*. They occur only as other than verbs or nouns, as in (34).

(34) Other than Verbs or Nouns

- a. Their muscles are flabby. (Adjective)
- b. Any white man ... grows lame and impatient at such confining and pernickety work. (Adjective)
- c. What is this buzzyng, blumberinge, trow we: thunder? (Gerundive)

As is shown in (34), *flabby* and *pernickety* occur only as adjectives, *blumbering* as a gerundive.

Next, let us examine the group of the 50 words which function as two grammatical classes. This group is divided into four subgroups. The first subgroup includes 33 words having verb and noun usages (11.5% of the whole words), such as (35)-(39).

- (35) a. Frogs ... crooled, chubbed, and croaked. (Verb)
b. The monotonous crool of a dove. (Noun)
- (36) a. The flounders would now be dubbing at our limbs thirty fathoms deep. (Verb)
b. The sullen dub of two drums beaten with crooked sticks. (Noun)
- (37) a. His daughter would fliberty-gibbet all over the place like most young women since the War. (Verb)
b. You ... are less of a flibbertigibbet than the world takes you to be. (Noun)
- (38) a. The Unionists appear to be completely flummoxed by the failure of Mr. Balfour's Land Act. (Verb)
b. Any failure is called a flummux. In some colleges the word is particularly applied to a poor recitation. At Williams College, a failure on the play-ground is called a flummux. (Noun)
- (39) a. We plodded along in profound silence. (Verb)
b. The angles of the rungs become very painful under the slow plod-plod of the horse's movement. (Noun)

The combination of verb and noun usages constitutes the most dominant type among

the 50 words.

The second subgroup consists of 14 words (4.9% of a total of 287 words), which function as verb and the other class (except for nominal usage), as in (40)-(42).

(40) a. First we blunge (amalgamate and blend) the liquid flint And moisten'd clay
... With wielded paddle-staff (a blunger call'd) Until the blended matter, all
afloat, Thin slip becomes. (Verb)

b. The mixing of the clay, which is called blunging, is effected in a
trough. (Gerundive)

(41) a. Many people “graunch” their gears. (Verb)

b. “Have you tried this new take-off technique?”

“Yes sir ... we're in for a hell of a graunching.” (Gerundive)

(42) a. By the 1st of James I. c. 23, fishermen are empowered to go on the grounds of
others to hue. (Verb)

b. The galloping of horsez, the blasting of hornz, the halloing and hewing of the
huntsmen. (Gerundive)

In (40)-(42), onomatopoeic words behave as verbs and gerundives. In this subgroup, eight of 14 words have combinations of verbs and gerundives.

The third subgroup includes only three words (1.0% of a total of words), *blizzard*, *duff* and *buff*. They can behave as nouns and the other class (except for verbal usage), as in (43)-(45).

(43) a. I have seen the smoke from fires in the duff even after the snow has fallen.

(Noun)

b. I went down to the pub because the play was so duff. (Adjective)

(44) a. Blizzards and icy winds swept across Britain yesterday. (Noun)

b. Then he suddenly ejaculates “Well I’m blizzarded!” (*Ed*-suffixed adjective)

(45) a. It only gi'es him pain To read sic buff. (Noun)

b. “What say you to that?” ... “I say neither buff nor stye to it”. (Interjection)

The OED treats *buff* in (45b) as an interjectional use, although this example can be treated as a noun like (45a).

Next, let us look at 174 words that have more than two grammatical classes. These 174 words can be divided into two subgroups. One includes 161 words that function as verbs, nouns, and the other class(es) (56.1% of all words). The other consists of 13 words functioning as verbs and (more than) two of the other classes (except nouns).

As I examined before, 33 words serve as both verbs and nouns. In addition, 161 words function as verbs, nouns and a few other class(es). Thus, 194 words (33 words + 161 words) serve at least as verbs and nouns. These words account for 85.8% of all onomatopoeic nouns (226 words). Tamori and Schourup (1999) argue that almost all onomatopoeic nouns serve as verbs. However, the result of the classification shows that the majority of onomatopoeic nouns, not “almost all,” serve as verbs.

In what follows, I look at the 161 words that function as verbs, nouns, and other(s).

Among these 161 words, 36 words function as verbs, nouns and another class, as illustrated in (46)-(50).

- (46) a. Well here ... 'S a ball for you if you can bat it. (Verb)
b. Pilch scored sixty-one, and brought out his bat. (Noun)
c. The best players are those making the best batting and fielding average. (Gerundive)
- (47) a. A little locomotive would chuff across the burning desert. (Verb)
b. The far-off windy chuff of a shunting train. (Noun)
c. Chuffing after prescribed burnout could prove disastrous to a space launching. Chuffing (intermittent oscillatory burning) of the second-stage after separation of the third-stage, before the third-stage is ignited, might cause it to ram the third-stage. (Gerundive)
- (48) a. She flumped herself down in the car. (Verb)
b. Broken now and then by ... the flump of a dictionary on the leather-covered tables. (Noun)
c. He came flump down. (Adverb)
- (49) a. One expects somehow to be flim-flammed on a vacuum cleaner. (Verb)
b. Grossmith ... crowds his picture with all kinds of flim-flams of the drawing-room. (Noun)
c. She will tell you a thousand flim-flam tales. (Adjective)
- (50) a. [The donkey's] very ears twiddled with laughter. (Verb)

- b. Purcell, with all his old curls and twiddles, is perfection to him. (Noun)
- c. A lady in a little twiddling Parisian hat and feather. (*Ing*-suffixed adjective)

In addition to verbal and nominal usages, *bat* and *chuff* (in (46) and (47)) function as gerundives, *flump* (in (48)) as an adverb, *flim-flam* (in (49)) as an adjective, and *twiddle* (in (50)) as an *ing*-suffixed adjective.

I found 57 words that function as verbs, nouns and two other classes. (51) to (60) show examples of such words.

- (51) a. The female slaves ... worked, and chattered, and quarrelled. (Verb)
 - b. Its note of anger is very loud and harsh, between a chatter and shriek.
(Noun)
 - c. Irreverent chattering of certain Prayers. (Gerundive)
 - d. Leader of a chattering train. (*Ing*-suffixed adjective)
- (52) a. The swords clashed smartly together ... But the combat was of short duration. (Verb)
 - b. Something fell with a heavy clash on the street before us ... Conscience! if it isna the keys. (Noun)
 - c. We heard a clashing in the Water, like Boats rowing. (Gerundive)
 - d. The conflict of the clashing war. (*Ing*-suffixed adjective)
- (53) a. Presently the carcasses ... were carried up and dumped into the water. (Verb)

- b. He ... looked out over the veld, out to the great white dumps of the mines,
like hills under the sun. (Noun)
- c. The Common, where for three months past the monumental dumpings of
the icy streets had dismally accumulated. (Gerundive)
- d. As for the dumping scare, ... there is nothing in it. (*Ing*-suffixed adjective)
- (54) a. Geese and Ganders ... hisse and gaggle him out of his Five pestilent
senses. (Verb)
- b. A gaggle of more than average chattering women. (Noun)
- c. Logick and Philosophy cannot be uttered by ... the hissing and gagling of
Geese. (Gerundive)
- d. If I have Company they are a parcel of chattering Magpies; if Abroad, I am a
gagging Goose. (*Ing*-suffixed adjective)
- (55) a. He had brought a gentleman who could jabber with her in French. (Verb)
- b. Who only differ from their brother brutes in Houyhnhnmland, because they
use a sort of Jabber. (Noun)
- c. To study the jabberings of monkeys. (Gerundive)
- d. Jabb'ring spectres o'er her traces glide. (*Ing*-suffixed adjective)
- (56) a. I was tattling with my former freedom. (Verb)
- b. All this tattle was repeated ... to the Queen. (Noun)
- c. So that no discovery ... might be made by any tattling amongst the
servants. (Gerundive)
- d. This tattling Gossip knew too well What mischief Hudibras befell.

(*Ing*-suffixed adjective)

(57) a. Small trembling waves poppled and frothed in mid-stream, where the fresh water met wind and tide. (Verb)

b. There was a very nasty roll and popple on the sea. (Noun)

c. The calm guggling and poppling of the waves as they were parted by the piles.
(Gerundive)

d. A peculiar poppling noise, as if a thunder-shower was beating the surface with its multitudinous drops, rose around our boat. (*Ing*-suffixed adjective)

(58) a. They are just fit to ... read the News and Express, bum round rum-shops [etc.]. (Verb)

b. The bums in the dosshouse have reached bottom. (Noun)

c. This is a bum party. (Adjective)

d. The idea of begging or "bumming" as it is popularly called out there, went strongly against my stomach. (Gerundive)

(59) a. Patrick ... could not bear to be filliped. (Verb)

b. He could ... draw blood from a slave's head with a fillip. (Noun)

c. Interlarded with a double row of bobs and finger flipings. (Gerundive)

d. The drip Did whip the filliped pool. (*Ed*-suffixed adjective)

(60) a. Never wouldst thou ... have pashed that venerable face with the rude flint-stones. (Verb)

b. The soil would have been run together like lime by a "pash" of rain. (Noun)

c. Pashin' rain. (*Ing*-suffixed adjective)

- d. Wauing his beame, Vpon the pashed courses of the Kings. (*Ed*-suffixed adjective)

Next, 45 words serve as verbs/nouns/three of the other classes. (61) to (70) are examples of such words.

- (61) a. The gun is loaded. The negro continued to bash at it with all his might.
(Verb)

- b. If he wants to fight me, let him come out in the garden. Whatever happens I shall have one bash at him. (Noun)

- c. A fine preserved Pine Apple flew bash on Isaac Shingle's sharp snout. (Adverb)

- d. One would have expected to find a studious cultivation of more scientific methods of bashing. (Gerundive)

- e. A bashed mask. (*Ed*-suffixed adjective)

- (62) a. I bumped my head on the low ceiling. Several boys were 'bumped' against this wall at the beating of the bounds. (Verb)

- b. An unlucky bump upon the head [might have] rendered him stupid. (Noun)

- c. Sundry bumpings and thumpings on the stairs. (Gerundive)

- d. Thou shalt have a bumping pennyworth. (*Ing*-suffixed adjective)

- (63) a. The cock ... flaps away the darkness with his wings. (Verb)

- b. A gnat can execute many thousand flaps of its little wings in a

- second. (Noun)
- c. The heavy flapping of strong wing would point the course of a heron. (Gerundive)
- d. She took the great flapping ears of the animal in her two hands. (*Ing*-suffixed adjective)
- e. The dwarf put his hand to his great flapped ear. (*Ed*-suffixed adjective)
- (64) a. He ... fumbled for the bible in his boot. (Verb)
- b. He [Wilson] called Lockhart's remarks “a feeble fumble of falsehood”. (Noun)
- c. I do not call these stray papers Essays, but mere Studies—fumblings if you will. (Gerundive)
- d. The fumbling efforts of gentlemen in removing their gloves before shaking hands. (*Ing*-suffixed adjective)
- e. The newspapers grew sticky, fumbled, and worn at the hands of the frequent readers. (*Ed*-suffixed adjective)
- (65) a. She jumped on to the beach and walked many paces. (Verb)
- b. The cat ... then seized it with a jump. (Noun)
- c. The jumping was exceptionally good. (Gerundive)
- d. There is ... what seamen call a jumping sea. (*Ing*-suffixed adjective)
- e. We regaled ourselves on larded beef, jumped potatoes, rum and cherries. (*Ed*-suffixed adjective)
- (66) a. The lady lashed her horse and set off in pursuit. (Verb)
- b. This was meant as a lash for me. (Noun)

- c. The king [of Sweden] ... keeps up the top with continual agitation and lashing. (Gerundive)
- d. The lashing whip resounds. (*Ing*-suffixed adjective)
- e. And the lashed deeps Glitter and boil beneath. (*Ed*-suffixed adjective)
- (67) a. A clerk murmured something inaudible about 'conditions of sales'. (Verb)
- b. His speech was the softest murmur. (Noun)
- c. The night is full of ... the murmurings of spring. (Gerundive)
- d. Where the summer lay On honeyed murmuring limes. (*Ing*-suffixed adjective)
- e. Henry Smith stepped forward, amidst the murmured applauses of his fellow-citizens. (*Ed*-suffixed adjective)
- (68) a. Some who had always professed the doctrine of nonresistance in its full extent were now heard to mutter that there was one limitation to that doctrine. (Verb)
- b. I gave an inaudible mutter. (Noun)
- c. There may be some feminine muttering that in promoting the 'Woman's Guardian' we are perpetuating the idea of the female ghetto. (Gerundive)
- d. The muttering thunder seems to have changed its place. (*Ing*-suffixed adjective)
- e. And now came a low muttered conference between McDermot and his companions. (*Ed*-suffixed adjective)
- (69) a. Rowland ... lighted a cigar and puffed it awhile in silence. (Verb)

- b. The pipe, with solemn interposing puff, Makes half a sentence at a time enough. (Noun)
 - c. The loud puffing of an engine announces the approach ... of empty carriages. (Gerundive)
 - d. ... the puffing, or spouting Whale. (*Ing*-suffix adjective)
 - e. Where with puffed cheek the belted hunter blew His wreathed buglehorn. (*Ed*-suffix adjective)
- (70) a. His hand trembled and his flesh quivered. (Verb)
- b. Thrasymachus, I said, with a quiver, have mercy on us. (Noun)
 - c. We ... use the word in a sense of briskness, smartness - "He's a quiver little fellow." (Adjective)
 - d. A momentary quivering of the lip. (Gerundive)
 - e. The sequestered pool, reflecting the quivering trees. (*Ing*-suffix adjective)

Nineteen words function as verbs, nouns, and four other classes, as in (71)-(76).

- (71) a. This ball is split, and will not bounce at all. (Verb)
- b. In each bounce or throw of the ball. (Noun)
 - c. Something came bounce against the door. (Adverb)
 - d. At every step—Bounce! when I only thought to stride a pace, I bounded thirty.
(Interjection)
 - e. A rocking of the earth to and fro, and sometimes a perpendicular bouncing ...

of the same. (Gerundive)

f. I never saw such a bouncing swaggering puppy since I was born. (*Ing*-suffixes adjective)

(72) a. His heavy boots clatter upon the round pebbles. (Verb)

b. The clatter of horses' hoofs was heard. (Noun)

c. Clatter, clatter, clatter, went the bell. (Adverb)

d. The clattering of his horse's hoofs. (Gerundive)

e. Two of the most clattering pans that were ever dignified with the name of bells. (*Ing*-suffixes adjective)

f. And raise such outcries on thy clattered iron. (*Ed*-suffixes adjective)

(73) a. The tempest that crashes down the forest. (Verb)

b. The thunder burst with a terrific crash. (Noun)

c. Crash went half-a-dozen dragons upon the marble hearthstone. (Adverb)

d. Crash teams of doctors, nurses, and physical therapists for all important diagnosis and initial treatment cannot be sent to critical areas in sufficient numbers. (Adjective)

e. The horrible crashing of the tempest. (Gerundive)

f. Crashing thunder then came, peal upon peal. (*Ing*-suffixes adjective)

(74) a. She crisped my buttered toast. (Verb)

b. I became absorbed in a book I was reading, and Jim came back to find the bacon a crisp. (Noun)

c. The Snow was of a greyish Colour, crisp on the Top. (Adjective)

- d. England's Vanity ... wherein Naked Breasts and Shoulders ... Long Perriwigs ... Curlings, and Crispings, are condemned. (Gerundive)
- e. The small crisping waves which break upon the shore. (*Ing*-suffixed adjective)
- f. A million crisped waves come forth. (*Ed*-suffixed adjective)
- (75) a. [He] dashed his right fist full against one of the panels. (Verb)
- b. During the ebullition ... a great many little dashes of water do fly about. (Noun)
- c. The boat went dash against the rocks. (Adverb)
- d. The dashing of the oars awaken'd her. (Gerundive)
- e. The howling winds and dashing waves. (*Ing*-suffixed adjective)
- f. Half a dozen glasses of dashed wine. (*Ed*-suffixed adjective)
- (76) a. The lightning began to flash along the chamber. (Verb)
- b. I now discharged grape alone, waiting for the flash of the fire to ascertain their direction. (Noun)
- c. A flash young rider ... frightens his horse out of his stride before they have well reached the distance. (Adjective)
- d. A flashing came and went. (Gerundive)
- e. Fast, fast they plunge amid the flashing wave. (*Ing*-suffixed adjective)
- f. Glass made in this way is called 'coated' and sometimes "flashed" glass. (*Ed*-suffixed adjective)

Three words, *bob*, *pat* and *tick* occur as verbs, nouns, and five other classes, as in (77)-(79).

- (77) a. When you carry a glass of liquor to any person ... do not bob him on the shoulder. (Verb)
- b. The village girls made a “charity bob” as they passed. (Noun)
- c. A Mare ... with a grisled Mane and Tail full bob. (Adjective)
- d. Bob! and away it went. (Adverb)
- e. Bees ... making a ceaseless bobbing in the flowers. (Gerundive)
- f. He took off his hat to bobbing apple-women. (*Ing*-suffixed adjective)
- g. There is quite a craze for ‘bobbed’ hair, for big and little girls alike. (*Ed*-suffixed adjective)
- (78) a. Clara Jane ... patted her hat-pins and grabbed her gloves. (Verb)
- b. He gives him an approving pat on the back. (Noun)
- c. Camden ... seems ... to have lighted pat upon the place. (Adverb)
- d. To tell a rather broad story out of Joe Miller, that was pat to the purpose. (Adjective)
- e. Little mincing feet were heard Pat, pat along the floor. (Interjection)
- f. Smiles, pattings on the cheek, and all the marks of a most sincere and tender passion. (Gerundive)
- g. He stands, To feel the praise of pattings hands. (*Ing*-suffixed adjective)
- (79) a. The watch is ticking on the table before me as I write. (Verb)

- b. Ellicott set one clock going by the ticks of another. (Noun)
- c. He [Thomas Allen] happened to leave his watch in the chamber windowe. ...
The maydes ... hearing a thing in a case cry Tick, Tick, Tick, presently concluded that that was his Devill. (Interjection)
- d. She could ... count the ticking of the clock. (Gerundive)
- e. That ticking Noise, which is commonly called a Death-Watch. (*Ing*-suffixed adjective)
- f. A ticked line through all these spots will form the cant frame. (*Ed*-suffixed adjective)

The OED treats *bob* in (77d) as an adverb. However, someone might judge it as an interjection. The dictionary also states that *tick* functions as an adverb. However, it does not present examples of a clearly adverbial *tick* which is different from the interjectional *tick* in (79c).

Only *pop* functions as a verb, noun, and six other grammatical classes.

- (80) a. Maire'll look after you till I get back. I just have to pop out and see a fella for a minute or two. (Verb)
- b. I cannot bear people to keep their minds bottled up for the sake of letting them off with a pop. (Noun)
- c. As soon as any one speaks, pop I slap it down, and make that, too, my own. (Adverb)

- d. The pop-pop boats we used to whizz round in the bath on Christmas morning.
(Adjective)
- e. A peculiar popping and crackling began to be heard, as the flames attacked the abundant ivy. (Gerundive)
- f. Many popping shots were fired at him by the rebel crew from the woods.
(*Ing*-suffixed adjective)
- g. Prentice's slightly popped blue eyes wandered to the colored folders. (*Ed*-suffixed adjective)

In addition to the seven grammatical classes in (80), OED states that *pop* functions as an interjection. However, the dictionary does not present an example of a genuinely interjectional *pop* (differing from an adverbial *pop* like (80c)).

Next, let us examine thirteen words which occur as verbs and two other classes (except for nouns) or more (specifically *chunk*, *didder*, *flicker*, *flatter*, *flog*, *flouse*, *gnar*, *jower*, *kittle*, *pip*, *quash*, *tittle*, and *tottle*). (81)-(84) are examples of such words.

- (81) a. This ... resolution ... would in all probability have quashed their enemies. (Verb)
- b. Down comes the money, quash goes the conviction, like a snail under our feet. (Adverb)
- c. A factitious quashing of any sensibility. (Gerundive)
- d. A rare trade, this quashing trade. (*Ing*-suffixed adjective)

- e. These are called stratous clouds from their sinking quashed appearance. (*Ed*-suffixed adjective)
- (82) a. You may easily flatter a tyrant: but to flatter twenty-five millions of people is as impossible as to flatter the Deity himself. (Verb)
- b. The preachers ... preached nothing but lies and flatterings. (Gerundive)
- c. The most flattering bard ... would have hesitated to affirm, that he surpassed the measure of the demi-gods of antiquity. (*Ing*-suffixed adjective)
- d. They become, like flatter'd Princes, impatient of Contradiction. (*Ed*-suffixed adjective)
- (83) a. No lion here the traveller assails With midnight roar, nor ruthless panther gnars. (Verb)
- b. With preternatural gnarring, growling and screeching ... there began ... this song. (Gerundive)
- c. The portal oped with a gnarring sound. (*Ing*-suffixed adjective)
- (84) a. Is it not barbarous to flog our soldiers and sailors for insubordination? (Verb)
- b. He undergoes brutal treatment from a flogging master. (*Ing*-suffixed adjective)
- c. The blood of flogged boys. (*Ed*-suffixed adjective)

Quash (as in (81)) occurs as a verb, adverb, gerundive, and *ing/ed*-suffixed adjective.

Flatter (in (82)) serves as a verb, gerundive and *ing/ed*-suffixed adjective. The

remaining eleven words occur as verbs and two other classes. Among these thirteen words, the most dominant class after verbs is gerundives. Eleven out of thirteen words function as gerundives, such as *quashing* in (81c), *flatterings* in (82b) and *gnarring* in (83b).

3. 4 Summary

In summary, I have provided a list of 287 onomatopoeic words based on the OED and classified them according to their grammatical classes. The result indicates that 252 words occur as verbs and 226 as nouns. This finding confirms the claims by Tamori and Schourup (1999) that onomatopoeic words generally function either as verbs or nouns in English. The result of classification also shows 194 words function as both verbs and as nouns. They represent 85.8% out of a total of 226 nouns. Tamori and Schourup (1999) argue that almost all onomatopoeic nouns serve as verbs. However, it can be said that the majority of onomatopoeic nouns serve as verbs as well.

Chapter 4. Onomatopoeic Words in Spoken English

This chapter reports a corpus-based survey of grammatical as well as semantic features of representative onomatopoeic words in spoken English.

4. 1 Selection of the Most Frequent and Most Onomatopoeic Words in Spoken Corpus

This section identifies the most frequent onomatopoeic words in spoken corpus.

To begin with, I employ the London Lund Corpus (the LLC) in order to come up with a list of frequent onomatopoeic words in my list. The LLC contains a total of 500,000 words from 100 spoken British English texts recorded from 1953 to 1987. These 100 texts are further divided into 12 sections (Conversations between equals (Sections 1 and 2) / Conversations between disparates / Conversations between intimates and equals / Non-surreptitious public conversations between equals (radio discussions), non-surreptitious private conversations between equals, committee meeting, academic meeting / Non-surreptitious conversations between disparates / Surreptitious telephone conversations between personal friends / Surreptitious telephone conversations between business associates / Surreptitious telephone conversations between disparates / Spontaneous commentary/ Spontaneous oration / Prepared but unscripted oration). This study treats the top 30 frequent words in the LLC as the most frequent in the spoken corpus, which constitutes approximately 10% of all onomatopoeic words in Table 2. As a result of this survey, I obtained the following list of the most frequent items from the LLC¹.

Table 5: 30 Most Frequent Onomatopoeic Words in LLC

Ranking	Most Frequent Onomatopoeic Words	Number of Tokens
1	touch	77
2	push	33
3	pop	21
4	hurry	20
5	chat	19
6	jump	18
7	bat	17
8	bash	13
8	bounce	13
8	flag	13
8	tick	13
12	bunch	12
12	chuck	12
12	lob	12
15	box	11
16	clash	8
16	flash	8
16	flog	8
19	crash	7
19	dash	7
19	jam	7
19	pat	7
23	bump	6
23	clatter	6
25	bob	5
25	chatter	5
25	flush	5
28	bum	4
28	crisp	4
28	dump	4
28	flap	4
28	jabber	4

Next, out of these words, I extracted only those native speakers of English judged as genuinely onomatopoeic. The reason for this treatment resides in the fact that some of the “onomatopoeic words” in the OED may have lost much of their onomatopoeic ring after going through phonological and/or semantic changes.

Tamori and Schourup (1999) suggest a total of eight criteria for measuring degree of iconicity of English words (called mimeticity). However, since some of the criteria are designed to apply only to nonce words (i.e. words that cannot be found in dictionaries, such as *Mmmm*, *groahhrrr*, *skrank*, etc.), they would be hard to apply to all kinds of onomatopoeic words in my list. In addition, the criteria seem circular because Tamori and Schourup (1999) do not present an independently-motivated test to measure mimeticity of words and their criteria mutually support each other (cf. (12), (13) and (21))².

I chose to make use of the introspective judgment of iconicity by native speakers. In this survey, I first explained the definition of onomatopoeic words according to Tamori and Schourup (1999) (c.f. 2. 3 in this study) to five English speakers (two British, three North American). Then I showed the list of onomatopoeic words (i.e. Table 1) and asked them to rate each of the top 30 most frequent words on a scale of 0 to 2 (and *x*):³

- 0 = This word is not onomatopoeic.
- 1 = This word is a little (= slightly, maybe etc.) onomatopoeic.
- 2 = This word is totally (= very, most etc.) onomatopoeic
- x* = I don't know this word

If each speaker gives a word two points, the sum for that word is ten points, and it is recognized as highly onomatopoeic. In contrast, if each native speaker gives a word zero points or *x* (a mark of the unknown word), the sum is zero points, and the word is judged as non-onomatopoeic. In the group of the most frequent words in each corpus, this study treats the words scoring six or more points as the most onomatopoeic. As a result, I

obtained a list of 14 frequent and highly onomatopoeic words in the spoken corpus examined, as in Table 6.

Table 6: Both Most Frequent and Most Onomatopoeic Words in LLC

Ranking of Frequency	Most Frequent and Most Onomatopoeic Words	Scores by Two Britons	Scores by Three US	Total Score	Number of Tokens
1	pop	4	6	10	21
2	bash	4	5	9	13
2	bounce	4	4	8	13
2	tick	4	6	10	13
5	clash	4	5	9	8
6	crash	4	5	9	7
6	dash	1	5	6	7
6	pat	4	3	7	7
9	bump	4	3	7	6
9	clatter	4	4	8	6
11	chatter	3	4	7	5
12	crisp	4	3	7	4
12	flap	3	4	7	4
12	jabber	3	5	8	4

I will closely examine each word in 4. 2.

The remaining eighteen words were given five points or lower, as in Table 7.

Table 7: Most Frequent but Not Very Onomatopoeic Words in LLC

Ranking of Frequency	Most Frequent but Not Onomatopoeic Words	Scores by Two Britons	Scores by Three USA	Total Score	Number of Tokens
1	touch	0	0	0	77
2	push	0	2	2	33
3	hurry	0	1	1	20
4	chat	2	2	4	19
5	jump	1	4	5	18
6	bat	2	3	5	17
7	flag	1	1	2	13
8	bunch	1	1	2	12
8	chuck	1	2	3	12
8	lob	1	0	1	12
8	box	1	2	3	11
12	flash	2	3	5	8
12	flog	2	2	4	8
14	jam	1	1	2	7
15	bob	2	3	5	5
15	flush	1	0	1	5
17	bum	1	0	1	4
17	dump	1	3	4	4

The items in Table 7 represent a group of less onomatopoeic words, though they occur frequently. This study excludes them from examination.

4. 2 Detailed Descriptions of the Most Onomatopoeic Words

In 4.1, I selected the most frequent and most onomatopoeic words in the LLC, specifically *pop*, *bash*, *bounce*, *tick*, *clash*, *crash*, *pat*, *bump*, *clatter*, *chatter*, *dash*, *crisp*, *flap*, and *jabber*. In 4. 2, I will closely examine the actual usages of these words in spoken English. In the examination, I will classify token of each word on the basis of their grammatical classes. Before that, I clarify the treatment of *ing*-suffixed tokens since some of them may be difficult to categorize into a single grammatical class. It is

relatively easy to identify the grammatical class of *ing*-suffixed words in (a) to (e).

- (a) [...] huge waves are crashing on the rocks below. (Progressive, i.e. Verb)
- (b) [...] the clashing of the tambourines of the Salvation Army [...] (Gerundive)
- (c) [...] that barb still stuck in her quivering flesh. (*Ing*-suffixed adjective)
- (d) I had visions, [...] of waiters dashing into the room [...]. (*Ing*-suffixed adjective)
- (e) I have to keep flapping around [...]. (*Ing*-suffixed adjective)

Crashing in (a) occurs in the progressive sentence. I treat progressive forms as verbal usages. *Clashing* in (b) serves as a gerundive. *Quivering* in (c) functions as an (*ing*-suffixed) adjective since this word is located in the front of the noun *flesh* and modifies it. *Dashing* in (d) also (post)modifies the nominal phrase *waiters* as an adjective. *Flapping* in (e) follows the linking verb *keep* and functions as a subject complement.

In the cases of (f) to (j), however, onomatopoeic words are hardly classified into a single grammatical class.

- (f) I've never seen a sort of bottle after bottle [...] popping.
- (g) [...] it went bouncing back on the offside of the wicket [...]
- (h) Loddon did not say anything, fumbling in the left-hand pocket of his trench-coat.
- (i) "It's tight and tough," he said, teeth chattering, and went back to it.
- (j) Bedlam outside as well as in, with curtains flapping and doors banging.

(Borderline cases)

In (f), *popping* is located in an object complement. It can be classified into verb and adjective at once. In (g), *bouncing* serves as a subject-oriented depictive. It seems verbal and adverbial. In (h)-(j), each onomatopoeic word is used in a participle clause, which functions as adverb. It is ambiguous whether verb or adverb (or adjective). This study will treat such ambiguous tokens as borderline *ing*-suffixed cases.

In addition, I also clarify the treatment of *ed*-suffixed tokens.

(k) It meant that hopes had been dashed, [...] (Verb)

(l) He accompanied the loose handshake with a murmured hope that they might meet again sometime. (*Ed*-suffixed adjective)

(m) So A goes over to A dashed here. (*Ed*-suffixed adjective)

Dashed in (k) occurs in the passive sentence. This study will classify such a passive token as a verb. *Murmured* in (l) serves as an attributive adjective. *Dashed* in (m) also functions as an *ed*-suffixed adjective, which postmodifies the noun *A*. When an *ed*-suffixed token is found in a participle clause, this study will categorize it as a borderline *ed*-suffixed case.

4. 2. 1 Pop

The first word is *pop*. As mentioned in the last chapter, the OED states that *pop*

functions as verb, noun, interjection, adjective and adverb, as well as gerundive and adjective with *ing/ed*-suffix. The OED defines the meaning of *pop* as in (85) below: ⁴

(85) Verb: To strike, rap, knock [...]. Also, to strike with a slight rap or tap.

To make a small quick explosive sound; to burst or explode with a pop.

To pass, move, go or come promptly, suddenly, or unexpectedly[.]

To open (a can of beer, etc.) with a pop by pulling the tab.

Noun: An act of popping. [...] A blow, knock, stroke, slap; now, a slight rap or tap.

A short abrupt sound of explosion.

A name for any effervescing beverage[.]

A mark made by a slight rapid touch; a dot; a spot, a speck.

Interjection, Adjective and Adverb:

With (the action or sound of) a pop; instantaneously, abruptly; unexpectedly.

In repeated form, with (the action or sounds of) a series of pops. Also as adj[ective] [...], the sound of such a series.

Gerundive: The action of *pop* [as a verb] in various senses.

Ing-suffixed adjective: That pops, in various senses.

Ed-suffixed adjectives: Of eyes: bulging; protruding.

English speakers gave this word full (i.e. ten) points.

21 tokens of *pop* were found in the LLC. The most frequent class of *pop* is verb. Eighteen tokens of verbal *pop* were found. Among these verbal tokens, sixteen tokens occur with a directional phrase (i.e. prepositions or adverbs representing direction). The most frequent combination is *pop in*. Seven tokens of *pop in* were found in the LLC, as in (86)⁵.

(86) a. A: ... have you seen Clarke since has he ...

B: No.

A: I was going to pop in, you know. I felt it would be courteous to pop in and tell him about it because he was ever so nice beforehand. But he's so busy [...].

b. A: Well, pop in and see me.

B: Well, I will, yes.

c. A: I'm going out to dinner actually Thursday.

B: Oh, that's nice, never mind anyway I'll give you a ring or something cos next week my psychology class is finished.

A: Ah, does it. [So] when's that on?

B: So I'll be free ...

A: Thursday.

B: Tuesday

A: Oh! Tuesday. Oh yes, yes, O.K..

B: So I'll perhaps could see you then or we could go.

A: We might be able to try and fix something up. Yes, O.K., otherwise you can just pop in on the usual nights.

d. A: I'm going to the American Embassy.

B: Oh the American Embassy. You've not been yet.

A: Well I popped in the other day just to get a few feet ...

e. Silly thing was I was quite prepared to pay a pound for his [= Eric's] fire bucket, but then he didn't sell me [any fire bucket]. Would you like Eric to pop in some day.

f. As we grew older, we used to have to ride one the pram. There were three of us and as we got tired, one popped in and the other popped out [...].

All of them indicate a change of location (such as visiting) or appearance. The other collocational patterns of verbal *pop* with a directional phrase are *pop up* (three tokens in (87)), *pop out* (two tokens in (88)), *pop over* (two tokens in (89)), *pop round* (one token in (90)), and *pop off* (one token in (91)).

(87) a. McKenzie bowls to Edrich and that [=a ball] pops up and he must be caught. No, it's over Burge's head ... That ball lifted from very near a length. It got Edrich about splice high on the bat and then seemed to hit him on the jaw and it popped up just over Peter Burge's unstretched hand ...

b. I felt I really must get round [the] departments because I am becoming

more [...] the faceless man who's totally unknown to everybody by [even] by sight. And I did it you know in my first year here. But [that was] about five years ago and so I thought I'd pop up again [...] this winter.

(88) a. As we grew older, we used to have to ride one the pram. There were three of us and as we got tired, one popped in and the other popped out [...]. (= (86f))

b. Barrington pulling his bat away takes that high on the high and it pops out to short leg ...

(89) a. A: [...] as he gets older, I think she said well she'd have to give up work and I think the thought of her spending her life, the rest of her life at home, looking after my grandfather. Well I'm sure she'd go mad.

B: Yeah

A: And because he [you know is a basically] independent type and they, they [would] probably clash. As it is we always have him over at the weekend and mummy pops over during the week one evening or something.

b. He (= a horse) hasn't succeeded in winning year. He's been popped over hurdles [...] at home [in] the hope of giving him a little more zest and self-confidence, but ground is a bit soft for him.

(90) A: Oh, well I'll give you a ring then.

B: Yes.

A: Possibly next Monday perhaps might be best.

B: O.K.

A: Or I'll pop round or something

B: Yes.

(91) A: My husband will be down at the weekend. But really we'd like to, to and perhaps if I should, I should see it sometime before them.

B: Well [that would be possible]

A: And then perhaps we could come and see you together on Saturday if.

B: Yes.

A: Are you available during daylight hours?

B: Not normally.

A: I could just perhaps pop off tomorrow Wednesday afternoon, sort of latish in the afternoon.

Nine tokens of *pop* in (87)-(91) also indicate a change of location or appearance with assist of a directional phrase.

It is only two verbal tokens of *pop* that do not denote a change of location with the assist of a directional phrase, as in (92).

(92) I think her family were vaguely farmers and Fan thinks that her grandchildren are very ill-treated pretty wealthy. I've never seen a sort of bottle after bottle sort of pop pop popping. All the time and everybody got awfully drunk [...].

In (92), the reduplication of two verbal tokens *pop pop* refers to a change of state (i.e. opening) with sound emission, serving as infinitives without *to*.

Next, two nominal tokens of *pop* were found, as in (93).

(93) a. [...] the program then adds those Holds to the new copies so that the people who have already asked [whether] they can get a chance to reserve the one that we which we've just added with something like pop where [we] may build up a bit of a waiting list [...].

b. A: ... granny. Elsie always used to give me cherry.

B: Yeah – yeah yeah.

A: Cake and a bottle of pop [or something].

In (93a), *pop* indicates a mark for advertizing a kind of a product named *Holds*. In (93b), the word represents a kind of carbonated drink.

One token of *pop* in (94) can hardly be classified into a single grammatical class.

(94) I think her family were vaguely farmers and Fan thinks that her grandchildren are very ill-treated pretty wealthy. I've never seen a sort of bottle after bottle, sort of pop pop popping. All the time and everybody got awfully drunk [...]. (= (92))

Popping in (94) refers to a change of state (i.e. opening) and it serves as an object complement. Such a token can be treated as a verbal usage which is the same as the reduplication of two verbal tokens *pop pop*. At the same time, it can be said that *popping* modifies the nominal phrase *a sort of bottle after bottle* as an adjective. This study treats this token as a borderline case.

This subsection has shown the following three findings:

- 1) Twenty-one tokens of *pop* were found in the LLC.
- 2) The verbal usage of *pop* is the most frequent (eighteen tokens). Among these verbal tokens, sixteen indicate a change of location or appearance with a directional phrase (*in* : 7 tokens, *up* : 3 tokens, *out* : 2 tokens, *over* : 2 tokens, *round* : 1 token, and *off* : 1 token). The rest (two tokens) refer to a change of state (= opening) with sound emission.
- 3) The other tokens of *pop* are classified into either noun (two tokens which indicate a mark or carbonated drink), and borderline *ing*-suffixed form (one token which serves as an object complement and refers to a change of state (i.e. opening)).

Interjectional/adjective/adverbial/gerundive/*ing*- or *ed*-suffixed adjectival tokens of *pop* were not found in the LLC, although they are listed in the OED.

4. 2. 2 Bash

The next word is *bash*. The OED states that *bash* serves as verb, noun, adverb, gerundive, and *ed*-suffixed adjective. The OED defines the meaning of *bash* as in (95) below:

(95) Verb: To strike with a heavy blow that tends to beat or smash in the surface
struck[.]

Noun: A heavy blow that beats or smashes in a surface [...].

In various slang uses: an attempt [...]; a good time; a spree; a party; [...]
also (examples are U.K.), soliciting as a prostitute[.]

Adverb: The verb-stem is used adverbially with other verbs [the OED does not
explain the meaning of adverbial *bash*].

Gerundive: The action of striking so as to dint, bruise, or crush; an instance of
this.

Ed-suffixed adjective: Having the surface beaten or smashed in.

This vocabulary word obtained nine points from English speakers.

In the LLC, thirteen tokens of *bash* were found. Eight out of these tokens (in (96a-e) and (97a) and (97b)) occur only in one single text in which people discuss skipping notes of a concert or its rehearsal.

The most frequent class is verb. Nine verbal tokens of *bash* were found, as in (96).

(96) a. A: But I do feel fairly strongly also that we ought to bash through things

more [...] just bash through and just to keep things in people's minds.

B: For familiarity, yes.

b. D: I mean I sang Captain Noah for the first time you know a week before the concert or something. Simply, because I'd missed whenever else [...] you'd done it, [...] if you bash through things warts and all ...

B: Well we hadn't done it much only once other, yes.

c. A: Well if you say that come ten past nine [...] just decided [sic] to stop, you know, sort of ... note bashing or whatever, and just sing through two or three thing, once or twice.

B: Yes. I do find it. [...] If you just bash through things without actually taking care about them, people can sort of end up the rehearsal rather depressed actually [...] at the way you know that you're not getting something right all the way along. It's psychologically.

A: Yes. Well, I think you just need to point out a few things before we start, and remind people about.

d. You could miss the odd item out because you know it's already familiar. [...] The trouble is if you bash through everything warts and all every week you would actually end up with no rehearsal time to actually polish anything [...]

e. The only problem is if people seem to be if people bash through it three weeks running without going back continually getting the same part wrong.

f. A: [...] I've got, oh yes, that's something else I've got to do [= re-read] before

next Tuesday bash on with some James Joyce because I've got somebody doing James Joyce and Finnegan's Wake really sort of gets me foxed.

B: Yeah, I think it does most people doesn't it.

A: Yes, well I've got a skeleton key to Finnegan's Wake which somebody's lent me which I must bash through.

B: Yeah.

A: Before next week.

g. So I think I'll get the two monasteries done which would be interesting. [...]

The houses and things are all down now. And so there's a lot more for this time. We've got a clear field for the first time. So something should bash out of it.

Eight verbal tokens of *bash* in (96a-g) indicate (a figurative meaning of) a change of location with the assist of a directional phrase (*through*: seven tokens, *out of*: one token). One token in (96f) is followed by the non-directional phrase *on*. It can be said that this token also indicates (a figurative meaning of) a change of location.

As I mentioned before, six tokens of *bash through* in (96a-e) occur in one single text. Thus, *bash through* cannot be treated as the most frequent collocation of verbal *bash*.

The second most frequent class is gerundive. Three tokens of gerundive *bash* were found, as in (97).

(97) a. D: [...] There [is] the note bashing.

B: Really? This is another problem again because I feel the whole thing is strung out too far.

b. A: Well if you say that come ten past nine [...] just decided [sic] to stop, you know, sort of ... note bashing or whatever, and just sing through two or three thing, once or twice.

B: Yes. I do find it. [...] If you just bash through things without actually taking care about them, people can sort of end up the rehearsal rather depressed actually [...] at the way you know that you're not getting something right all the way along. It's psychologically.

A: Yes. Well, I think you just need to point out a few things before we start, and remind people about. (= (96c))

c. [...] one meets the odd young taxi driver who's spent his time in Vietnam and believes in wog bashing, you know.

Bashing in (97a) and (97b) indicate skipping, and *bashing* in (97c) refers to physical attacking ethnic minorities.

Only one nominal *bash* was found in the LLC, as in (98).

(98) B: And, of course, the locations are, I think, absolutely essential to make the thing, you know, practically useful.

A: Yes.

B: Because you see so much of this stuff is simply not available in the most

obvious libraries.

A: Why don't you have a bash at Nuffield before you go? You've got more than a month.

B: Do they have any sort of set times, or are they open for sort of business?

In (98), *bash* indicates a kind of trial.

In sum, this subsection has presented the following three findings:

- 1) Thirteen tokens of *bash* were found in the LLC.
- 2) The most frequent class is verb (nine tokens). All verbal tokens of *bash* indicate a change of location (or figurative sense of it). Eight of them are followed by a directional phrase (*through* : seven tokens, and *out of*: one token). However, six out of seven tokens of *bash through* occur in a single text.
- 3) The other tokens are divided into either gerundive (3 tokens: two of them refer to skipping and one to physical attack) or nominal use (1 token indicating a trial).

Adverbial/*ed*-suffixed adjectival tokens of *bash* were not found in the LLC, although the OED lists such usages.

4. 2. 3 Bounce

The next word is *bounce*. The OED states that *bounce* serves as verb, noun, adverb, interjection, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of

bounce as in (99):

(99) Verb: To beat, thump, trounce, knock.

To make a loud explosive noise, to talk loudly or bigly.

To move with a sudden bound.

Noun: A heavy and usually noisy blow caused by something big; a sounding
knock, thump.

Adverb and Interjection:

Imitating the sound of a gun. [...] Expressing sudden, violent movement.

Gerundive: Striking, knocking, banging, thumping.

Ing-suffixed adjective:

That bounces: in various senses of the verb relating alike to loudness, brag, and
vigorous or ungainly movement.

English speakers gave this word eight points.

In the LLC, thirteen tokens of *bounce* were found. These tokens of *bounce* occur as
four grammatical classes: verbs, nouns, gerundives, *ing*-suffixed adjectives, and
borderline *ing*-suffixed forms.

Seven tokens of verbal *bounce* were found, such as (100), which were the most
frequent.

(100) a. If I switch on the time base, then we see the spot moving across horizontally

as it is being bounced up and down in sympathy with the motion of the bob.

This particular oscilloscope is fitted with a storage device so that we can see the trace [...].

- b. We've got one fitted up here and as the bob moves down and vice versa. So if the bob bounces up and down, the spot bounces up and down.
- c. When waves reach the ship, the sip bounces up and down. So it's now got energy of motion. The energy has been transmitted by the waves.
- d. Whereas I think with a portrait or a very positive picture like a Stukes. You bounce back, don't you? At yourself, really, I suppose so. But I like the abstract ones because you keep seeing it in a new different way.
- e. You can't be flogged into the ground for twenty solid years, and expect to bounce back to where you were before it all started. I think you have tremendous ebullience and a huge capacity for bouncing back.
- f. [A ball] hits the top of the net and bounces on into the sidelines. She can't get her service going either.

All of these verbal tokens of *bounce* occur with a directive phrase: four *bounce up and down* (in (100a-c)), two *bounce back (to)* (in (100d) and (100e)), and one *bounce (on) into* (in (100f)). They all indicate a change of location.

The second most frequent class is gerundive. Two tokens of *bounce* occur as gerundives (as in (101)).

- (101) a. You can't be flogged into the ground for twenty solid years, and expect to bounce back to where you were before it all started. I think you have tremendous ebullience and a huge capacity for bouncing back. (= (100e))
- b. There are other forms of simple harmonic motion and one of these is weight bouncing up and down on a spring.

These two gerundive tokens refer to jumping. They clearly involve a verbal sense of *bounce*.

Borderline *ing*-suffixed form is also the second most frequent class. Two tokens of *bounce* occur as this class, as in (102).

- (102) a. She slices this backhand crosscourt. And now the twohander, that familiar two handed back hand from Lloyd. Again we see it. Full length just bouncing just short of the baseline.
- b. Edrich drives him, but miscues or mistimes rather, and it went bouncing back on the offside of the wicket ...

Bouncing in both (102a) and (102b) semantically involves jumping, which is attributed to the meaning of verbal *bounce*. In (102a), *bouncing* occurs in an incomplete sentence, that is, a participle clause. In (102b), *bouncing* serves as a subject-oriented depictive. As I mentioned before, I treat these two *ing*-suffixed tokens as borderline cases because they are indeterminate between verb and adverb.

Next, one nominal token of *bounce* was found, as in (103).

(103) She seems to be right up to the ball. She's right there at the top of the bounce [...] and really crunching it away.

In (103), *bounce* indicates a jumping ball.

One *ing*-suffixed adjectival token of *bounce* was found, too (as in (104)).

(104) McKenzie scrubs it furiously on his flannels and starts off on that rather buoyant bouncing run of his bowls.

In (104), *bouncing* refers to a jumping manner of *run of his bowls*, which is related to the verbal meaning of *bounce*, too.

In sum, this subsection has shown the following three findings:

- 1) Thirteen tokens of *bounce* were found in the LLC.
- 2) The most frequent class of *bounce* is verb (seven tokens). All these tokens are followed by a directional phrase (*bounce up and down*: four tokens, *bounce back*: two tokens, and *bounce (on) into*: one token) and indicate a change of location.
- 3) The other tokens occur as gerundives (two tokens), borderline *ing*-suffixed forms (two tokens), a noun (one token), and an *ing*-suffixed adjective (one token). All of their meanings are related to jumping which is attributed to the meaning of

verbal *bounce*.

Adverbial and interjectional tokens of *bounce* listed in the OED were not found in this corpus.

4. 2. 4 Tick

The next is *tick*. The OED states that *tick* functions as verb, noun, adverb, interjection, gerundive, *ing*-suffixed adjective, and *ed*-suffixed adjective. The OED defines the meaning of *tick* as in (105):

(105) Verb: To touch or tap a thing or person lightly; *esp.* to bestow light touches or pats by way of caressing; to dally [...].

Of a clock, watch, etc.: To make the light quick sound [...].

To mark (a name, an item in a list, etc.) with a tick; to mark *off* with a tick, as noted, passed, or done with.

Noun (Adverb, and Interjection):

A light but distinct touch; a light quick stroke; a pat, a tap.

A quick light dry sound, distinct but not loud, as that caused by the sudden impact of a small hard body upon a hard surface[.]

A small dot or dash (often formed by two small strokes at an acute angle), made with a pen or pencil, to draw attention to something or to mark a name, figure, etc., in a list as having been noted or

checked.

Gerundive: Touching lightly or wantonly; dallying[.]

The beating sound of a clock or watch, or any similar sound[.]

Ing-suffixed adjective:

That ticks, as a clock, etc.; making or characterized by a succession of ticks[.]

Ed-suffixed adjective:

Formed or represented by a series of ticks: as 'a ticked line'[.]

Marked or marked *off* with a tick[.]

This vocabulary item obtained full points from English speakers.

In the LLC, thirteen tokens of *tick* were found. Nominal usage of *tick* is the most frequent class. Seven nominal tokens of *tick* were found, as in (106).

(106) a. A: Arthur says that I spoil my ballot paper every time vote by putting a tick

instead of a cross.

B: But I thought they, they made a special motion [...] in the special amendment to the thing saying that, saying they would allow either on this occasion.

A: Oh, I certainly put a tick.

C: [...] is it in a general election that it's [...] a cross really?

B: Well I assume so otherwise they wouldn't have bothered to say something

special for the referendum, the thing about, the thing about.

A: But how can I. I've listened to cos I listened to every signal referendum programme. I've never heard anybody debating crosses and ticks.

B: Oh, did you.

A: I listened non-stop..., it is actually [...] rather illogical [...] to sort of, you know.

C: Turn down.

B: Cross yes and put no.

C: Turn down the sign that says means yes and accept the sign that means no.

A: Perhaps the tick is rather more complicated course. What they really ought to have done [...] was to ... was to was to refuse all the ticks in the no box and all the cross in the yes box.

b. I think I [...] put a query and then I put a tick if Carol thinks that we ought to look at him. Perhaps we should look at him. Well I remember it.

c. A: What I was going to ask you was somebody rang. One of our students rang up, wanting a certified statement, saying that she had her degree. She's just graduated.

B: Well she's had it then.

A: she's had it.

B: Well obviously she had it. The degree is not awarded till the fast of August. They cannot have an official confirmation until that date.

A: Ah, thank you. Yes, hold on a tick. No, confidential statement.

B: If, if we know the result, a confidential statement can be sent direct to the authority requesting this information.

The six tokens of *tick* in (106a) and (106b) indicate a kind of check mark, and *tick* in (106c) a brief period of time.

The second most frequent class is verb. Three tokens of verbal *tick* were found, as in (107).

(107) a. A: And the play of course is Where the Tiger Roams, isn't it? Is where the

Tiger Roams which we've got ticked coming for on the thirtieth?

B: Yes.

b. A: Perhaps we could postpone that question until later.

B: Mmm.

A: Have you got anything to add Reith?

C: Well I, I'd can I give you the ones in the second batch that, that I'd ... ticked and thought.

c. And I have felt it right to let them generate their policies and enthusiasms subject to the overall control of cabinet. And therefore I've been to some extent in the back ground except when a major issue came up where I had to take charge. For example Northern Ireland tick off for me.

The meaning of these verbal usages is “to check” or “to mark.”

The remaining three tokens of *tick* (as in (108)) are reduplicated, occurring immediately after the verb *went*.

(108) I said Miss Simkin speaking he wanted to know if I'd thought about it and whether I'd prepared to start the next day. This was Wednesday, was it right, so would I start the next day and perhaps put in for that Friday as well. And that that would be my first week's pay. And my brain went tick tick tick, two enemas in two days.

Tamori and Scourup (1999) observe that only *gion*-onomatopoeic words occur with the verb *go* (Tamori and Schourup 1999: 110). In fact, the reduplication of three tokens in (108), *tick tick tick*, indicates the repeated sound of a clock. This study will treat this usage as an unclear case.

In sum, this subsection has presented the following three findings:

- 1) Thirteen tokens of *tick* were found in the LLC.
- 2) Nominal usage is the most frequent usage of *tick* (seven tokens). Six out of seven tokens indicate check marks, one token refers to a brief period of time
- 3) The other tokens are classified as either verb (three tokens indicating “to mark”) or unclear case (the reduplication of the three tokens which occur immediately after the verb *went*, and indicates a series of sounds).

The other grammatical classes listed in the OED (adverb, interjection, gerundive, *ing*-suffixed adjective, and *ed*-suffixed adjective) were not found in the LLC.

4. 2. 5 Clash

The next word is *clash*. The OED states that *clash* functions as a verb, noun, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *clash* as in (109):

(109) Verb: To make the sound of collision [...].

To strike (things) together with this noise.

To come into violent and noisy collision.

Noun: The loud sound of collision made by a heavy stroke or blow, the first impact of which is firm and hard, but is followed by a confused sound of many looser and lighter impacts; the kind of blow or stroke which yields this sound.

Shock of conflict, collision, hostile encounter, conflict.

Gerundive: The action of the [verbal] *clash*.

Ing-suffixed adjective: That clashes, that clash.

English speakers gave this word nine points.

A total of eight tokens of *clash* were found in the LLC. These tokens of *clash* can be divided into two grammatical classes, nouns and verbs.

The most frequent class is noun. Five tokens of *clash* occur as nouns, as in (110).

- (110) a. I think Mr. Heath has got involved in the Chinese-Russian clash. I'm sure it was very valuable for him to go and see what's going on there.
- b. If we look at this from another viewpoint here we have two bodies which are responsible for administration of industrial activity. They cannot but help come to animosity or be at variance one with the other. It may be hoped of course that this sort of unfriendliness or the clash of responsibilities will elide [...].
- c. [...] long left by Cooper, another left by Cooper, right swing by Cooper, lefts and right by Cooper. But Miteff takes them high up on the head and shows no sign. Miteff coming forward again. Clash of head I thought there. They're inside now [...].
- d. He may have hurt Miteff there. But now they're inside again and Miteff is clubbing Cooper to the body. [it] seemed to be a little clash of head inside. The referee now speaks to Miteff.
- e. I mean we have at the moment and have had for, for months past a serious clash between two points of view in in the management.

All of these nominal usages of *clash* indicate a collision or conflict.

Three tokens of *clash* occur as verbs, as in (111).

(111) a. A: She said well she'd have to give up work, and I think the thought of her spending her life, the rest of her life at home looking after my grandfather. Well I'm sure she'd go mad.

B: Yeah.

A: And because he , you know, is a basically independent type, and they [...] would probably clash as it is we always have him over at the weekend.

b. A: Do you mean they've got the same pictures on the tail end of on through the beginning of another?

B: They have, yeah, yeah, yeah, so that they don't clash.

c. A: I should ask him if there are any seminars you ought to go to.

B: Yeah.

A: He has a way of having them at a horrible time

B: Yeah.

C: Like five fifteen.

A: Like five fifteen when you want to go home, or then he found last year that that five fifteen one clashed with they. Some of them had phonetics or something, [...].

These tokens of *clash* represent “to hit” or “to conflict.”

In summary, this subsection has shown the following three findings:

- 1) Eight tokens of *clash* were found in the LLC.

2) The most frequent class is noun (five tokens). All of them indicate a collision or conflict.

3) The remaining three tokens occur as verbs, indicating “to hit” or “to conflict.”

The gerundive/*ing*-suffixed adjectival usages listed in the OED were not found in the LLC.

4. 2. 6 Crash

The next word is *crash*. The OED states that this word serves as verb, noun, adjective, adverb, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *crash* as in (112):

(112) Verb: To break in pieces with violence and noise; to dash in pieces, shiver, shatter, smash.

To break or fall to pieces with noise, as when dashed down or violently struck; to smash, break up.

To move or go with crashing.

Noun: The loud and sudden sound as of a hard body or number of bodies broken by violent percussion, as by being dashed to the ground or against each other; also transferred to the sound of thunder, loud music, etc.[.]

The breaking to pieces of any heavy hard body or bodies by violent

percussion; the shock of such bodies striking and smashing each other.

Adjective: Undertaken with rapidity or intensive effort; organized for an emergency.

Adverb: The [verb] stem is used adverbially, usually with the vb. *go*: cf. *bang*, etc. [the OED does not explain the meaning of adverbial *crash*].

Gerundive: The action of the verb *crash*[.]

Ing-suffixed adjective:

That crashes; that makes a crash; that breaks, falls, etc., with a *crash*[.]

In the judgment of native speakers, *crash* got nine points.

Seven tokens of *crash* were found in the LLC. The most frequent class is verb. Five tokens occur as verbs, as in (113).

(113) a. [...] the vase however hovered and I thought it was going to crash, you know,

but you know, [...] this is the truth it isn't a story and it did crash [...].

b. A: Ws it one of these folding bicycles?

B: No, it wasn't. it was my, it was my, oh, so sporty [...] racing bicycle which

I've since crashed.

c. I had a strange dream in which we had both bought light aeroplanes and we

both crashed at the same spot and his was completely broken up and mine

was sort of slightly damaged.

d. [...] one have the feeling that Cooper feels it more than Miteff does long left jab by Cooper. Just goes over Miteff's shoulder. Miteff coming in now, looking as if he's determined to crash in everything he has.

In (113a) and (113b), two tokens of *crash* indicate “to break into pieces.” In (113c), *crash* denotes “to hit.” *Crash* in (113d) refers to a change of location (specifically, entering with a crashing sound) with the directional phrase *in*.

Only one token each of nominal and adjective *crash* was found: (114) is an example of nominal *crash*, and (115) adjectival.

(114) I was sitting in our old room, your old room, my room. And Emily went and said “Oh, it'll be in those drawings and there was this God almighty crash.”

(115) My name is Harriet Onley. O M L E Y. And I'm at Westfield College, and Professor Hordenberg told me to ring you up to enquire about a crash course.

The nominal token in (114) indicates a collision. The adjective token in (115) modifies the noun *course*. Its meaning is related to verbal and nominal *crash*.

In summary, this subsection has presented the following three findings:

- 1) Seven tokens of *crash* were found in the LLC.
- 2) The most frequent class is verb (five tokens). The tokens indicate “to break

into pieces” (two tokens), “to hit” (one token), and “to enter with a crashing sound” followed by a directional phrase *in* (one token).

- 3) One token of *crash* occurs as a noun (which indicates a collision), and one token as an adjective (whose meaning is related to verbal or nominal *crash*).

Adverbial, gerundive, and *ing*-suffixed adjectival usages of *crash* listed in the OED were not found in the LLC.

4. 2. 7 Dash

The next word is *dash*. The OED states that *dash* functions as a verb, noun, adjective, gerundive, *ing*-suffixed adjective, and *ed*-suffixed adjective. The OED defines the meaning of *dash* as in (116):

(116) Verb: To strike with violence so as to break into fragments; to break in pieces
by a violent stroke or collision; to smash.

To move, fall, or throw itself with violence or smashing effect; to strike
in violent collision *against* (*upon*, etc.) something else.

To mark with a dash, to underline.

Noun: A violent blow, stroke, impact, or collision, such as smashes or might
smash.

A stroke or line (usually short and straight) made with a pen or the
like, or resembling one so made:

Adjective: With a dash: see the various senses of the n[oun]. and v[er]b.

Gerundive: The action of the verb *dash* [...], in various senses.

Ing-suffixed adjective:

That dashes; that beats violently against something; splashing.

Ed-suffixed adjective:

Struck violently against or by something; splashed; mingled, tempered,
etc.[.]

Marked with a dash, underlined.

English speakers gave this word nine points.

Seven tokens of *dash* were found in the LLC⁶. These tokens of *dash* occur as verbs and two types of adjectives.

Four verbal tokens of *dash* were found, as in (117).

(117) a. Yes. I mean it's, he's not likely to sort of work anything out to have to dash from there.

b. She finally dashed upstairs to, to confront him with it and make him get into bed and there was nobody there.

c. You see he teaches till late in the mornings and then sort of dashes out to meeting and ...

d. [...] I had a rotten supper because I had no time and I dashed into a self-help and I got caught up in a whole line of people hurrying past all

those things and I ended up with, with three lemon curd tarts.

All of these verbal tokens are followed by a directional (prepositional or adverbial) phrase, such as *from*, *upstairs*, *out to*, and *into* (one token each), indicating a change of location.

Two tokens of *dash* are classified into *ed*-suffixed adjective, as in (118).

(118) a. There could be a particular point that happens not to be displaced, but we'll take an instant at which that plane has been displaced by an amount D . So A goes over to A dashed here. And it becomes at a distance now X plus D from the origin.

b. And so the plane B is not going to be displaced quite the same amount as the plane A . So B will be displaced over here for instance to B dashed like that.

(118a) and (118b) both regard a single topic, that is, an airplane. Both tokens of *dash* in (118) postmodify the nominal phrase A or B (that indicate the position in the air).

One token of *dash* occurs as *ing*-suffixed adjective, as in (119).

(119) But I believe the telly is the next thing that we're getting simply to keep, keep the twins and Susan in check, well basically so that Susan doesn't keep dashing off to other people's houses to watch programmes [...]

Dashing in (119) occurs immediately after the linking verb *keep*, referring to a dashing state (i.e. moving, change of location) of the subject *Susan*.

In sum, this subsection has shown the following three findings:

- 1) Seven tokens of *dash* were found in the LLC.
- 2) Four tokens function as verbs. They all denote a change of location with the assist of a directional phrase (*from*, *upstairs*, *out to meeting*, and *into*: one token each)
- 3) The other tokens are classified into *ed*-suffixed adjective (two tokens that postmodify nouns), and *ing*-suffixed adjective (one token which occurs immediately after the linking verb *keep* and denotes a dashing state (i.e. moving or change of location) of the subject).

Nominal, adjectival, gerundive tokens were not found in the present corpus, although the OED lists these usages.

4. 2. 8 Pat

The next word is *pat*. The OED states that this word functions as a verb, noun, adjective, adverb, interjection, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *pat* as in (120):

(120) Verb: To hit, to strike, properly with a flat or blunt implement; also, to drive or

impel by so striking[.]

To tap or beat lightly (*upon* any surface).

Noun: A stroke or blow with a flat or blunt surface.

A small mass of some soft substance (*e.g.* butter), formed or shaped by patting.

The sound made by striking lightly with something flat[.]

Adjective: That comes or lies exactly to the purpose; exactly suitable or to the purpose, apposite, apt; ready or suitable for the occasion, opportune.

Adverb: [*P*]redicatively: as *adv.* or *adj.*

In a way that hits, and does not miss its object or aim; in a manner that fits or agrees to a nicety with the purpose or occasion; so as exactly to suit the purpose; appositely, aptly; in the very nick of time, opportunely; so as to be ready for any occasion, readily, promptly.

Interjection: The v[er]b. stem used [...] as an interj[ection] [the OED does not explain the meaning of interjectional *pat*].

Gerundive and *Ing*-suffixed adjective:

[Although the OED defines these two classes, this dictionary does not explain the meanings of them].

This vocabulary word obtained seven points from English speakers.

Seven tokens of *pat* were found in the LLC. Four tokens of them occur as verbs, as in (121).

(121) a. A: And then I start

B: Yes.

A: Looking at these glowing testimonials and having people pat me on the head and then I get all frightened again.

b. A: Can you go on to folly and paces about her room again alone?

B: Yes.

A: She pats her hair with automatic hand. Have you read anything like that before?

B: [I] can't remember.

c. [...] he's [= the local doctor is] one of these easygoing types who sees her once a month takes her blood pressure and pats her on the bottom and says you're fine go back home [...].

d. Stuart lives in a tennis club where they all understand. They all turn up in the right gear intellectually as it were, and they pat the ball backwards and forwards and they're all quite happy.

The three tokens of *pat* in (121a-c) denote “to hit.” *Pat* in (121d) indicates a change of location (specifically “to move (something) by hitting”) with the directional phrase

backwards and forwards.

Two tokens of nominal *pat* were found, as in (122).

(122) A: We didn't seem to know the answer and we thought perhaps you might.

B: I know, I feel very ashamed not to have it off pat, you know, pat on the tip of my tongue, but in fact is I haven't.

The two tokens of nominal *pat* in (122) indicate a certain kind of mass.

One gerundive token of *pat* was found, as in (123).

(123) While Barrington settles bat patting in the crease behind his right foot McKenzie comes in bowls to him.

Bat patting in (123) is a kind of instrument in cricket.

In summary, this subsection has presented the following three findings:

- 1) Seven tokens of *pat* were found in the LLC.
- 2) The most frequent class is verb (four tokens). Three of them indicate "to hit."
One token refers to a change of location (specifically "to move (something) by hitting") with the directional phrase *backwards and forwards*.
- 3) The remaining tokens of *pat* are classified into either noun (two tokens which indicate a certain kind of mass) or gerundive (one token which refers

to an instrument in cricket).

The other classes of *pat* listed in the OED (adjective, adverb, interjection, *ing*-suffixed adjective) were not found in this corpus.

4. 2. 9 Bump

The next word is *bump*. The OED states that this word serves as verb, noun, adverb, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *bump* as in (124):

(124) Verb: To strike heavily or firmly.

To strike solidly, to come with a bump or violent jolt *against*; to move with a bump or a succession of bumps.

To bulge out.

Noun: A blow somewhat heavy, but rather dull in sound; a sudden collision, more or less violent.

Swelling.

Adverb: The verb stem used adverbially = With a bump, with sudden collision[.]

Gerundive: The action of the verb [to] *bump*. [...] Sudden (usually repeated) collision or knocking. [...] Striking heavily, thrashing. [...]

Banging the posteriors of a person against a post or wall.

Ing-suffixed adjective: Huge, great; 'thumping'

English speakers gave this vocabulary item seven points.

Six tokens of *bump* were found in the LLC. Four tokens of them occur as verbs, as in (125).

(125) a. A: My bother takes his two children over to see her, and they don't do anything just sort of sit around.

B: Yes, and when they're down to, when they're down with us in the summer.

A: Oh, they see ours. Yes, both those ...

B: They bump into, they bump into ours in fact.

A: Children never go to see my mother although they're only on the other side of Birmingham.

B: Yeah.

b. A: I'm prepared to go down and have lunch.

B: Yes.

A: If it's not too expensive.

B: But do what you like.

A: I'm in debt.

B: As long as you

A: I'm also reasonably anxious to bump into people [...].

c. And one of the janitors said to me once that he felt that if Doc. Middleton was coming down the stairs and he was going up the stairs and accidentally Doctor Middleton bumped into him and knocked him flying down the stairs, he would have gone on descending the stairs without blinking an eyelid

All of the verbal tokens are followed by the directional preposition *into*. *Bump into* represents encountering in (125a) and (125b), and hitting in (125c).

The remaining tokens of *bump* (two tokens) serve as nouns, as in (126).

(126) A: It could be dangerous, but I think it's unlikely ...

B: [It] feels much more dangerous than ordinary cars.

A: You'll probably do fifty, going down the motorway anyway.

B: It's most unlikely in that thing. You honestly, you do twentym and and you go over one bump and you think you're going to leave the ground.

A: Mmm.

B: I know, but down the motorway, it should be OK. Well I don't think I'll do much more than thirty-five.

A: Well, I think you'll find it creeps up.

B: Probably.

A: The maximum will be fifty.

B: But I was astonished at how you hit the bumps in Camden. That's why it's

so much better.

These nominal tokens indicate a lump or swelling.

In summary, this subsection has shown the following three findings:

- 1) Six tokens of *bump* were found in the LLC.
- 2) The most frequent class of *bump* is verb (four tokens). These tokens occur with *into*. Three of them indicate encountering, and one token indicates hitting.
- 3) Two tokens of *bump* occur as nouns. They refer to a lump or swelling.

The other classes listed by OED (adverb/gerundive/*ing*-suffixed adjective) were not found in the LLC.

4. 2. 10 Clatter

The next is *clatter*. The OED states that this word serves as verb, noun, adverb, gerundive, and *ing/ed*-suffixed adjective. The OED defines the meaning of *clatter* as in (127):

- (127) Verb: To make or emit a rapid succession of short sharp noises in striking a hard and dry body; to rattle. Said either of the material instruments or the agent.

To talk rapidly and noisily; to talk idly; to chatter, prattle, babble.

Noun: A rattling noise made by the rapidly repeated collision of sonorous bodies which do not ring.

Noisy talk; confused din of voices, gabble. Often applied contemptuously to what is treated as mere empty gabble.

Adverb: The verb-stem is used adv[er]b [the OED does not explain the meaning of adverbial *clatter*].

Gerundive: Noise of the rapidly repeated collision of hard bodies; rattling.

Chattering, rapid noisy talk.

Ing-suffixed adjective: That clatters or rattles rapidly.

Chattering, babbling.

Ed-suffixed adjective:

Uttered in a clattering way, rattled, struck so as to clatter, etc.[.]

This word obtained eight points from English speakers.

Six tokens of *clatter* were found in the LLC. However, five tokens (except for (128b) below) occurred in a single text. Thus, the result that *clatter* appears as one of the most frequent onomatopoeic words may be due to the peculiarity of the present corpus.

The most frequent class of *clatter* is verb. Three tokens function as verbs, as in (128).

(128) a. Officers and fifty - seven troopers made up of two divisions and they come

clattering out of the forecourt with the black horses gleaming in the sunshine, the Life Guards with their white plumes and their crimson jackets and white gauntlet. And they clatter past me, away to my right [...].

- b. [...] it was *The Private Life of Sherlock Holmes* if I remember [...] people did nothing but, you know, clatter up and down banging their seats.
- c. The pair of horses is a little restive. They clatter their hoofs and almost dance prettily [...]

The verbal tokens of *clatter* in (128a) and (128b) refer to a change of location, specifically “to move with a clattering sound.” They are followed with a directive phrase: *out of* in (128a), and *up and down* in (128b). In (128c), *clatter* indicates “to emit a clattering sound.”

The other tokens are classified into noun (one token as in (129a)), *ing*-suffixed adjective (one token as in (129a)), and borderline *ing*-suffixed form (one token as in (129b)).

- (129) a. [...] you can hear the band of the regiment. The drums of the battalion standing silent behind them play again the traditional music for a royal inspection and away to the right there’s a clatter of hoofs and glint of sunshine on metal ware as Sovereign’s escort of the household brigade. The first division just moves a yard or two up ahead to take up their position

which they will occupy of course ahead of five state landaus which are the carriage procession which will take the Queen of Nepal in the second carriage clattering through the streets gaily to Buckingham Palace.

- b. Officers and fifty –seven troopers made up of two divisions and they come clattering out of the forecourt with the black horses gleaming in the sunshine, the Life Guards with their white plumes and their crimson jackets and white gauntlet. And they clatter past me, away to my right [...].
(= (128a))

The nominal usage of *clatter* in (129a) indicates a clattering sound. The *ing*-suffixed adjectival token of *clatter* in (129a) postmodifies the noun phrase *the second carriage*. *Clattering* in (129b) serves as a subject-oriented depictive, which is intermediate between verb and adverb. These two *ing*-suffixed forms indicate a sound emission.

In sum, this subsection has presented the following three findings:

- 1) Six tokens of *clatter* were found in the LLC. However, five of these tokens occur in a single text.
- 2) The most frequent class of *clatter* is verb (three tokens). Two of them indicate a change of location with a directive phrase (*out of*, or *up and down*), and one indicates a sound emission.
- 3) The other tokens are classified into noun (one token indicating clattering sound), *ing*-suffixed adjective (one token postmodifying the nominal phrase and

denoting a sound emission), and borderline *ing*-suffixed form (one token serving as a subject-oriented depictive and indicating a sound emission).

Adverbial, gerundive, *ed*-suffixed adjectival tokens of *clatter* were not found, although the OED lists these usages.

4. 2. 11 Chatter

The next is *chatter*. The OED states that *chatter* functions as verb, noun, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *chatter* as in (130):

(130) Verb: Of birds: To utter a rapid succession or series of short vocal sounds[.]

Of human beings: To talk rapidly, incessantly, and with more sound than sense. [especially] said of children[.]

Of the teeth: To make a noise by rapidly repeated collision; to shiver, shake.

Noun: The chattering of certain birds; also of apes, etc.[.]

Incessant talk of a trivial kind; prate, tattle.

The vibration of a tool

Gerundive: The action expressed by the verb *chatter* (in its various senses).

Ing-suffixed adjective: That chatters (in various senses of the verb).

English speakers gave this word seven points.

In the LLC, five tokens of *chatter* were found. All of these tokens indicate aimless talking. Three of them (seen in (131)) occur in a single subtext. Here again, the result that *chatter* is included as one of the most frequent onomatopoeic words may be due to the peculiarity of the present corpus.

The most frequent grammatical class is gerundive, including three tokens, as in (131)

- (131) a. He disappears off into another room and reappears and sits down on the sofa which is you know and starts chattering away and I got bored with him chattering so I said could you tell me what the job is.
- b. We carried on chattering and he explains that that he wants an hour [...].

In (131a), the first *chattering* serves as an objective of the verb *start*, and the second *chattering* occurs in the prepositional phrase. In (131b), *chattering* occurs after the preposition *on*.

The other tokens of *chatter* (two tokens) function as different grammatical classes from each other, as in (132) and (133).

- (132) So I'm going to take the wretched thing down, and hope that that bloody old cow leaves, you know, doesn't chatter to me.

- (133) Before I forget about it in the chatter, you remember the [...] cricket commentary. There was a manuscript of that.

Chatter in (132) occurs as an intransitive verb, and *chatter* in (133) occurs as a noun.

In summary, this subsection has shown the following three findings:

- 1) Five tokens of *chatter* were found in the LLC. All of their meanings are related to talking without aim. Three of them appear in a single text.
- 2) The most frequent class is gerundive (three tokens).
- 3) There was one token of verb, one token of noun.

Although the OED states that *chatter* functions as *ing*-suffixed adjective, no tokens of such a usage were found in the corpus examined in this study.

4. 2. 12 Crisp

Next is *crisp*. The OED states that *crisp* serves as verb, noun, adjective, gerundive, *ing*- or *ed*-suffixed adjective. The OED defines the meaning of *crisp* as in (134):

(134) Verb: To curl into short, stiff, wavy folds, or crinkles; to crimp.

To make crisp, 'short' or brittle.

Noun: The 'crackling' of roast pork.

An overdone piece of anything cooked, fried, or roasted[.]

Gerundive: The action of the verb to crisp; curling.

Adjective: Having a surface curled or fretted into minute waves, ripples, folds

or wrinkles.

Brittle or 'short' while somewhat hard or firm in structure (usually as a good quality)[.]

Ing-suffixed adjective: That crisps.

Ed-suffixed adjective:

Of hair: Closely and stiffly curled.

Having a surface curled into minute waves, folds or puckers.

Made crisp or brittle; 'short' in texture; also in manner, style, etc.[.]

This vocabulary word obtained seven points from English speakers.

Four tokens of *crisp* were found in the LLC. However, three of them (in (135a-c)) occur in a single text. Examples of *crisp* are shown in (135).

- (135) a. I'm using a mixture of fats. That's three ounces of the solid vegetable fat which gives the pastry its very crisp quality.
- b. This [= solid vegetable fat] is the vegetarian equivalent to lard. You can buy it in health food shops and many supermarkets. It gives the pasty very crisp quality and also put in one ounce of butter
- c. When it's cooked and comes out of the oven and then pierce a hole in the top either side to let the steam escape from the filling, so pastry's nice and crisp.
- d. But Cooper doesn't throw it out to be knocked down. Now he jabs it out

just about finds a nice left to the body of Cooper light, but nice and crisp.

All four tokens function as adjectives. Three of them (seen in (135a-c)) are used in the sense of “friable,” and the last one in the sense of (seen in (135d)) “fresh.”

In sum, this subsection has shown the following two findings:

- 1) Four tokens of *crisp* were found in the LLC, although three of them occur in a single text.
- 2) All four tokens function as adjectives, Three of them indicate “friable,” and one “fresh.”

No tokens of the other grammatical classes listed in the OED (verbs, nouns, *ing-* or *ed-* suffixed adjectives) were found in this corpus.

4. 2. 13 Flap

Next is *flap*. The OED states that this word functions as verb, noun, gerundive, and *ing-* and *ed-* suffixed adjective. The OED defines the meaning of *flap* as in (136):

(136) Verb: To strike with something flexible and broad (*e.g.* a fly-flapper); to drive
away or *off* to put *out* (a light) as with a blow so given.

Of a bird: To strike with the flat of the wing; also to drive *off* (*etc.*) by
flapping.

Noun: The motion of something broad and loose [...], as a wing or a
fly-flapper; the noise produced by its motion, or by contact with
some other object.

A state of worry, agitation, fuss, or excitement.

Anything that hangs broad and loose, fastened only by one side[.]

Gerundive: The action of moving (wings) up and down.

The action of swaying or working to and fro something broad and
loose.

Ing- suffixed adjective:

That flaps. Applied [specifically] to the upward and downward
movement of the wings of birds and, formerly, of flying machines.

Ed- suffixed adjective: Of the cheek or ear: Formed like a flap; pendulous.

Of a hat or garment: Having a flap or flaps.

This vocabulary word obtained seven points from English speakers.

Four tokens of *flap* were found in the LLC. Three of them occur as nouns, as in (137).

(137) a. A: [I] haven't got you and David anything but I [...] will be getting there.

B: No flap. Don't worry.

A: Well yes. As long as you can sort of stay alive fro the next twe4nty years
or so.

b. But you know it's very interesting. A great great flap and geffuffle went on
when Sesame Street cam to Australian television.

c. And seal the edges with the sides of your hands and also press along that
loose flap and in this way [...].

Two of these tokens (in (137a) and (137b)) indicate "panic" or "flutter." *Flap* in (137c) denotes "a tab" or "a hatch."

The other token serves as an *ing*-suffixed adjective, as in (138).

(138) It's really more convenient for me if they're not here because otherwise I have
to keep flapping around and dealing with them you know.

Flapping in (138) occurs after the linking verb *keep* and indicates a state of panic or flutter.

In sum, this subsection has presented the following three findings:

- 1) Four tokens of *flap* were found in the LLC.
- 2) Three tokens occur as nouns. Two of them indicate “panic,” and one “a tab.”
- 3) The other token occurs as an *ing*-suffixed adjective (following the linking verb *keep*, and denoting a state of panic or flutter).

Verbal, gerundive and *ed*-suffixed adjectival usages were not found, although they are listed in the OED.

4. 2. 14 Jabber

The last word is *jabber*. The OED states that this word functions as verb, noun, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *jabber* as in (139):

(139) Verb: To talk rapidly and indistinctly or unintelligibly; to speak volubly and with little sense; to chatter, gabble, prattle.

Noun: The act of jabbering; rapid and indistinct or unintelligible talk; gabble, chatter; gibberish.

Gerundives and *ing*-suffixed adjective:

[Although the OED defines these two classes, this dictionary does not explain the meanings of them].

English speakers gave this word eight points.

Four tokens of *jabber* were found in the LLC. However, they occur in only two texts.

Examples of them are in (140) and (141).

(140) But if they get two or three together , that's it. they take over the ward and
they they jabber jabber jabber.

(141) We shall never remember them as we remember the old Wordsworth with
failing powers jabbering a lot of nonsense [...] in his last years.

In (140), three tokens of *jabber* are reduplicated, functioning as verbs. Thus, verbal usage is the most frequent grammatical class of *jabber*. Each verbal token indicates “to talk too much.” In addition, the reduplicated form emphasizes a great amount of talking. *Jabbering* in (141) is gerundive since the word serves as a part of objective of the verb *remember*. It denotes the same meaning as verbal *jabber*.

In sum, this subsection has presented the following three findings:

- 1) Four tokens of *jabber* were found in the LLC. They appear in only two texts in the LLC.
- 2) Three tokens of verbal *jabber* are reduplicated, indicating “to talk too much.”
- 3) One gerundive token was found. The word denotes an event of talking too much.

Tokens of the other grammatical classes listed in the OED (noun and *ing*-suffixed adjective) were not found in the LLC.

4. 3 Summary

This section summarizes the main findings of Chapter 4.

In 4.1, I selected the most frequent and most onomatopoeic words in the LLC, specifically *pop*, *dash*, *bash*, *bounce*, *tick*, *clash*, *crash*, *pat*, *bump*, *clatter*, *chatter*, *crisp*, *flap*, and *jabber*. In 4.2, I examined actual usages of these words in the LLC. Table 8 shows the main findings for each word.

Table 8: Characteristics of the Most Frequent and Most Onomatopoeic Words in Spoken Corpus

Words (No. of Tokens) (Recitals)	Detailed Descriptions
pop (21)	<p>Most Frequent Class: Verb (18 tokens)</p> <p>16 tokens refer to a change of location or appearance with a directional phrase. (<i>in</i> : 7 tokens, <i>up</i> : 3 tokens, <i>out</i> : 2 tokens, <i>over</i> : 2 tokens, <i>round</i> : 1 token, and <i>off</i>: 1 token)</p> <p>2 tokens refer to a change of state (= opening) with sound emission.</p> <p>Others: Noun (2 tokens, which indicate mark or carbonated drink); Borderline <i>ing</i>-suffixed form (1 token, which serves as an object complement, and refers to a change of state (i.e. opening))</p>
bash (13)	<p>Most Frequent Class: Verb (9 tokens)</p> <p>All verbal tokens (figuratively) indicate a change of location with a directional phrase (<i>through</i> : 7 tokens, and <i>out of</i>: 1 token) or without such a phrase (1 token).</p> <p>Six out of seven verbal tokens of <i>bash through</i> were found in one single text.</p> <p>Others: Gerundive (3 tokens, two of them refer to skipping, and 1 token attacking); Noun (1 token, which refers to a trail)</p>
bounce (13)	<p>Most Frequent Class: Verb (7 tokens)</p> <p>All verbal tokens are followed by a directional phrase. (<i>up and down</i> : 4 tokens, <i>back</i> : 2 tokens, and (<i>on</i>) <i>into</i> : 1 token).</p> <p>They indicate a change of location.</p> <p>Others: Gerundive (2 tokens); Borderline <i>ing</i>-suffixed form (2 tokens); Noun (1 token); <i>Ing</i>-suffixed adjective (1 token)</p> <p>All of their meanings are related to jumping, which is attributed to verbal <i>bounce</i>.</p>
tick (13)	<p>Most Frequent Class: Noun (7 tokens)</p> <p>Six out of them indicate a check mark, one token refers to a brief period of time.</p> <p>Others: Verb (3 tokens, which refer to marking); Unclear case (A reduplication of 3 tokens, which occurs after <i>went</i> and denotes a series of sound)</p>
clash (8)	<p>Most Frequent Class: Noun (5 tokens)</p> <p>All of them denote a collision or conflict.</p> <p>Others: Verb (3 tokens, which indicate “to hit” or “to conflict”)</p>
crash (7)	<p>Most Frequent Class: Verb (5 tokens)</p> <p>They refer to breaking into pieces (2 tokens), hitting (one token), and entering with crashing sound followed by a directional phrase <i>in</i> (1 token).</p> <p>Others: Noun (1 token, which indicates a collision); Adjective (1 token, its meaning is related to verbal or nominal <i>crash</i>)</p>

dash (7)	<p>Most Frequent Class: Verb (4 tokens)</p> <p>They denote a change of location with the assist of directional phrase (<i>from, upstairs, out to, and into</i> : one token respectively);</p> <p>Others: <i>Ed</i>-suffixed adjective (2 tokens, which postmodify nouns);</p> <p><i>Ing</i>-suffixed adjective (1 token, which occurs after the linking verb <i>keep</i>, and denotes dashing state (i.e. moving or change of location) of the subject <i>Susan</i>)</p>
pat (7)	<p>Most Frequent Class: Verb (4 tokens)</p> <p>3 of them refer to hitting,</p> <p>1 token denote a change of location (specifically “to move (something) by hitting”) with the assist of directional phrase <i>backwards and forwards</i>.</p> <p>Others: Noun (2 tokens, which indicate a certain kind of mass);</p> <p>Gerundive (1 token, which refers to an instrument of cricket)</p>
bump (6)	<p>Most Frequent Class: Verb (4 tokens)</p> <p>They occur with <i>into</i>.</p> <p>3 tokens refer to encountering</p> <p>1 token denotes hitting.</p> <p>Others: Noun (2 tokens, which refer to a lump or swelling)</p>
clatter (6) (5 of them are in one text)	<p>Most Frequent Class: Verb (3 tokens)</p> <p>Two of them indicate a change of location with the assist of directional phrase (<i>out of or up and down</i>),</p> <p>1 token denotes sound emission.</p> <p>Others: Noun (1 token, which refer to clattering sound);</p> <p><i>Ing</i>-suffixed adjective (1 token, which postmodifies the nominal phrase and denotes a sound emission);</p> <p>Borderline <i>ing</i>-suffixed form (1 token, which serves as a subject-oriented depictive and indicates a sound emission)</p>
chatter (5) (3 of them are in one text)	<p>Most Frequent Class: Gerundive (3 tokens)</p> <p>Others: Verb (1 token);</p> <p>Noun (1 token);</p> <p>All of five tokens denote aimless talking.</p>
crisp (4) (3 of them are in one text)	<p>Most Frequent Class: Adjective (4 tokens)</p> <p>Three of them (in one text) indicate “friable,” and one “fresh.”</p>
flap (4)	<p>Most Frequent Class: Noun (3 tokens)</p> <p>2 of them indicate “panic,”</p> <p>1 token denotes a tab.</p> <p>Others: <i>Ing</i>-suffixed adjective (1 token, which follows the linking verb <i>keep</i>, and indicates a state of panic)</p>
jabber (4) (They appear in two texts)	<p>Most Frequent Class: Verb (3 tokens)</p> <p>3 verbal <i>jabber</i> are reduplicated, indicating “to talk too much.”</p> <p>Others: Gerundive (1 token, which denotes an event of talking too much)</p>

On the basis of the distributions of these words, three general tendencies were found.

First, four out of these fourteen words (*pop*, *bash*, *bounce*, *dash*) typically denote a change of location, three (*crash*, *clash*, *pat*) denote hitting (as in a collision or conflict), and two (*chatter*, *jabber*) refer to talking. In addition, *tick* frequently refers to a check mark, *bump* to encountering, *crisp* to “friable,” *flap* to a state of panic, and *clatter* to a sound emission.

Second, verbal usage is the most common grammatical class among the fourteen words in the spoken corpus. Nine out of fourteen words (*pop*, *bash*, *bounce*, *crash*, *dash*, *pat*, *bump*, *clatter*, and *jabber*) occur most frequently as verbs.

Third, in verbal usage, five words (*pop*, *bash*, *bounce*, *dash*, and *clatter*) typically denote a change of location with the assist of a directional phrase, as in *pop in*, *bash through*, *bounce up and down*, *dash from*, *clatter out of*, and so on. Two words (*clash* and *pat*) typically indicate hitting, and two (*chatter* and *jabber*) indicate talking. *Crash*, in its verbal usage, frequently refers to breaking, *bump* to encountering, and *tick* to marking. Verbal tokens of *flap* and *crisp* were not found in the present corpus.

Notes to Chapter 4.

¹ My list of onomatopoeic words (in Table 2 in Chapter 3) includes two words spelled *flash*. These words are homonymous: one describes “a pool,” the other “to emit or reflect light.” *Flash* in Table 5 is the latter one.

² Tamori and Schourp (1999) do not provide a full accounting of some criteria. For instance, in connection with the second criterion (i.e. the word is not used in the plural), they observe that *baa* has to occur with adequate contexts when it serves as both singular and plural nouns. It is because *baa* is “unstable” (=lower lexicality).

? I heard a baa.

? I heard baas.

The sheep walked up to us and uttered a single plaintive 'baa.'

It was two baas and then a loud screech followed immediately by the gunshots.

(Tamori and Schourup 1999: 198)

However, they do not explain why they focus only on plural nouns in the second criterion. In addition, in connection with the fifth criterion (i.e. the word occurs as an interjection), they show examples of *gion*-onomatopoeic adverbs with quotation marks and *gitai*-onomatopoeic adverbs with hyphens (not quotation marks).

His wristwatch fell 'kerplop' into the swimming pool.

Peter Rabbit ran -hippety-hop- down the trail.

(Tamori and Schourup 1999: 106)

From these examples, it can be said that *gion*-onomatopoeic adverbs have higher mimeticity than *gitai*-onomatopoeic adverbs because the former can be used with quotation marks. However, Tamori and Schourup (1999) do not present tokens of *gion*-onomatopoeic interjections with quotation marks and *gitai*-onomatopoeic interjections with hyphens, which support the fifth criterion.

³ When it was difficult for the native speakers to identify words (homonyms etc.), I briefly showed meanings of such words.

⁴ (85) does not list all definitions of *pop* by the OED, but representative ones that can be seen in other English dictionaries. (95), (99), (105), (109), (112), (116), (120), (124), (127), (130), (134), (136), and (139) (and (142), (150), (169), (174), (183), and (192) in Chapter 5) list the meanings of the words in a similar fashion.

⁵ Since examples in this Chapter were collected from the spoke corpus (the LLC), they originally lacked punctuation marks. Then, I appropriately added these marks to original texts.

⁶ Besides seven tokens of *dash* examined in the main text of this study, I found eleven tokens of *dash* in the LLC, as in the following (a)-(c).

(a) full stop in addition comma we have prepared four sample front covers dash photographs enclosed full stop

(b) if things went well comma then we could obviously add to the range dash either by having more books at the first three levels or alternatively having quotes reading at home quotes off books at the later levels as well if necessary full stop

(c) comma so we could presumably include other rhymes or poems or items along a similar theme dash or in some cases put two rhymes or stories in the same book full stop

All of such tokens were found in only one genre in the LLC, i.e., conversations with dictaphone. Since these tokens are so genre-specific (and so outdated), I excluded them from examination for the present research.

Chapter 5. Onomatopoeic Words in Written English

This chapter reports a corpus-based survey of grammatical as well as semantic features of representative (i.e. the most frequent and most onomatopoeic) words in written English.

5. 1 Selection of the Most Frequent and Most Onomatopoeic Words in Written Corpus

In 5.1, I select the most frequent and most onomatopoeic words in written corpus. In the first step, I employ the Lancaster-Oslo/Bergen Corpus of British English (the LOB Corpus) to make a list of frequent onomatopoeic words. This corpus contains a total of 1,000,000 words from 500 written British English texts recorded from 1961. The 500 texts are divided into 15 categories (Press: reportage / Press: editorial / Press: reviews / Religion / Skills, trades, hobbies / Belles letters, biography, essays / Miscellaneous (documents, reports, etc) / Learned and scientific writings / General fiction / Mystery and detective fiction / Science fiction / Adventure and Western fiction / Romance and love story / Humor). As I mentioned in Chapter 4, this study treats the top 30 frequent words as the most frequent. As a result of this survey, I obtained the following list. Since the list contains five 27th ranked words, this table lacks 28th to 30th words.

Table 9: 30 Most Frequent Onomatopoeic Words in LOB

Ranking	Most Frequent Onomatopoeic Words	Number of Tokens
1	touch	154
2	push	105
3	jump	71
4	flash	50
4	hurry	42
6	brush	37
7	scatter	33
8	murmur	30
9	flap	27
10	mutter	23
10	flush	23
12	crash	21
13	dash	20
14	chat	19
14	clash	19
16	bunch	17
16	flatter	17
18	fumble	16
19	quiver	15
20	chatter	14
20	plump	14
22	grab	12
22	jam	12
22	lash	12
25	bump	11
25	flag	11
27	box	10
27	hurl	10
27	pop	10
27	puff	10
27	swirl	10

In the next step, I extracted highly onomatopoeic words from the top 30 most frequent words. As with the method in Chapter 4, I asked five English speakers (two British, three North American) to rate each of the top 30 most frequent words on the following scale:

- 0 = This word is not onomatopoeic.
- 1 = This word is a little (= slightly, maybe etc.) onomatopoeic.
- 2 = This word is totally (= very, highly etc.) onomatopoeic
- x = I don't know this word

This study treats the words scoring six or more points as the most onomatopoeic. As a result of this test, I obtained a list of 13 frequent and highly onomatopoeic words from the written corpus, as in Table 10.

Table 10: Both Most Frequent and Most Onomatopoeic Words in LOB

Ranking of Frequency	Most Frequent and Most Onomatopoeic Words	Scores by Two Britons	Scores by Three USA	Total Score	Number of Tokens
1	murmur	4	6	10	30
2	flap	3	4	7	27
3	mutter	3	4	7	23
4	crash	4	5	9	21
5	dash	1	5	6	20
6	clash	4	5	9	19
7	fumble	2	4	6	16
8	quiver	3	5	8	15
9	chatter	3	4	7	14
10	lash	3	4	7	12
11	bump	4	3	7	11
12	pop	4	6	10	10
12	puff	3	6	9	10

I will closely examine each word in 5.2.

The remaining eighteen words were given five points or lower, as in Table 11.

Table 11: Most Frequent but Not Very Onomatopoeic words in LOB

Ranking of Frequency	Most Frequent but Not Onomatopoeic Words	Scores by Two Britons	Scores by Three USA	Total Score	Number of Tokens
1	touch	0	0	0	154
2	push	0	2	2	105
3	jump	1	4	5	71
4	flash	2	3	5	50
5	hurry	0	1	1	42
6	brush	3	2	5	37
7	scatter	1	2	3	33
8	flush	1	0	1	23
9	chat	2	2	4	19
10	bunch	1	1	2	17
10	flatter	0	0	0	17
12	plump	2	1	3	14
13	grab	1	1	3	12
13	jam	1	1	2	12
15	flag	1	1	2	11
16	box	1	2	3	10
16	hurl	2	2	4	10
16	swirl	2	2	4	10

This study excludes the items in Table 11 from examination, since they represent a group of less onomatopoeic words (thought they occur frequently).

5. 2 Detailed Descriptions of the Most Onomatopoeic Words

In 5.1, I selected the most frequent and most onomatopoeic words in the LOB Corpus, specifically *murmur*, *flap*, *mutter*, *crash*, *dash*, *clash*, *fumble*, *quiver*, *chatter*, *lash*, *bump*, *pop*, *puff*. In 5. 2, I will observe actual usage of these words in written English.

5. 2. 1 Murmur

The first word is *murmur*. According to the OED, *murmur* functions as verb, noun, gerundive, *ing*- and *ed*-suffixed adjective. The OED defines the meaning of *murmur* as in (142):

(142) Verb: To make, produce, or emit a low continuous sound.

To complain or repine in low muttered tones; to give vent to an inarticulate discontent, to grumble.

To utter (sounds, words) in a low voice and indistinctly.

Noun: Subdued continuous or continuously repeated sound; an instance of this.

A softly or gently spoken word or sentence; subdued or nearly inarticulate speech.

Gerundive: The action of the v[er]b *murmur*; an instance of this.

Ing-suffixed adjective: That murmurs, in various senses.

Ed-suffixed adjective: Faintly uttered.

English speakers gave this word full points (i.e. 10 points).

Thirty tokens of *murmur* were found in the LOB. The most frequent grammatical class of *murmur* is verb. Twenty tokens of verbal *murmur* were found, as in (143).

- (143) a. "Chantek," I murmured obligingly, not really meaning it, nor really caring whether she was beautiful or not, but only glad to know that she kissed in the Western fashion and not just as Moslems do.
- b. When she murmured against my lips, "Hold me tight... don't ever leave me..." I could fight no longer.
- c. "Very interesting indeed," Miss Hocking murmured when he ended. "But I'm afraid I can't enlighten you. Not at all. Mrs. Pritchard frequently marked books, made little annotations on passages that interested her."
- d. He smiled. "You don't think I was going to have you walking that lonely road on a morning like this?" "Oh, Neil!" she murmured and felt wonderful.
- e. "I'm glad that Kay will never know," she murmured to herself, as she watched the beautiful summer landscape fly past the carriage window.
- f. He'd taken over now and was looking down at her as she lay on his bed. Her voice murmured on, soft and caressing as a kiss: Look at my throat... don't you want to kiss it... to follow its lines and taste my skin [...].
- g. And again, late that night, as she lay tossing restlessly in bed, she murmured "Yes, I'm glad that Kay will never know!"
- h. Santago now began to examine the bolt of his rifle. "Yes," he murmured, "we served together under him. As privates. Then along came Kassan. And with him in power what happened? You became sergeant the very next day."

- i. "Well, don't I get a drink tonight?" she asked boldly. "Of course... anything you like," he murmured, relief flooding over him.
- j. "I did what I could," Farland murmured. He glanced at Rufus Winter.
- k. She supported the dying hero's head in her lap. "Have no fear, we shall meet again" he murmured.
- l. "Ray," she whispered. She must have passed out for the next thing she knew he was shaking her. "My darling! My darling! Say something to me." "I'm all right, Ray," she murmured.
- m. "Once you were just a rancher. Then you tried to wipe out a grudge and then there was a bigger one to wipe out- and the debt kept growing and more men are waiting to kill you. Some day a man will. Run away from the debts." His bright smile kept constant, which made her shoulders lift in resignation. "No," she murmured. "You won't run." He said: "We'd better go back," and they went across the yard in silence. She turned to look at him once more and then passed down the narrow corridor to her own quarters. Beyond her window in the yard, a man was murmuring to another man: "Plummer and Shanley are in Lordsburg. Malpais Bill knows it."
- n. Tony, who was five and precocious, opened his eyes and murmured: "Shall we what, Daddy?" "Have a cup of tea," Meg replied.
- o. Helen murmured: "Is he a Communist?" and Willie smiled as he shook his head.

- p. The entry of Grogan and Manning, following on Manning's information to Grogan, left no room for further ostrich tactics on Jane's part. The Frys greeted the visitors with no small talk. Jane, having brought them in, murmured: "The police, Eddie," and went back to her chair and they sat looking at the two detectives with their habitual air of resigned anxiety.
- q. As the army toiled across the water-logged wilderness towards Apalache, the soldiers became aware that they were heading for regions through which, like the men of Narvaez, they might be unable to force a path. Some began to murmur that they should turn back while there was yet time.
- r. "Be assured I do not hate you," said the Queen, interrupting him, "but shall I believe you? Yet should I not believe? Can I give you up to your ill fate?" "I shall never murmur against your Majesty's orders," replied the Earl, "but submit to them readily whatever they may be."
- s. A cloud stood in the sky, and there was no reason for it; so it gently left it. The field spoke and murmured in its sleep, and the sharp cries of birds were reminders of things to do and things which could be just as well left undone, for the sense of time had stopped.

All twenty verbal tokens of *murmur* indicate "to say (something) with difficulty." Among these tokens, seventeen tokens of *murmur* in (143a-p) occur with quotations of speech. One token of *murmur* in (143q) is followed by a *that*-clause indicating content of speech.

In addition, two tokens function as totally intransitive verbs that are followed neither by quotations nor by *that*-clauses.

The second most frequent class of *murmur* is noun. Nine tokens occur as nouns, as in (144).

- (144) a. After a few moments of general conversation, Mrs. Sangster said: "Well, I'm going to see about some supper. You'll stay and have some with us, won't you, Mr. Redfern? Lorraine dear, do come down with me and tell me all your news. I'm longing to hear how you got on in town. And, Noreen, did you remember to feed the chickens?" The two girls followed their mother downstairs, Noreen carefully shutting the door behind them, and deliberately ignoring Joanna's murmur of protest.
- b. Diana tensed suddenly as a low murmur of voices reached her and then she heard the crunch of heavy boots on the stones of the pathway just above her head.
- c. Gaffer bent his head over the newspaper bearing the day's racing forecast, oblivious of the sun, the advent of spring and the murmur of voices from the pontoon school in the corner of the yard.
- d. Downstairs I could hear the murmur of voices, and knew they were back.
- e. Mr. Copthorne's head fell sideways. Very faintly, in a bare murmur, the verger caught the last words he uttered: "I am still baffled."

- f. He took it without a murmur, but turned as he made to leave the room. At the door he said: “I hope this does not get me into any trouble.”
- g. Her lips parted and the tip of a pink tongue came slowly out and caressed his mouth from corner to corner, deliciously slow, back and forwards, slipping in a fraction of an inch and out again to the rhythm of a drum that had started somewhere inside his head. Her voice was a gentle murmur, caressing him with words that were as sweet as they were naughty and nonsensical.
- h. Colmore remembered, too, how one of their number had once commented to him on what to the speaker was the Royal Family's excessive interest in horse racing; but the institution of royalty could never be called into question, and from the critic himself would certainly come one of the loudest of the murmurs of “God bless her” after a proposal of the loyal toast.
- i. There followed complete silence, with all eyes and ears on me. I was able to give sincere praise for many things we saw, and luckily the criticisms I made were usually met with nodding of heads and murmurs of “Yes, we know.”

These nominal tokens denote utterance with difficulty.

Only one token of *murmur* serves as an *ed*-suffixed adjective, as in (145).

(145) Winter said, “You'll excuse Farland? He's a man of habit - likes his evening exercise.” “Of course,” Halset said. He accompanied the loose handshake with a murmured hope that they might meet again sometime.

In (145), *murmured* modifies the noun *hope*. The meaning of this token is associated with verbal *murmur*.

In sum, this subsection has shown the following three findings:

- 1) Thirty tokens of *murmur* were found in the LOB Corpus.
- 2) The most frequent class of *murmur* is verb (twenty tokens). All the verbal tokens indicate “to say (something) with difficulty.” Among verbal usages, seventeen tokens of *murmur* occur with quotations of speech, one with a that-clause. Two tokens function as totally intransitive verbs with no quotation/content of speech.
- 3) Nine tokens occur as nouns. They indicate utterance with difficulty. One token occurs as an *ed*-suffixed adjective. Its meaning is associated with verbal *murmur*.

No gerundive and *ing*-suffixed adjectival tokens were found, although they are listed in the OED.

5. 2. 2 Flap

The second word is *flap*. The OED states that this word functions as verb, noun,

gerundive, *ing-* and *ed-* suffixed adjective. The OED defines the meaning of *flap* as in (136) (which is restated):

(136) Verb: To strike with something flexible and broad (e.g. a fly-flapper); to drive away or off; to put out (a light) as with a blow so given.

Of a bird: To strike with the flat of the wing; also to drive off (etc.) by flapping.

Noun: The motion of something broad and loose [...], as a wing or a fly-flapper; the noise produced by its motion, or by contact with some other object.

A state of worry, agitation, fuss, or excitement.

Anything that hangs broad and loose, fastened only by one side[.]

Gerundive: The action of moving (wings) up and down.

The action of swaying or working to and fro something broad and loose.

Ing- suffixed adjective:

That flaps. Applied [specifically] to the upward and downward movement of the wings of birds and, formerly, of flying machines.

Ed- suffixed adjective: Of the cheek or ear: Formed like a flap; pendulous.

Of a hat or garment: Having a flap or flaps.

This vocabulary item obtained seven points from English speakers.

Twenty seven tokens of *flap* were found in the LOB. The most frequent class is *ing*-suffixed adjective. Thirteen tokens of *flap* occur as *ing*-suffixed adjectives, as in (146).

- (146) a. As a further precaution, to eliminate fatigue failure, the new blades of a modified design were run at a reduced top speed of 1200 r.p.m. This question of blade fatigue is more fully discussed in the Appendix (2.3 1Equipment for measuring tracking of blades and flapping angle). The front rotor carried a commutator with a single brass segment contacting four carbon brushes mounted on a ring attached to the front rotor spindle housing. [...] The two diametrically opposed contacts were used to facilitate the observation of flapping angles. Each contact had a switch in circuit and the timing adjusted so that the stroboscope flashed when a particular blade was parallel to the longitudinal body axis either in a fore or aft direction. The height of the blade tips in each position was measured by means of a travelling periscope projecting vertically downwards into the tunnel. The difference in height of the blade tips in these two positions gave a measure of flapping angle. The periscope was of the type used on midget submarines.
- b. The corrections to pitching moment due to flapping hinge offset are included in para. 6. In addition to the corrections mentioned in para. 5 account had also to be taken of the effect of flapping hinge offset which,

due to design difficulties, was of necessity rather large, about 6.275%. The effect of flapping hinge offset on the characteristics of a rotor is dealt with in a report by Meyer and Falabella and the analysis given in that report has been used to estimate the theoretical values of rotor thrust and flapping angles and also the effect on overall pitching moment.

c. Details can be seen in the photograph, Fig. 4. During the early part of the tests the rotors were run at 1,800 r.p.m., at which speed the radial acceleration was approximately 2,350 g, resulting in very high forces at the hub. The blades were provided with both flapping and drag hinges, the former being freely mounted on ball races and the latter having adjustable cork friction dampers.

d. Flapping angles were also measured by the method described in part 2.3. Although it would have been desirable to make measurements at very low values of $15m$, less than 0.1, difficulty was experienced due to the flow induced by the rotors themselves, especially at the higher body angles.

e. It is of interest to note that the effect of flapping hinge offset on CT is negligible, particularly at the lower values of $15m$. From a knowledge of the total thrust and the pitching moment about a defined axis the contribution of thrust due to each rotor has been calculated. It was assumed that the thrust of each rotor acted at the disc centre and normal to the body axis and also that the rotor drag force, parallel to the longitudinal axis, acted at the mean height of the two rotors. The pitching

moments as measured in the experiments included a contribution due to the effect of the offset flapping hinges and therefore before the thrust due to each rotor could be calculated the pitching moments had to be corrected for offset.

f. He stopped by me - I hadn't the faintest idea of his intention - he slapped suddenly at my skirt, and I swear to you I felt with horror the flapping feathers between my legs. The chicken escaped from under me and I heard everybody hissing with shock.

g. A summary of the story can give almost no indication of the scope of Wicki's artistry. He tells his story best in the faces of his crowds, recording every wrinkle and drop of sweat with brutal honesty, building up to a tremendous climax in the island orgy. Here, the guests arrive in ghost-like yachts, the wildly flapping white sails slashed by the glaring beacon of a lighthouse.

Ing-suffixed adjectives of *flap* indicate a fluttering or swinging state. Among the thirteen *ing*-suffixed adjectives of *flap* in (146), the eleven tokens in (146a-e) occur in a single text, specifically in a specification document for helicopters. All of these eleven tokens modify either *angle* or *hinge*. Thus, the result that the most frequent class of *flap* is *ing*-suffixed adjectives may be a due to the peculiarity of the present corpus.

The second most frequent class of *flap* is noun. Ten tokens occur as nouns, as in (147).

- (147) a. For the unswept wing of finite span, with a full-span jet-flap, considered in Part, Maskell has introduced the concept of an effective wing and jet flap of infinite span, in order to obtain the strength of the bound vorticity, elliptic spanwise loading being assumed.
- b. Betty had only just arrived, but she'd called at the Signals Section on the way and picked up what messages there were. One of them was sealed in an envelope and labelled "TOP SECRET" - obviously from G.H.Q. - and I slit the flap and pulled out the folded slip of paper with all kinds of misgivings.
- c. The bungalow was as neat a piece of transplanted suburbia as a man could imagine. [...] The glass of the windows and the leaded door panel shone as though the leather had just left it. The green and cream paintwork took a bath regularly. I poked a gloved finger into the copper letter box and raised the flap. The corridor hall was laid with polished orange and brown linoleum, covered down the middle with a runner of plain beige carpet, like a continuation of the path. The hall-stand held one umbrella, impeccably furled, one horn-handled walking-stick, a heavy raincoat on a hanger, a series of crisp trilbies and a check cap. Beyond that the shadows took over. I lowered the flap gently and side-stepped to the bay window on the left.
- d. "This is my party card," he said, holding it high, that all might see it. "I am more proud of this card than of this badge." When he said this, Durieux

tapped the silver-nickel badge that was pinned to the flap of his right breast pocket.

e. A night or two later we were strolling, Lord Undertone and I, on sentry-go, round the tents and we caught sight of Mr Septimus looking out through the flap of the one he occupied with his lordship's own self.

f. "No." Major Pillar Juarez slowly undid the flap of his holster. He withdrew his revolver. He pointed it straight at the President.

g. He swung round on the ball of his foot as the other winced and moved out of range. He smiled. "It's all right, Louie, I'm not going to hurt you... yet. I don't think I have to tell you to keep your mouth shut, do I? One cheep out of you and Maria will be putting down an instalment on a nice marble headstone. You understand, Louie." Louie's head rocked back and forward like a hinged flap.

h. At the Regatta Enclosure at Marlow the 65 musicians will play from the barge, which has large flaps 100 feet long by 60 feet to provide a stage depth of 32 feet. The craft, built at Dartford for the orchestra's Thames tour was specially designed to negotiate the river's lock and bridges.

i. This may be bought at any good timber merchants. The transoms can be made of any sound five-ply wood of the same make, or oak or mahogany. For the last one I made, I used the two flaps from an old mahogany table which I bought at a sale for one shilling. I have also included a sketch of paddles I make for rowing this dinghy.

These nominal tokens indicate various types of tabs.

Two verbal tokens of *flap* were found, as in (148).

- (148) a. Chater jerked a thumb to indicate all New Scotland Yard. “The pundits must be delighted.” “They are indeed.” Leeds flapped his hands at the lean black Highland fury of his friend.
- b. He kept trying for the heart when he should have gone for an exposed wrist or arm. His tie was flapping loose now; his hat was gone and his shoes were dusty.

These tokens of verbal *flap* indicate “to swing or shake (something) loosely.”

Two tokens occur as borderline *ing*-suffixed forms, as in (149).

- (149) a. When he saw Sir Cedric making his leisurely way into the hotel bar, his light-coloured overcoat flapping round his legs, Tarrant jumped up and went to meet him.
- b. Bedlam outside as well as in, with curtains flapping and doors banging. The waders along the tideline hardly knew whether they were on their heads or on their heels, what with the driven spume, the blinding spray and both wind and water playing tricks and taking them at unexpected speeds and angles.

Two *ing*-suffixed tokens of *flap* in (149) occur in participle clauses. They indicate a swinging state.

In sum, this subsection has presented the following three findings:

- 1) 27 tokens of *flap* were found in the LOB Corpus.
- 2) The most frequent class is *ing*-suffixed adjective (thirteen tokens). *Ing*-suffixed adjectives of *flap* indicate a fluttering or swinging state. Eleven tokens occur in a single text (a specification document for helicopters). These eleven tokens modify either *angle* or *hinge*.
- 3) The other tokens occur as nouns (ten tokens indicating various kind of tabs), verbs (two tokens denoting “to swing or to shake loosely”), and borderline *ing*-suffixed forms (two tokens which occur in participle clauses and represent the swinging state).

Gerundive and *ed*-suffixed adjectival tokens of *flap* were not found, although they are listed in the OED.

5. 2. 3 Mutter

The next word is *mutter*. The OED states that *mutter* functions as verb, noun, gerundive, and *ing/ed*-suffixed adjective. The OED defines the meaning of *mutter* as in (150):

(150) Verb: To speak in low tones, with the mouth nearly closed, so that one's words are barely audible.

To utter with imperfect articulation and in a low tone.

Noun: The act of muttering; a low indistinct utterance.

Gerundive: The action of the verb *mutter*.

Ing-suffixed adjective: That mutters.

Ed-suffixed adjective: Uttered indistinctly and in low tones.

English speakers gave this word seven points.

Twenty-three tokens of *mutter* were found in the LOB Corpus. The most frequent grammatical class of *mutter* is verb. Twenty tokens of *mutter* occur as verbs, as in (151).

- (151) a. His eye rested on a wad of stiff white paper printed on one side. “Old fashioned fivers!” he muttered again, and tried to recall if they were still legal tender.
- b. “Cor!” he muttered aloud, “there’s five thousand at least.”
- c. “You’ll be sorry for this ...” he muttered and turned on his heel.
- d. “Hell!” muttered Hanson under his breath. He inwardly cursed Landis.
- e. Cordora switched his smile off and managed to look sympathetic. “I know you must feel,” he said. “But it’s not so easy as you’d think. I did my best for you but President Kassan has never forgotten that day over two years

ago, when you let him have the butt of your rifle right across his face. “I couldn’t help it,” muttered the others. “I was ordered to disperse the crowd and I was only doing my duty, How was I to know that one day he’d be President.”

f. “Once they know where she is, all the fortune-hunters in London will be after her like flies after bad meat,” muttered her ladyship, scowling darkly through the curtains at Mr. Latimer’s broad back, [...].

g. “This tribe of the True World is good and knows these things. So it lets us rule it.” Flor and Lily-yo muttered together. “Do you say that you poor Captives rule the True World?” Lily-yo asked at last. “We do.”

h. “You’re just getting anxious about your twenty thousand quid,” Gregory muttered, but some of the assurance had gone from his voice. “Oh all right, just to please you I’ll start being the niminy-piminy lover she seems to expect, but honestly, Charlotte, she’s such an innocent and she always looks so - so untouched that any man would lose patience and want to bring her down to earth.”

i. “You’re right there, Bob,” he muttered.

j. “What the devil does he want?” he muttered.

k. “Arthur.” She spoke his name very quietly. He spun round. “Vera!” His eyes darted uneasily up and down the street. “Cross over, quick!” he muttered.

- l. “Eustace!” She caught hold of his arm. “You're mad! Turn back!” “No,” he muttered.
- m. “Blimey, I hope I've done right!” he muttered, thoroughly scared now that the thing had been accomplished.”
- n. Whereupon Lautrec muttered something about middle-class stupidity, which was always prepared to “admire an absurd gesture or a sunset.”
- o. Anyone with a skin thinner than a rhinoceros hide would have muttered an apology and hastily retreated, Rachel thought furiously.
- p. Beside her, Fergus muttered black oaths and heaped imprecations on the two conspirators, his hand rest gently on her bowed head.
- q. He muttered something about not wanting strangers about our home as they knew too much others [sic] domestic affairs already.
- r. I muttered an entreaty that the next three nights at least would be quiet; then, swinging the jeep on to the tarmac, I followed Sarwate up the hill.
- s. For the most part, Mr. Godber muttered his way through a cliché-ridden Foreign Office brief.
- t. Lying back in his chair McNaught muttered to himself.

All of the twenty verbal tokens of *mutter* indicate “to say (something) with difficulty.” Among these verbal tokens, thirteen tokens (in (151a-m)) occur with quotations of speech. Six tokens (in (151n-s)) are followed by objectives as contents of speech. Only *mutter* in (151t) is a totally intransitive verb.

One token each for nominal, gerundive, and borderline *ing*-suffixed formed usages was found, as in (152)-(154) respectively.

(152) He mouthed a low mutter, punctuated at intervals with a few syllables of a crazy and incoherent jargon.

(153) Dan's low muttering was just audible from the kitchen. And Steve could see that as Heather recovered her senses and emotions she was growing cold and numb with shock.

(154) The First Flower snatched up her infant and departed, muttering sarcasms. The whole household listened to the dwindling screams of the baby with relief.

The nominal and gerundive tokens in (152) and (153) indicate talking with difficulty. The borderline *ing*-suffixed token of *mutter* in (154) occurs in a participle clause. This token is semantically associated with verbal *mutter*.

In sum, this subsection has shown the following three findings:

- 1) Twenty-three tokens of *mutter* were found in the LOB Corpus.
- 2) The most frequent grammatical class of *mutter* is verb (twenty tokens). All of the verbal tokens of *mutter* denote “to say (something) with difficulty.” Furthermore, thirteen out of twenty verbal tokens occur with quotations of

speech, six tokens are followed by objectives as contents of speech. Only one token of verbal *mutter* is totally intransitive.

- 3) One token each for nominal, gerundive, and borderline *ing*-suffixed formed usage was found. Nominal and gerundive tokens indicate talking with difficulty. The token of borderline *ing*-suffixed token occurs in a participle clause. It is semantically associated with verbal *mutter*.

No tokens of the other classes listed in the OED (i.e. *ing*- and *ed*-suffixed adjectives) were found in this corpus.

5. 2. 4 Crash

The next word is *crash*. The OED states that this word serves as verb, noun, adjective, adverb, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *crash* as in (112) (which is restated):

(112) Verb: To break in pieces with violence and noise; to dash in pieces, shiver, shatter, smash.

To break or fall to pieces with noise, as when dashed down or violently struck; to smash, break up.

To move or go with crashing.

Noun: The loud and sudden sound as of a hard body or number of bodies broken by violent percussion, as by being dashed to the ground or

against each other; also transferred to the sound of thunder, loud music, etc.[.]

The breaking to pieces of any heavy hard body or bodies by violent percussion; the shock of such bodies striking and smashing each other.

Adjective: Undertaken with rapidity or intensive effort; organized for an emergency.

Adverb: The [verb] stem is used adverbially, usually with the vb. *go*: cf. *bang*, etc. [the OED does not explain the meaning of adverbial crash].

Gerundive: The action of the verb *crash*[.]

Ing-suffixed adjective:

That crashes; that makes a crash; that breaks, falls, etc., with a crash[.]

This vocabulary item obtained nine points from English speakers.

Twenty-one tokens of *crash* were found in the LOB Corpus. The most frequent grammatical class is verb. Eight tokens of *crash* occur as verbs, as in (155).

(155) a. She paused for a split second, and then seizing a large Chinese vase that stood at the turn of the stairs, she pulled it over and sent it rolling down. It caught him across the thighs, and man and vase crashed in a heap at the foot of the stairs.

- b. I am on the cliff-tops of my Uncle's domain; it is getting towards evening, the wind has risen but there are no clouds, huge waves are crashing on the rocks below.
- c. For all we know the men in charge of these operations may be just as deluded and hysterical as their former chief, Conor O'Brien. For all we know these British bombs may soon be crashing down on hospitals and British missionaries.
- d. The lurching of the car had dazed his brain. Perhaps this year, dancing with her, he would get that strange feeling he got that time when he crashed down on the tiny drip Hunter in the rigger match and somehow just hadn't wanted to get up again, or let go of him, though the whistle was blowing furiously. Peter jerked suddenly upright in the car with his face on fire and his hands shaking.
- e. They met again when Brian was in the local cycle speedway team, and Pam, at 15, was going out with his team captain. "Within a week I had accidentally crashed into the captain on the track, broken his arm, [...]."
- f. I dreamed that I saw my friend driving an old car. She and the three boy passengers were all wearing crash helmets. The car swerved on to the footpath and crashed through the window of a shop. No one was hurt. My girl friend was taken to a hotel in town and I went to see her as I thought she may have been injured. I looked into every room in the hotel but couldn't find her. Miss W., Kilmarnock. Explanation - "You envy your girl

friend who embarks on adventures with the necessary precautions” - the crash helmets. This explains her ability to get out of events in which other girls might get hurt.

- g. Then the tree, suddenly calm again, towered over. It hung a moment against the sky, and then crashed to the ground, lashing into the turf of the slope.
- h. “How old are you?” the fat girl asked. “Thirteen,” said Peter. “You must be one of Rosemary's friends not Jane's then.” The girl was looking at his suit now. “I have a little sister who crashes my parties and asks kids of her own age,” she added.

Seven tokens of *crash* (as in (155a-g)) are intransitive. Five of them (as in (155a-e)) indicate hitting. For instance, *crash* in (155a) follows two subjects, *the man and the vase*. The sentence indicates hitting these two subjects. Three tokens of verbal *crash* in (155b-d) occur with a prepositional phrase, (*down*) *on*. *Crash* in (155e) is used with *into*. This token might refer to a change of location, because the preposition *into* can be treated as a directional phrase. In (155f) and (155g), intransitive verbal *crash* obviously refers to a change of location, specifically “to move with a crashing sound,” with the assist of the directional phrases *through* or *to*. Only the use in (155h) is transitive. It indicates a certain type of change of location, “to descend” or “to come uninvited to (the party).”

The second most frequent class is noun. Five tokens occur as nouns, as in (156).

- (156) a. Fred's innocently outraged voice began, "No, he doesn't! What's the big idea..." Then came a sudden crash as the front door was thrust violently open, and several deeper voices sounded.
- b. The quarter-inch thick plate glass window of a confectioner's shop in Whitehaven Market Place was shattered by a blow from 24-years-old Edward Orr, 3, Cart Road, Ginns, late on Monday night - the first day of his annual holiday from work! The crash was heard by young Fallowfield, walking home in civilian clothes, said Supt. Edward F. Nixon in Whitehaven magistrates' Court on Thursday when Orr pleaded "guilty" to the damage, and to being drunk and disorderly.
- c. Lance-Bombardier George Brockerton took risks as great as any he'd taken as a Wall of Death trick cyclist: finding eighty-one men trapped in a bombed cellar he worked for two hours to free them with hammer and chisel, using French hand-grenades in lieu of gelignite. Oblivious to the crash of bombs, he helped out every man, then, to keep their peckers up, did some conjuring tricks.
- d. So Belgium, bowed down by internal troubles, mourning a terrible air crash, is made their scapegoat. Who will speak up for Belgium? Who else but Britain.
- e. I talked to Adriana in her penthouse suite. She told me her sister had died in a car crash. Her eyes and lips had been inviting.

These nominal tokens represent a sudden hitting sound (as in (156a-c)) or hitting accompanied by such a sound (as in (156d) and (156e)).

Four tokens of *crash* serve as adjectives, as in (157) ((157b) and (157c) are parts of a single text).

- (157) a. Mr. Krushchov remained at the airport to join President Brezhnev in welcoming Dr. Sukarno, President and Prime Minister of Indonesia, who arrived by Boeing 707 jet on a state visit 40 minutes after Mr. Khrushchov had arrived from Vienna. A cheering, delighted crowd of Indonesian students broke through crash barriers to surround their President on the tarmac for several minutes, chanting his name and waving flowers.
- b. The riders were standing beside their motorcycles waiting for him. They were dressed from head to foot in black; black leggings, boots, zipper jacket, goggles. Their manner was as insolent as the startling white skull and crossbones on each black crash helmet.
- c. I dreamed that I saw my friend driving an old car. She and the three boy passengers were all wearing crash helmets. The car swerved on to the footpath and crashed through the window of a shop. No one was hurt. My girl friend was taken to a hotel in town and I went to see her as I thought she may have been injured. I looked into every room in the hotel but

couldn't find her. Miss W., Kilmarnock. Explanation - "You envy your girl friend who embarks on adventures with the necessary precautions" - the crash helmets. This explains her ability to get out of events in which other girls might get hurt. (= (155f))

These adjective tokens of *crash* indicate "in preparation for crash."

Two tokens of *crash* occur as borderline *ing*-suffixed forms, as in (158).

- (158) a. Africans in Southern Rhodesia do not want to lose what they have gained in the past, little though it may be. The European community certainly does not want to see everything they have created come crashing down about them. Neither side can go forward alone.
- b. Both his [= Loddon's] feet in mid-air hit Morris on the chest. The action brought Loddon over, but it was on top of the partially winded Morris. They began rolling over and over, hands at throats and eyes, crashing into the silent Shiner Light on the way.

Crashing in (158a) serves as a subject-oriented depictive and *crashing* in (158b) occurs in a participle clause. Both of these tokens refer to hitting.

One token of interjectional *crash* was found, as in (159).

(159) She'd been tiny then. Her parents had taken her to a fair and there had been a wheel, a great sparr'd skeleton of bright red against the evening sky. It [= A wheel] had gone round and round and then people had been screaming and the wheel had come slowly apart and had... Crash! She was back in the nightmare. She came out tearingly, to hear Abby saying brightly, "But you'll be all right now."

In (159), *crash* represents a crashing sound.

One token of *crash* occurs as a gerundive, as in (160).

(160) At Southampton Fundin was beaten in two straight runs and suffered the indignity of crashing and wrecking his machine in his effort to conquer Knutsson. Temper and the needle element flared.

The gerundive token in (160) refers to a kind of crashing event.

In sum, this subsection has presented the following three findings:

- 1) Twenty-one tokens of *crash* were found in the LOB Corpus.
- 2) The most frequent grammatical class is verb (eight tokens). Seven of them serve as intransitive. Five of these intransitive tokens indicate an event of hitting, used with a prepositional phrase such as (*down*) *on* (three tokens) and *into* (one token), or without such a phrase (one token). Two intransitive tokens denote a

change of location, specifically “to move with crashing sound,” with the assist of directional phrase *through* or *to*. Only one verbal token serves as transitive, which indicates a certain type of change of location “to descend” or “to come uninvited to (the party).”

- 3) The other tokens of *crash* are divided into five classes: noun (five tokens: three of them indicate a crashing sound, and two hitting accompanied by such a sound); adjective (four tokens indicating “in preparation for crash”); borderline *ing*-suffixed form (two tokens serving as a subject-oriented depictive or a part of a participle clause and indicating hitting); interjection (one token indicating a crashing sound); gerundive (one token referring to hitting).

The interjectional token of *crash* was not listed in the OED. However, adverbial and *ing*-suffixed adjectival tokens of *crash* listed in the OED were not found in this corpus.

5. 2. 5 Dash

The next word is *dash*. The OED states that *dash* serves as verb, noun, adjective, gerundive, *ing*-suffixed adjective, and *ed*-suffixed adjective. The OED defines the meaning of *dash* as in (116) (which is restated):

- (116) Verb: To strike with violence so as to break into fragments; to break in pieces by a violent stroke or collision; to smash.

To move, fall, or throw itself with violence or smashing effect; to strike

in violent collision *against* (*upon*, etc.) something else.

To mark with a dash, to underline.

Noun: A violent blow, stroke, impact, or collision, such as smashes or might
smash.

A stroke or line (usually short and straight) made with a pen or the
like, or resembling one so made:

Adjective: With a dash: see the various senses of the n[oun]. and v[er]b.

Gerundive: The action of the verb *dash* [...], in various senses.

Ing-suffixed adjective:

That dashes; that beats violently against something; splashing.

Ed-suffixed adjective:

Struck violently against or by something; splashed; mingled, tempered,
etc.[.]

Marked with a dash, underlined.

English speakers gave this word nine points.

Twenty tokens of *dash* were found in the LOB Corpus. The most frequent class of *dash* is verb. Twelve tokens of *dash* occur as verbs, as in (161).

(161) a. Hal, afraid that his new treasure would be taken away from him, picked up
the cage and dashed from the house to the garden shed, where he spent the
afternoon softly talking to the bird and watching it.

- b. With one mighty spurt, Mr. Selwyn Lloyd has dashed from his rut and is now in the race for real power within the Conservative Party.
- c. With a desperate effort she wrenched her arm away and dashed into the hall.
- d. "Get outside, all of you, unless you want to be smothered, and wait for me. I'll be joining you in a minute or two with the little white cat in me arms!" Con pushed himself free and dashed forward. The speed dash into Sussex was near to its end.
- e. He grinned as he turned to look at her, leaning against her knees. "I did. Every morning before anyone else was astir I'd run out and have ten glorious, splashing minutes, before I dashed back again, pretending I'd never left the house."
- f. He made a sudden gesture towards the wash-basin and understanding quicker than me, she dashed across, lifted the bidet from its stand and held it against his chest just in time.
- g. We have lingered long enough by the bridge. Away we go, now upstream where "the bright little river dashes along through a glen which opens the very heart of the mountain" to see the Jeita Grottos, subject of the five vertical pictorials of the March 1955 definitives.
- h. Was it true that Pauline had dashed in in response to a shout from him when everything cascaded down off the top of the bookcase?

- i. After another hour of this I heard footsteps approaching and dashed for my deterrents.
- j. I have met both Americans and Russians who were genuinely saddened by the resumption of nuclear tests, which was in the offing while I was in America and happened while I was in Russia. It meant that hopes had been dashed, and it showed how bad things were getting.
- k. The Puritans had high hopes, for James had grown up in Presbyterian Scotland, but those hopes were dashed. True, a new Prayer Book was issued in 1604 but the Puritans derived little comfort from it.
- l. Around that rounded rocky promontory where the white spray could be seen flying across the distance of a mile and a half, came the yawl under her full triangular sail, and to the judge's frightened eyes, so close to the rocks that it would be dashed against them with the lift of the next wave.

In (161a-i), nine verbal tokens of *dash* refer to a change of location. They occur with the directional phrases *from* (two tokens in (161a) and (161b)), *into*, *forward*, *back*, *across*, *along through*, *in* and *for* (one token respectively in (161c-i)). In (161j) and (161k), two tokens of *dash* are passive. They indicate vanishing (although they could be treated as verbs denoting a change of location, specifically leaving). *Dash* in (161l) denotes “to hit” with the preposition *against*.

The second most frequent class is *ing*-suffixed adjective. Three tokens of this usage were found, as in (162).

- (162) a. And surely there was no resisting the charm of the dashing “Young Lochinvar.”
- b. I did not reply. There was a decent interval of silence. Then, rather in a rush, activity took place. I hardly like to describe it. The bed creaked protestingly. I had visions, not of love, but of waiters dashing into the room with scandalised expressions.
- c. Normally she looked forward to her days off, an expedition into town, a visit either to her hairdresser or the cinema and Nigel dashing out to join her for either luncheon or tea [...].

The *ing*-suffixed adjectival *dash* in (162a) indicates “energetic” or “vigorous.” *Dashing* in (162b) postmodifies the noun *waiters*, and in (162c) the noun *Nigel*. These two tokens indicate a change of location with the assist of a directional phrase.

Nominal and gerundive usages are the third most frequent classes. Two tokens are included in each class, as in (163) and (164) respectively.

- (163) a. “Get outside, all of you, unless you want to be smothered, and wait for me. I’ll be joining you in a minute or two with the little white cat in me arms!”
 Con pushed himself free and dashed forward. The speed dash into Sussex was near to its end. (= (161d))

b. The brilliant lights and sooty shades which struggled upon the skin and clothes of the persons standing round caused their lineaments and general contours to be drawn with Dureresque vigour and dash.

(164) a. But Helen simply could not understand, and as Anne persisted, she grew annoyed and gave expression to her annoyance by dashing her mug to the floor, smashing it to pieces. She felt the broken fragments with her feet, and experienced a measure of relief in doing so.

b. And that, they complain, creates a false impression that the British workman is interested only in dashing off as soon as the whistle blows.

Dash denotes sudden motion in (163a) and “vigour” or “life” in (163b). *Dashing* indicates hitting in (164a) and sudden motion in (164b).

One token of *dash* occurs as a borderline *ing*-suffixed form, as in (165).

(165) Taking a deep breath and summoning my politest manner, I opened the car door, explaining that I was unavoidably detained. Would she mind returning in about a quarter of an hour? Dashing back into the Club, I searched out Rod Wanamaker, who fortunately was there at the time.

Dashing in (165) occurs in a participle clause, indicating a change of location.

In sum, this subsection has shown the following three findings:

- 1) Twenty tokens of *dash* were found in the LOB Corpus.
- 2) The most frequent class of *dash* is verb (twelve tokens). Nine verbal tokens denote a change of location. They occur with a (directional) phrase (*from*: two tokens; *into, forward, back, across, along through, in,* and *for*: one token each). Two verbal tokens are passive. They indicate vanishing (although they could be treated as verbs which indicate a change of location, specifically leaving)). One token indicates “to hit,” followed by the preposition *against*.
- 3) The other tokens occur as four classes: *ing*-suffixed adjective (three tokens: one token indicating “energetic,” and two tokens postmodifying the nominal phrases and denoting a change of location), noun (two tokens indicating sudden motion, or “vigor”), gerundive (two tokens indicating hitting or sudden motion) and borderline *ing*-suffixed form (one token occurring in a participle clause and indicating a change of location).

No adjectival or *ed*-suffixed adjectival tokens of *dash* were found in this corpus, although these usages are listed in the OED.

5. 2. 6 Clash

Next is *clash*. The OED states that *clash* functions as verb, noun, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *clash* as in (109) (which is restated):

(109) Verb: To make the sound of collision [...].

To strike (things) together with this noise.

To come into violent and noisy collision.

Noun: The loud sound of collision made by a heavy stroke or blow, the first impact of which is firm and hard, but is followed by a confused sound of many looser and lighter impacts; the kind of blow or stroke which yields this sound.

Shock of conflict, collision, hostile encounter, conflict.

Gerundive: The action of the [verbal] *clash*.

Ing-suffixed adjective: That clashes, that clash.

This vocabulary item obtained nine points from English speakers.

Nineteen tokens of *clash* were found in the LOB Corpus. The most frequent grammatical class of *clash* is noun. Twelve tokens of *clash* occur as nouns, as in (166).

(166) a. If, however, the Soviet Government seems determined to swallow up West Berlin then there is little for the West to do except stand firm. This is where many people see with horror the prospect of a nuclear war: if everyone stands firm, they ask, will not the next step be a clash leading inexorably to mutual annihilation?

- b. Indeed, there were rumours at that time, in that area on the Pennine Way, that there might be a clash between the troops and the embattled contingents of ramblers from Durham and Yorkshire.
- c. At the former venue two near-veterans in Dieter Wemhoener and Helmut Bull battle it out for the vacant German cruiser crown. At the latter Karl “The Great” Mildenberger tackles American Wayne Bethea. Then on November comes the Erich Schoeppner vs. Hans Kalbfell clash for the former's German heavyweight title, and in Frankfurt on November Mildenberger is likely to top the bill.
- d. Top novices' clash is at Birmingham, where Retour de Flamme, Tokoroa, and Bandalore meet in the Packington Chase.
- e. The cause of the present clash with the Russians is the decision of the West Germans to hold Parliamentary committee meetings in Berlin and a session next week of the Federal Parliament's upper house there.
- f. [...] a series of riots at once broke out over the Province, and Federal soldiers were flown into Nyasaland from the Rhodesias to put down the civil disorder. In the clash that followed fifty Africans were killed.
- g. A medical journal said, “the deafening peal of thunder, the sudden immersion in gloom, and the clash of reverberated sounds in a confined space combine to produce a momentary shudder, or idea of destruction, a thrill of annihilation.”

- h. The clash of policy in Mr. Wilson's novel is over the Zoo of the future. The Director hates Regent's Park: he believes that animals must be given "limited liberty" and allowed to roam in Whipsnadian reserves.
- i. The last hundred years have brought great changes in the life of its tribes and of its tribesmen. As I have mentioned, a fertile source of human stress is the clash between the demands of the individual and those of his society.
- j. There is a coloured girl who pretends to sophistication but is horrified at her seduction; her trumpet-playing brother who finally stops his aimless existence after a slum beat-up; the clash and inner concern of the colour problem.
- k. A word-form may change without there being any change in the structure of the field, in Sprachinhalte; for instance, in the Romance languages, the continuants of Lat. coxa replaced those of Lat. femur, weakened by a homonymic clash, without there being any change in the structure of the semantic field.
- m. [...] and he patiently acted as a moderating influence in the inevitable clashes of opinion on the Board; but in spite of his efforts the uneasy partnership broke up in 1913, when the erection of the school buildings was in progress.

All twelve nominal tokens of *clash* indicate a collision or conflict.

The second most frequent class is verb. Six tokens of *clash* occur as verbs, as in (167).

- (167) a. John Dickie writes: Mr. Macmillan gave top priority to the clash over Northern Rhodesia on his return from Scotland yesterday. He summoned Mr. Iain Macleod, Colonial Secretary, and Mr. Duncan Sandys, Commonwealth Relations Secretary for an hour's talks at Admiralty House.
- b. Young, Genz, Maidment and Broadbanks will have to run to decide who will be odd man out at Malmo on September 15, where they clash with seven Continentals for the honour of wearing the World crown.
- c. It illustrates that global rivalry between Peking and Moscow, of which the current dispute over Albania is only the symbol. In at least one of the new African states, Somalia, the two Communist powers have begun to clash head-on. The Russians, who have built up a huge Embassy with a staff of nearly 300 in Mogadishu, the capital, support the established Government.
- d. She tells me her husband had thought of going to America to compete in the U.S. Masters tournament. "But it clashed with the British season and he must be back to play his way into the Ryder Cup team."
- e. Her deep red dress, I'm told by the women with an eye for these things, clashed with the Queen's black and plum sequined dress.

f. The finishing order in the 1958 Champion Hurdle, won by Bandalore from Tokoroa and Retour de Flamme, may be reversed in a unique replay this afternoon, when the trio clash at Birmingham over fences.

All the verbal tokens of *clash* indicate “to hit” or “to conflict.”

Only one token occurs as a gerundive, as in (168).

(168) Ample illustrations of this are to be seen in the twentieth century. For example: The singing and music in churches, the clashing of the tambourines of the Salvation Army as they put the devil on the run, the incantations and frenzy attending them of the revival meetings. It would be impossible to express logical doubt as to whether early man distinguished between narcotics and intoxicants.

The gerundival *clash* in (168) also represents a collision or conflict.

In sum, this subsection has presented the following three findings:

- 1) Nineteen tokens of *clash* were found in the LOB Corpus.
- 2) The most frequent grammatical class of *clash* is noun. Twelve tokens occur as nouns. They indicate a collision or conflict.
- 3) Six tokens of verbal *clash* were found, denoting “to hit” or “to conflict.” One token of *clash* occurs as a gerundive. It also indicates a collision or conflict.

Ing-suffixed adjectival tokens were not found, although this usage is listed in the OED.

5. 2. 7 Fumble

The next word is *fumble*. The OED states that *fumble* serves as verb, noun, gerundive, *ing*- and *ed*-suffixed adjective. The OED defines the meaning of *fumble* as in

(169):

(169) Verb: To use one's hands or fingers awkwardly or ineffectually; to grope about.

Noun: [A] piece of fumbling, a bungling attempt at something; *spec.* in ball games, a clumsy handling of the ball[.]

Gerundive: The action of the vb. fumble.

Ing-suffixed adjective:

That fumbles or gropes about; also, characterized by fumbling.

That does something clumsily or awkwardly[.]

Ed-suffixed adjective:

[Although the OED defines these this class, this dictionary does not explain the meaning of it].

English speakers gave this vocabulary item six points.

Sixteen tokens of *fumble* were found in the LOB Corpus. The most frequent class of *fumble* is verb. Eight tokens occur as verbs, as in (170).

- (170) a. There is no especial rule about shaking hands with or without gloves. The only rules are, don't fumble with a glove, and don't apologise for having one.
- b. Incidentally, if the drill cable is plugged into a switched socket, in case of emergency the simplest thing is to flick off the switch; if something has gone wrong with the drill you won't want to fumble around trying to release the locking button! Finally, never, never pull a drill around by its power lead.
- c. The odd telephone operator who snaps at us; the occasional clerk behind the counter in the Post Office who glares when we fumble or are not quite sure what we want: The Chairman is after them.
- d. It's man's nature to teach and to teach those we love is double pleasure. And she might add: And don't forget to leave the lights on. You lose half the fun when you fumble in the dark.
- e. His behaviour was not only boorish and in the worst of taste but it was unkind beyond words. She fumbled with the cigarette packet which lay on the table not wanting to smoke but needing some action to help her control her feelings.

- f. He reached the barrier and fumbled for his contract before thrusting the briefcase at the ticket-collector with the firm intention of playing the dutiful citizen retrieving lost property.
- g. I fumbled hopelessly with my tie in a blurred imitation of her neat and methodical unclothing. She slipped out of her blouse, unzipped and dropped her skirt, and stepped out of it as though alighting from a bus.
- h. “Esmond! Esmond!” The echo mocked my cry. I fumbled frantically in the darkness, bending double, brushing the wet, filthy floor with my hands... .

All verbal tokens of *fumble* indicate “to move hands for something.”

The second most frequent class is borderline *ing*-suffixed form. Five tokens occur as this class, as in (171).

- (171) a. Cecil thrust an eager hand inside, his fingers groping after wads of five pound notes. They closed on a single bundle and, fumbling with nervous excitement, he pulled it out.
- b. Loddon did not say anything, fumbling in the left-hand pocket of his trench-coat. He half grinned when he saw Light's hand begin to move towards his left armpit.
- c. As the chauffeur walked quickly past him, James looked back, and he saw her standing by her door, fumbling with the key

- d. She swallowed hard, her fingers fumbling nervously with her wedding ring.
- e. Durieux unbuttoned the right breast pocket of his parachute smock, his fingers fumbling with the stiffness of the new canvas.

In (171a-c), three tokens of *fumble* modify the main clauses. The tokens of *fumble* in (171d) and (171e) also postmodify main clauses, following the nominal phrases. All of these five tokens are semantically associated with verbal *fumble*, indicating an action with hand(s).

Two tokens serve as *ing*-suffixed adjectives, as in (172).

- (172) a. The years have passed at times like beads told by ancient fumbling fingers;
in other moods I have seen those years race, tearing out of my uncertain grasp, leaving me with a sense of time laughing at me.
- b. His desires, his fumbling way of fulfilling them, put him at the same sort of disadvantage as his voice, his school, his family - perhaps the one stemmed in some way from the other.

In (172), two tokens of *fumble* indicate “awkward” or “clumsy.”

One gerundive token of *fumble* were found, as in (173).

(173) “Where is he now?” I asked. “Where you’d expect him to be! Explaining his conduct to the police.” There was a fumbling at the door, and Ivy came in, breathless, awkward.

This gerundive *fumble* denotes an action with the hands.

In sum, this subsection has shown the following three findings:

- 1) Sixteen tokens of *fumble* were found in the LOB Corpus.
- 2) The most frequent class of *fumble* is verbs. Eight tokens of *fumble* occur as verbs.
All of the verbal tokens of *fumble* indicate “to move hands for something.”
- 3) The other tokens can be divided into three classes: borderline *ing*-suffixed form (five tokens postmodifying main clauses and denoting an action with hand(s)), *ing*-suffixed adjective (two tokens indicating “awkward” or “clumsy”), and gerundive (one token denoting an action with hands).

Nominal and *ed*-suffixed adjectival tokens of *fumble* were not found in this corpus, although the OED lists these usages.

5. 2. 8 Quiver

The next word is *quiver*. The OED states that *quiver* functions as verb, noun, adjective, gerundive, and *ing*- and *ed*-suffixed adjective. The OED defines the meaning of *quiver* as in (174):

(174) Verb: To shake, tremble, or vibrate, with a slight but rapid agitation.

Noun: An act of quivering; a tremble; *ellipt.* a trembling of the voice.

Adjective: Active, nimble; quick, rapid.

Gerundive: The action of the v[er]b.

Ing-suffixed adjective: That quivers; tremulous.

Of the nature of quivering.

Ed-suffixed adjective: Provided or equipped with a quiver.

Placed or kept in, or as in[...] a quiver.

This vocabulary word obtained eight points from English speakers.

Fifteen tokens of *quiver* were found in the LOB Corpus. The most frequent class of *quiver* is verb. Seven verbal tokens of *quiver* were found, as in (175).

(175) a. “As we returned to the house every object which I touched seemed to quiver

with life. That was because I saw everything with the strange new sight that had come to me.”

b. Then the lowest branches of the great fir tree quivered and swayed, and the

surging of the heavy masses of dark foliage spread upwards and shook the

whole tree as for a moment it became the violent centre of the whirlwind.

- c. “Ah, Mr. Alton, come in, how do you do?” smiled Mr. Ridley holding out a hand. The limp right arm quivered, but quick as a flash[,] the sturdy remaining left hand took its place for a brave handshake.
- d. “This way, sir.” Fred was quivering with eagerness. He led the way into the laboratory, which Hanson had already examined.
- e. Nervously she licked her lips. “Yes,” she said, and her voice was uncertain. But all the same she set herself more firmly on her feet and the barrel of the pistol quivered as an extra pressure was put on the trigger.
- f. Leaving the wheelhouse, Larsen glanced astern to where the wire trawl-warps twanged and quivered away into the heaving night.
- g. An idea so daring and yet so audaciously tempting that a shiver of excitement quivered through him.

In (175a-e), five tokens of *quiver* indicate “to shake quickly.” Two tokens of *quiver* in (175f) and (175g) occur with a directional phrase, *away into* or *through*. These two tokens denote a figurative meaning of a change of location, specifically “to move (away/through) with shaking.”

The second most frequent class is *ing*-suffixed adjective. Three tokens function as *ing*-suffixed adjectives, as in (176).

- (176) a. There are aesthetic grounds for shock, but no one is shocked by animal carcasses dripping blood in the butcher's shop or by the mighty blows of his cleaver through the quivering flesh of the joints exposed for sale.
- b. She was tempted to laugh, but it was as though that barb still stuck in her quivering flesh.
- c. Ben drove steadily and did not look back. Deming squatted far back in the quivering heat one moment, and the next moment it blurred into a soiled murk low against the roll of far horizon.

Ing-suffixed adjectival tokens of *quiver* represent a state of shaking.

The borderline *ing*-suffixed form is also the second most frequent class of *quiver*.

(177) shows examples of this usage.

- (177) a. She recognised it as the scent of the mimosa tree. She knew where that mimosa tree stood at the end of the garden near the fence at the turn of the path, and she felt her way to it. She found it, “all quivering in the warm sunshine, its blossom-laden branches almost touching the long grass ... I made my way through a shower of petals to the great trunk, [...]”
- b. “June, darling!” He raised himself, his face irradiated. “Do you really mean you'll marry me before I go?” She nodded, a smile quivering under her tears, and as he clasped her to him, kissing and thanking her, she had no

regret for her impulse of pity, only a great thankfulness that she could at least make his last months happy.

- c. “My turn ... get moving ...” he gasped, pointing back down the gallery. Tears of pain in his eyes, facial muscles quivering, Goldie rose slowly to his feet and obeyed.

These tokens of *quiver* in (177) occur in participle clauses, denoting an event of shaking.

Two tokens of *quiver* serve as nouns, as in (178).

- (178) a. Secret worry and suppressed emotion affect the heart, and in many cases this shows in the pulse beat I mentioned. Occasionally I notice my patient has a quiver round the mouth or lip. This indicates nervous strain.
- b. He was drinking in the beauty of the shade and the uplands' deep silence when movement to his right, a quiver of colour, of red and white, snagged at the corner of his vision.

These nominal tokens of *quiver* denote shaking.

In summary, this subsection has presented the following three findings:

- 1) Fifteen tokens of *quiver* were found in the LOB Corpus.
- 2) The most frequent class of *quiver* is verb (seven tokens). Five verbal tokens denote “to shake quickly.” Two tokens (figuratively) indicate a change of

location, specifically “to move with shaking,” used with the directional phrases *away into* or *through*.

- 3) The other tokens of *quiver* are located in three categories: *ing*-suffixed adjective (three tokens representing a state of shaking), the borderline *ing*-suffixed form (three tokens which occur in participle clauses and denote shaking) and noun (two tokens denoting shaking).

Nominal, adjectival, gerundive, and *ed*-suffixed adjectival tokens of *quiver* were not found in this corpus, although the OED lists these usages.

5. 2. 9 Chatter

The next word is *chatter*. The OED states that *chatter* serves as verb, noun, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *chatter* as in (130) (which is restated):

(130) Verb: Of birds: To utter a rapid succession or series of short vocal sounds[.]

Of human beings: To talk rapidly, incessantly, and with more sound than sense. [especially] said of children[.]

Of the teeth: To make a noise by rapidly repeated collision; to shiver, shake.

Noun: The chattering of certain birds; also of apes, etc.[.]

Incessant talk of a trivial kind; prate, tattle.

The vibration of a tool

Gerundive: The action expressed by the verb *chatter* (in its various senses).

Ing-suffixed adjective: That chatters (in various senses of the verb).

English speakers gave this word seven points.

Fourteen tokens of *chatter* were found in the LOB Corpus. The most frequent class of *chatter* is verb. Seven tokens of verbal *chatter* were found, as in (179).

- (179) a. She wanted him to stop the car, to make love to her. He turned down a small lane, and slowed to a stop. “You're very silent, Tandy,” he said lightly. “Am I?” “You are. And I'm glad. I hate women who chatter the whole time.”
- b. Like a schoolboy on his way to a party he chattered without stopping till we reached the large, barrack-shaped apartment-house on whose highest floor I had a one-room flat where I keep clothes and papers, [...].
- c. We chattered, we pointed out, and compared notes on beaches and sand-castles and spades and shells, and jelly fish, and Miss Gray joined in and told us stories of Macduff, and Macbeth, and the Black Douglas.
- d. Inside four teenage kids, two boys and two girls, were drinking cokes and chattering. The counterman, a hefty lad with the shoulders of a quarter-back, was polishing glasses with quick, deft movements.

- e. When she had swept her curtsy, and held out the lace-trimmed flounce of her frock for admiration, Pepita led Julia off to help her push the cart. Soon they were chattering away gaily.
- f. “It must be something you've eaten.” His teeth were chattering. “Don't stand here: you'll catch a cold. Get back into bed.” He walked back meekly to his room and got into bed. “If you've been up since four,” I said, “why the devil didn't you call me sooner?” “I tried to but you were sound asleep.” “But couldn't you have tried any of the others?” He shrugged. “I suppose I've known you longest.” His teeth were still chattering but his forehead, when I felt it, was hot and clammy.

Five verbal tokens of *chatter* in (179a-e) indicate “to talk incessantly,” and two tokens in (179f) “to emit a rattling sound.”

The second most frequent class is noun. Three tokens occur as nouns, as in (180).

- (180) a. Just a bit of chatter about some one else, but two completely different styles of talking! One of the gossips talks with sledgehammer blows. She is so sure about things. But the other feels her way more gently.
- b. Standing there, she told herself she had much to be glad for. She had warmth and shelter and food and comfort. And apparent friendship. At dinner the previous evening Babba had been friendly; had striven to make the stranger a part of the household. So had Abby, with her constant

stream of chatter, about the dairy herd of Fen House, about the Fens themselves, about their neighbours.

- c. He glanced at her with pride, glad to show her in a different light from the one produced by her own scatter-brained chatter. Lois threw up her pretty little soft hands in a gesture of protest.

These nominal tokens of *chatter* indicate aimless talking.

The *ing*-suffixed adjective is also the second most frequent class. (181) shows examples of this usage.

- (181) a. I knew quite a lot of chattering brooks myself. And I think that even we, young as we were, felt the strain of music linked with infinity in the haunting refrain:
- b. Lea thought warmly, so I wasn't invisible to one person anyway. She felt swift gratitude towards the plump, chattering woman.
- c. They stand in pouring rain amid the puddles, dressed in thin cambric blouses and astonishingly short shorts. Between their chattering teeth they emit little cries of Wunderschon and Fantastisch as they empty the water out of their camera shutters.

These denote “talky” in (181a) and (181b), and “clattery” in (181c).

One token of *chatter* occurs as a borderline *ing*-suffixed form, as in (182).

(182) “It's tight and tough,” he said, teeth chattering, and went back to it. Several times he dived. Jimmy began to worry because Willy was obviously wearying in the cold north water.

In (182), *chattering* occurs in a participle clause, referring to sound emission (of teeth).

In sum, this subsection has shown the following three findings:

- 1) Fourteen tokens of *chatter* were found in the LOB Corpus.
- 2) The most frequent class of *chatter* is verb. Seven tokens of verbal *chatter* were found in the LOB Corpus. Five tokens of them indicate “to talk incessantly,” two tokens “to emit a rattling sound.”
- 3) The other tokens can be divided into three classes: noun (three tokens denoting aimless talking), *ing*-suffixed adjective (three tokens representing “talky” or “clattery”), and borderline *ing*-suffixed form (one token which occurs in a participle clause and refers to a sound emission).

Gerundive tokens of *chatter* that the OED defines were not found in this corpus.

5. 2. 10 Lash

The next word is *lash*. The OED states that *lash* serves as verb, noun, gerundive, and *ing-/ed-*suffixed adjective. The OED defines the meaning of *lash* as in (183):

(183) Verb: To move swiftly and suddenly.

To beat, strike with a lash, whip,

Noun: The flexible part of a whip; now sometimes in narrower sense, the piece of whipcord or the like forming the extremity of this.

Short for eye-lash.

Gerundive: The action of lash [as a verb] in various senses; beating, flogging; an instance of this.

*Ing-*suffixed adjective: That lashes.

*Ed-*suffixed adjective: Beaten with or as with a whip.

This vocabulary item obtained seven points from English speakers.

Twelve tokens of *lash* were found in the LOB Corpus. The most frequent class is noun. Seven nominal tokens of *lash* were found, as in (184).

(184) a. He dodged the downward lash of an attempted pistol-whipping, and one fist smacked on Morris's ear with a comforting thud.

b. But Light's voice came like the lash of a whip: "All right, friend; stick 'em up. I'm perfectly ready to use this thing." Loddon paused, half turning.

- c. Abruptly he drew his arm from her shoulders. Abruptly he switched on the car ignition. “Another of them!” His tone was like a lash. But what had she done?
- d. When the Nazis made huge bonfires of Socialist literature, I thought of Emerson's lines, “Every lash inflicted is a tongue of fame; every prison a more illustrious abode; every burned book or house enlightens the world.”
- e. “Sit down,” said one of the thickset men quietly. He looked at his watch. “We've got another three minutes.” Through her lashes Joyce watched the man with the pointed shoes sit down tensely on the edge of his seat.
- f. “The only one?” she asked him. He looked at her through flickering lashes, half smiling. “The only one,” he repeated. “The others were just games.”
- g. The village had become of a sudden thronged. There were too many men: I strained my eyes, for the dazzle of the sun was painful and perspiration wetted my lashes, to see if they bore weapons.

Four tokens of *lash* in (184a-d) indicate hitting or attacking, and three tokens in (184e-g) refer to eyelashes.

The second most frequent class is verb. Four tokens occur as verbs, as in (185).

(185) a Their manner was as insolent as the startling white skull and crossbones on each black crash helmet. They were young and Charles wanted to lash out at them. “You maniacs!” he snapped, and they stared at him.

- b. Limping badly now - the old familiar ache in his leg started again as the tension died - Kennan heaved the man over, rummaged around the collection of boxes and crates, and found a length of cord. He used it to lash the man's hands and feet together, then passed a few final turns round Goldie's body and camp-bed frame, anchoring him securely.
- c. A wild impulse to jump seized me, but terror held me fast. I crouched down in the fork of the tree. The branches lashed about me.
- d. Sandra flung her arms out in a gesture of despair. "Do you leave me anything else to believe? Or is your silence the cowardly way out?" She hated the words, but they leapt from the torment of loving him; from the tension, the weariness that made even breathing an effort. "Is this what has been in your mind all the time?" He spoke with greater passion. "Was this why you wanted to leave the job just before Philip was taken ill?" His mouth hardened, his eyes became steely. "I see." Scorn lashed his words. "I wonder you dared trust him to my care."

All of these verbal tokens indicate "to hit."

One token of *lash* serves as a borderline *ing*-suffixed form, as in (186).

(186) A shout sounded through the strange roaring of the wind and the blond forester ran forward. Then the tree, suddenly calm again, towered over. It

hung a moment against the sky, and then crashed to the ground, lashing into the turf of the slope. It rocked and shuddered, and lay still.

In (186), *lashing* occurs in a participle clause, and refers to hitting.

In sum, this subsection has presented the following three findings:

- 1) Twelve tokens of *lash* were found in the LOB Corpus.
- 2) The most frequent class is noun. Seven tokens of *lash* are seen in the LOB Corpus. Four tokens indicate hitting or attacking, and three tokens refer to eyelash.
- 3) Four tokens occur as verbs (indicating “to hit”), and one token serves as a borderline *ing*-suffixed form (which occurs in a participle clause and indicates hitting).

No gerundive or *ing/ed*-suffixed adjectival tokens were found, although these usages are listed in the OED.

5. 2. 11 Bump

The next word is *bump*. The OED states that this word functions as a verb, noun, adverb, gerundive, and *ing*-suffixed adjective. The OED defines the meaning of *bump* as in (124) (which is restated):

(124) Verb: To strike heavily or firmly.

To strike solidly, to come with a bump or violent jolt *against*; to move with a bump or a succession of bumps.

To bulge out.

Noun: A blow somewhat heavy, but rather dull in sound; a sudden collision, more or less violent.

Swelling.

Adverb: The verb stem used adverbially = With a bump, with sudden collision[.]

Gerundive: The action of the verb [to] *bump*. [...] Sudden (usually repeated) collision or knocking. [...] Striking heavily, thrashing. [...] Banging the posteriors of a person against a post or wall.

Ing-suffixed adjective: Huge, great; 'thumping'

English speakers gave this vocabulary item seven points.

Eleven tokens were found in the LOB Corpus. The most frequent class of *bump* is verb. This class includes six tokens, as in (187).

(187) a. Compared with the main gallery, the ventilation tunnel was smaller and narrow. Even with the wavering beam of the storm light, he more than once bumped his head on the two hundred yard trip along the shaft's rough, rising surface towards ground level.

- b. Every time I visit America I seem to meet many interesting people. My last was no exception. The most surprising, though, was Elvis Presley - I almost literally bumped into him! I was leaving the restaurant at the 20th Century-Fox studios a few days before I flew home from Hollywood. I noticed a football flying over a wall between two lots. Not the sort of bloke to miss a chance, I went to trap it with my foot. Another fellow was running after it, too, and we collided with what, for me at any rate, was an almighty bump.
- c. He braked instantly and the steering wheel hit his chest and he gasped. Meg cried out as her head bumped the windscreen and Tony began to sob on the floor.
- d. He stood up unsteadily and looked about the room, trying to gather his wits. Outside the dusk was settling over Dow's Lake and the heights beyond were in silhouette, already a solid black. He bumped into a floor lamp and switched it on.
- e. To his still rather stuporous perceptions, the world was an endless cloud in which he floated, and in which various dark, shapeless objects went round and round in concentric orbits. The rotations preceded by rhythmic jerks, which were timed to a painful throb that bumped in his head. He slapped himself in the face and cuffed the sides of his head.
- f. "Well, young ladies," he said, "we have shared an interesting experience. The rainfall in these last five days has been half as much again as the

average for the four months June to September, inclusive.” As the taxi bumped away we collapsed on our beds and exchanged the first look we had dared to give each other since our arrival.

Five verbal tokens of *bump* in (187a-e) indicate “to hit” or “to smash.” Only one token in (187f) refers to a change of location, followed by the directional phrase *away*.

Next, three nominal tokens of *bump* were found in the LOB Corpus, as in (188).

(188) a. “No. There were only five passengers. Six with the driver. Devil of a shambles, though. Seemed to be bodies here, there and everywhere.” Anyone escape?” “Killed four of them,” he said. “Simply hadn't a chance. But the two on the back seat threw themselves out. They're in the one with a couple of broken legs. The other got away with cuts and a bump on his head like a pigeon's egg. He's the luckiest beggar still breathing this morning.”

b. The village green is the real home of cricket. A couple of bumps on a pitch have no terrors for a good batsman with a stout heart, a firm grip on the willow and a hefty contempt for batting averages and all the statistical blight that makes a mighty six these days as rare as frostbite in summer.

c. Every time I visit America I seem to meet many interesting people. My last was no exception. The most surprising, though, was Elvis Presley - I almost literally bumped into him! I was leaving the restaurant at the 20th

Century-Fox studios a few days before I flew home from Hollywood. I noticed a football flying over a wall between two lots. Not the sort of bloke to miss a chance, I went to trap it with my foot. Another fellow was running after it, too, and we collided with what, for me at any rate, was an almighty bump. (= (187b))

Three nominal tokens of *bump* in (188) indicate a swelling or lump.

Two tokens of *bump* occur as borderline *ing*-suffixed forms, as in (189).

- (189) a. Music and movement was all around him, bumping against the walls. He was snatched in to a revolving chain of boys; not, though, before he had had time to notice that they all had real dinner jackets. The music stopped. In the inner circle of girls Rosemary was facing him exactly.
- d. Observed underwater, two zones of differing behavior were recognized: an upper one about 30 cm in depth, in which the Calanus swam up and down repeatedly, frequently bumping on the undersurface of the water, and a lower one of indeterminate depth in which animals swam directly up or down.

In (189), two tokens of *bump* occur in participle clauses and indicate hitting.

In sum, this subsection has shown the following three findings:

- 1) Eleven tokens of *bump* were found in the LOB Corpus.
- 2) The most frequent class of *bump* is verb. Six tokens of verbal *bump* were found. Five verbal tokens indicate “to hit” or “to smash,” and one token indicates a change of location with the assist of the directional phrase *away*.
- 3) The rest of the tokens occur as either nouns (three tokens indicating a swelling or lump) or as borderline *ing*-suffixed forms (two tokens which occur in participle clauses and denote hitting).

Adverbial, gerundive, and *ing*-suffixed adjectival usages, which the OED lists, were not found in this corpus.

5. 2. 12 Pop

The next word is *pop*. The OED states that *pop* functions as verb, noun, interjection, adjective, adverb, gerundive and *ing*- or *ed*-suffixed adjective. The OED defines the meaning of *pop* as in (85) (which is restated):

(85) Verb: To strike, rap, knock [...]. Also, to strike with a slight rap or tap.

To make a small quick explosive sound; to burst or explode with a pop.

To pass, move, go or come promptly, suddenly, or unexpectedly[.]

To open (a can of beer, etc.) with a pop by pulling the tab.

Noun: An act of popping. [...] A blow, knock, stroke, slap; now, a slight rap or tap.

A short abrupt sound of explosion.

A name for any effervescing beverage[.]

A mark made by a slight rapid touch; a dot; a spot, a speck.

Interjection, Adjective and Adverb:

With (the action or sound of) a pop; instantaneously, abruptly; unexpectedly.

In repeated form, with (the action or sounds of) a series of pops. Also as adj[ective] [...,] the sound of such a series.

Gerundive: The action of *pop* [as a verb] in various senses.

Ing-suffixed adjective: That pops, in various senses.

Ed-suffixed adjectives: Of eyes: bulging; protruding.

This vocabulary word obtained full points (10 points) from English speakers.

Ten tokens of *pop* were found in the LOB Corpus. Nine tokens of *pop* occur as verbs, as in (190).

(190) a. It is nothing unusual these days to pop into the saloon bar of a public house and hear the Government coming under fire from those with the accent of the reasonably well-off.

b. He must have prepared one of the boys: the young black imp popped gigglingly into a crate. That one I have seen. A few mock pistol-shots into it.

A sabre slammed fearsomely through it in all directions.

- c. "Damn you! damn you! pair of dirty liars!" but when the wife popped a compromising letter into her "bosom" (standard post-box for operative missives), it instantly "stung her like a serpent."
- d. My tutor would often pop in, and we would retire to a nearby teashop, eat buns, and discuss my thesis, at the same time feeding crumbs to the mice that kept appearing out of the wainscoting.
- e. 2. Never go out on a winter's morning with an empty or cold stomach. If you do, the blood has to rush inwards to warm up the stomach. There's less blood for the outer areas, and that can mean a chill. 3. Always keep on the move. If you pop your finger quickly in and out of cold water you'll hardly feel the cold. Keep the finger in for a longer time and it will "freeze."
- f. "She can lie back and enjoy her baby, until the midwife, knowing that the afterbirth is ready to pop out, either asks her to relax while her tummy is pressed gently, or else to take a deep breath and to push down as she did when the baby arrived.
- g. "I've a small twist of dope about our friend from Asifabad." I heard him chuckle down the wire. "I've got more than that. I've a packet right here that'll make your eyes pop." "Oh? What's in it?" "Another twist of something that's turned up at last."
- h. "Check." Looking in, Gregory popped his eyes and said, "What the devil is going on?" "Major inspection due soon" McNaught glanced at his watch.

- i. Its buds burst up from its back, hung over, popped, fell to the ground, and scurried away to bury themselves in the pulp and dirt where they might begin their ten thousand years' growth in peace.

The six verbal tokens in (190a-f) indicate a change of location, specifically “to move suddenly (in or out).” They are followed by a directional phrase such as *into* (in (190a-c)), *in* (in (190d) and (190e)), or *out* (in (190e) and (190f)). In (190g) and (190h), two verbal tokens of *pop* refer to movement of the eyes. They may have a figurative meaning denoting a change of location, that is, “to pop out.” Only *pop* in (190i) does not involve a change of location. It denotes “to explode with sound.”

One token of *pop* occurs as a noun, as in (191).

(191) Fifty dogs will sit down to pop and buns, or biscuits, at their own garden party at Blaxton, near Doncaster, today. Their “guests” will be dog lovers from all over the country.

Pop in (191) indicates a kind of carbonated drink.

In sum, this subsection has presented the following three findings:

- 1) Ten tokens of *pop* were found in the LOB Corpus.
- 2) Nine tokens of *pop* occur as verbs. Six of them indicate a change of location, especially “to move suddenly (in or out).” They are followed by a directional

phrase (*into* : 3 tokens; *in* : 1 token; *in and out of* : 1 token; *out* : 1 token). Two verbal tokens refer to movement of the eyes. One token of *pop* denotes “to explode with sound.”

3) Only one token of nominal *pop* was found. It indicates carbonated drink.

No tokens of the other grammatical classes listed in the OED (interjections, adjectives, adverbs, gerundives and *ing-* and *ed-*suffixed adjectives) were found in this corpus.

5. 2. 13 Puff

The last word is *puff*. The OED states that *puff* serves as verb, noun, gerundive, and *ing-/ed-*suffixed adjective. The OED defines the meaning of *puff* as in (192):

(192) Verb: To blow with a short abrupt blast or blasts; to emit a puff of air or breath; to escape as a puff.

To drive, impel, or agitate by puffing; to blow *away, down, off, out, up,* etc. with a quick short blast; to emit (smoke, steam, etc.) in puffs.

To cause (something) to swell by puffing or blowing air into it; [... to] swell *up* or become distended or swollen.

Noun: An act of puffing; a short impulsive blast of breath or wind; an abrupt emission of air, vapour, or smoke; a whiff.

A small quantity of vapour, smoke, or the like, emitted at one momentary blast; a whiff.

Gerundive: The action of the verb *puff*: and derived senses.

Blowing in puffs; panting violently; sending forth puffs of steam,
etc.

Ing-suffixed adjective: That puffs

Ed-suffixed adjective: Blown up, inflated; distended by inflation.

English speakers gave this word nine points.

Ten tokens of *puff* were found in the LOB Corpus. The most frequent class is verb.

Seven tokens of *puff* occur as verbs, as in (193).

- (193) a. Father Felix told me “How he did it, I do not know. He puffed at a handful of lighted cigarettes, threw them all into the river and then retrieved them one by one from behind the ears of the crowd. [...]”
- b. “The bad thing is that it makes you prejudiced. Forget the time element, Shevlin. Forget that for a minute.” He puffed on the cigar in enjoyment.
- c. “[...] I've been collecting scraps of evidence and piecing them together for four months now, and the whole lot still doesn't amount to anything one could call concrete.” Roddy puffed at his pipe, his eyes fixed on the white-coated barman.
- d. She flicked her lighter and held it out. He took hold of her wrist, bringing the flame to the cigarette. As he puffed, his hands gripped her more tightly.

- e. Railway enthusiasts are getting up steam for a really important anniversary celebration - the 100th birthday of the Shoreham to Steyning line along which the Steyning Flier, the most famous train in West Sussex, still puffs every day.
- f. One such process (2) involves incorporating an inert gas of low solubility into a concentrated, homogenised fat-containing milk in which the fat particles do not exceed 15m, subjecting the concentrate to such conditions of temperature and pressure as will prevent substantial evolution of gas while causing the concentrate to foam or puff, and finally drying the foamed concentrate to produce a dry cellular product which is readily dispersible in cold water by hand stirring.
- g. Bar “radio,” the book may still be the most popular pleasure: and the public library, though a tiny buyer, is much the biggest book-provider in terms of readership. In its inception, and for a long time later, it was a great institution. Today, I fear, it is merely a large institution. It has, like one of those frogs, puffed itself out in the wrong places, and has assumed a shape which is both unnatural and inefficient.

Among seven verbal tokens of *puff*, five tokens indicate “to smoke” (as in (193a-e) and two tokens “to swell” (as in (193f) and (193g)).

Two tokens of *puff* occur as nouns, as in (194).

- (194) a. His digressions too, seemed to have no other purpose than the throwing of dust in his client's eyes, the dust of fake security, of the fake friend of the family, like the puffs from his Gauloises, which said “Don't you worry your fluffy little head about that, just lull back in the layers of my experience,” as he told her how he had saved one of his clients from buying a house in which he somehow owned all the bricks and mortar but not the joists, [...].
- b. Harry followed him to the door, opened it for him and stood outside on the step, looking up at the sky, where a few pale stars shone between puffs of light cumulus cloud. “Nice night”, he remarked affably.

Puff denotes smoke in (194a) and a mass (of cloud) in (194b).

One token occurs as a borderline *ing*-suffixed form, as in (195).

- (195) Terence made an effort to answer the challenge. He was a more slender man than Nigel, but still stood about six feet tall. He felt mechanically in his pocket for a cigarette, and they waited as he lighted it. “Congratulations,” he said, puffing out a cloud of smoke.

In (195), *puffing* occurs in a participle clause. It refers to an emission (of smoke).

In sum, this subsection has shown the following three findings:

- 1) Ten tokens of *puff* were found in the LOB Corpus.

- 2) The most frequent class is verb (seven tokens). Five out of seven verbal tokens indicate “to smoke,” and two tokens indicate “to swell.”
- 3) The other tokens occur as either nouns (two tokens denoting smoke or a mass of cloud) or borderline *ing*-suffixed form (one token which occurs in a participle clause and refers to an emission (of smoke)).

Gerundive and *ing/ed*-suffixed adjectival tokens of *puff* listed in the OED were not found in the present corpus.

5.3 Summary

This section summarizes the main findings of Chapter 5.

In 5.1, I selected the most frequent and most onomatopoeic words in the LOB, specifically *murmur*, *flap*, *mutter*, *crash*, *dash*, *clash*, *fumble*, *quiver*, *chatter*, *lash*, *bump*, *pop*, *puff*. In 5.2, I examined actual usage of these words. Table 12 shows the main findings for each word.

Table 12: Characteristics of the Most Frequent and Most Onomatopoeia in Written Corpus

Words (No. of Tokens)	Detailed Descriptions
<p style="text-align: center;">murmur (30 tokens)</p>	<p>Most Frequent Class: Verb (20 tokens)</p> <p style="padding-left: 40px;">All the verbal tokens refer to “to saying (something) with difficulty.”</p> <p style="padding-left: 40px;">17 tokens occur with quotations of speech, 1 token is with a <i>that</i>-clause. 2 tokens are intransitive verbs with no quotation / content of speech.</p> <p>Others: Noun (9 tokens, which denote utterance with difficulty); <i>Ed</i>-suffixed adjective (1 token, whose meaning is associated with verbal tokens)</p>
<p style="text-align: center;">flap (27 tokens)</p>	<p>Most Frequent Class: <i>Ing</i>-suffixed adjective (13 tokens)</p> <p style="padding-left: 40px;">They refer to a fluttering or swinging state. 11 tokens of them appear in a single text (a specification document of helicopters), modifying either <i>angle</i> or <i>hinge</i>.</p> <p>Others: Noun (10 tokens, which denote various kinds of tab); Verb (2 tokens, which indicate “to swing or to shake loosely”); Borderline <i>ing</i>-suffixed form (2 tokens, which occur in participle clauses and represent a swinging state).</p>
<p style="text-align: center;">mutter (23 tokens)</p>	<p>Most Frequent Class: Verb (20 tokens)</p> <p style="padding-left: 40px;">All verbal tokens refer to “to say (something) with difficulty.”</p> <p style="padding-left: 40px;">13 tokens occur with quotations of speech, 6 tokens are transitive verbs, followed by objective as contents of speech, 1 token is a totally intransitive verb.</p> <p>Others: Noun (1 token); Gerundive (1 token)</p> <p>Nominal and gerundive tokens indicate talking with difficulty. Borderline <i>ing</i>-suffixed form (1 token, which occurs in a participle clause, and whose meaning is associated with verbal tokens)</p>

<p>crash (21 tokens)</p>	<p>Most Frequent Class: Verb (8 tokens)</p> <p>7 tokens are intransitive.</p> <p>5 tokens indicate hitting, used with a prepositional phrase (<i>down on</i>: 3 tokens; <i>into</i>: 1 token) or without such a phrase (1 token).</p> <p>2 tokens refer to a change of location (i.e. “to move with crashing sound”), with the assist of a directional phrase <i>through</i> or <i>to</i>.</p> <p>1 token is transitive, which indicates a certain type of change of location “to descend” or “to come uninvited to (the party).”</p> <p>Others: Noun (5 tokens);</p> <p>3 tokens indicate sudden hitting sound,</p> <p>2 tokens hitting with such a sound.</p> <p>Adjective (4 tokens, which indicate “in preparation for crash”);</p> <p>3 out of them were found in one text.</p> <p>Borderline <i>ing</i>-suffixed form (2 tokens, which serves as a subject-oriented depictive or a part of a participle clause, and denote hitting);</p> <p>Interjection (1 token, which indicates a crashing sound);</p> <p>Gerundive (1 token, which refers to a crashing event)</p>
<p>dash (20 tokens)</p>	<p>Most Frequent Class: Verb (12 tokens)</p> <p>9 tokens refer to a change of location.</p> <p>7 tokens occur with a (directional) phrase (<i>from</i>: 2 tokens, <i>into</i>: 1 token, <i>forward</i>: 1 token, <i>back</i>: 1 token, <i>across</i>: 1 token, and <i>along through</i>: 1 token).</p> <p>2 tokens are followed by <i>in</i>, or <i>for</i>.</p> <p>2 tokens denote vanishing, although they can be regarded as verbs of a change of location (= leaving).</p> <p>1 token denotes “to hit” with a preposition <i>against</i>.</p> <p>Others: <i>Ing</i>-suffixed adjective (3 tokens: one indicates “energetic,” and two postmodify the nominal phrases and denote a change of location);</p> <p>Noun (2 tokens, which indicate sudden motion or “vigor”);</p> <p>Gerundive (2 tokens, which indicate hitting or sudden motion);</p> <p>Borderline <i>ing</i>-suffixed form (1 token, which occurs in a participle clause and indicates a change of location)</p>
<p>clash (19 tokens)</p>	<p>Most Frequent Class: Noun (12 tokens)</p> <p>They refer to a collision or conflict.</p> <p>Others: Verb (6 tokens, which denote “to hit” or “to conflict”);</p> <p>Gerundive (1 token, whose meaning is the same as nominal tokens)</p>
<p>fumble (16 tokens)</p>	<p>Most Frequent Class: Verb (8 tokens)</p> <p>All of verbal usages of <i>fumble</i> indicate “to move hands for something.”</p> <p>Others: Borderline <i>ing</i>-suffixed form (5 tokens, which modifying the main clause with/without a nominal phrase, and denote an action of the hand(s))</p> <p><i>Ing</i>-suffixed adjective (2 tokens, which indicate “awkward” or “clumsy”);</p> <p>Gerundive (1 token, which denote an action with the hands)</p>

<p>quiver (15 tokens)</p>	<p>Most Frequent Class: Verb (7 tokens) 5 tokens denote “to shake quickly.” 2 tokens occur as figurative usages of a change of location (i.e. “to move with shaking”), followed by a directional phrase (<i>away into</i> or <i>through</i>). Others: <i>Ing</i>-suffixed adjective (3 tokens, which indicate a state of shaking); Borderline <i>ing</i>-suffixed form (3 tokens, which occur in participle clauses, and indicate shaking); Noun (2 tokens, which refer to shaking)</p>
<p>chatter (14 tokens)</p>	<p>Most Frequent Class: Verb (7 tokens) 5 tokens indicate “to talk.” 2 tokens denote “to emit rattling sound.” Others: Noun (3 tokens, which refer to aimless talking); <i>Ing</i>-suffixed adjective (3 tokens, which denote “talky” or “clattery”); Borderline <i>ing</i>-suffixed form (1 token, which occurs in a participle clause, and refers to a sound emission)</p>
<p>lash (12 tokens)</p>	<p>Most Frequent Class: Noun (7 tokens) 4 tokens indicate hitting or attacking. 3 tokens refer to eyelash. Others: Verb (4 tokens, which indicate “to hit”); Borderline <i>ing</i>-suffixed form (1 token, which occurs in a participle clause, and indicates an event of hitting)</p>
<p>bump (11 tokens)</p>	<p>Most Frequent Class: Verb (6 tokens) 5 tokens indicate “to hit” or “to smash.” 1 token refer to a change of location with a directional phrase <i>away</i>. Others: Noun (3 tokens, which indicate swelling or lump); Borderline <i>ing</i>-suffixed form (2 tokens, which occur in participle clauses, and denote an event of hitting)</p>
<p>pop (10 tokens)</p>	<p>Most Frequent Class: Verb (9 tokens) 6 tokens are followed by a directional phrase (<i>into</i> : 3 tokens, <i>in</i> : 1 token, <i>in and out of</i>: 1 token, and <i>out</i> : 1 token). They indicate a change of location, especially “to move suddenly (in or out).” 2 tokens denote moving of <i>eyes</i>. 1 token indicates “to explode with sound.” Others: Noun (1 token, which indicates carbonated drink)</p>
<p>puff (10 tokens)</p>	<p>Most Frequent Class: Verb (7 tokens) 5 tokens indicate “to smoke.” 2 tokens denote “to swell.” Others: Noun (2 tokens, which refer to smoke or a mass of cloud); Borderline <i>ing</i>-suffixed form (1 token, which occurs in a participle clause, and refers to an emission (of smoke))</p>

On the basis of their distributions, the following three general tendencies were

found.

First, four of these thirteen words (*crash, clash, lash, and bump*) typically denote hitting across different grammatical classes, three words denote (*murmur, mutter, and chatter*) talking, and two denote (*dash and pop*) a change of location. In addition, *flap* frequently indicates a state of swinging, *fumble* refers to a motion of the hands, *quiver* denotes shaking, and *puff* indicates smoking.

Second, verb is the most common grammatical usage of these most frequent and most onomatopoeic words in the written corpus examined. Ten out of thirteen words (*murmur, mutter, crash, dash, fumble, quiver, chatter, bump, pop, and puff*) occur most frequently as verbs.

Third, in verbal usage, four out of the thirteen words (*crash, clash, lash, and bump*) typically denote hitting, three (*murmur, mutter, and chatter*) refer to talking, and two (*dash and pop*) indicate a change of location. In addition, *flap* often indicates swinging in its verbal usages, *fumble* refers to a motion of the hands, *quiver* denotes shaking, and *puff* indicates smoking.

Chapter 6. Comparison between Spoken and Written Registers

In Chapters 4 and 5, I examined the actual usages of the most frequent and most onomatopoeic words in spoken and written corpus and found some general tendencies of these words in each corpus. In this chapter, I briefly discuss the register variations of onomatopoeic words.

First, let us look at the top five most frequent and most onomatopoeic words in spoken and written corpus, shown in Table 13.

Table 13: Top Five Most Frequent and Most Onomatopoeic Words across the Two Registers

Ranking	Spoken Corpus (Twice the Number of tokens)	Written Corpus (Number of tokens)
1	Pop (42 tokens)	Murmur (30 tokens)
2	Bash (26 tokens)	Flap (27 tokens)
3	Bounce (26 tokens)	Mutter (23 tokens)
4	Tick (26 tokens)	Crash (21 tokens)
5	Clash (16 tokens)	Dash (20 tokens)

Since the size of the spoken corpus (i.e. the LLC) is about a half of the written corpus (i.e. the LOB Corpus), the number of tokens shown in Table 13 for the spoken corpus has been doubled for the sake of comparison. What is most noticeable is that the top five most frequent words in the spoken corpus are totally different from those in the written corpus.

It is especially notable that the verbs of speech *murmur* and *mutter* appear in the top five ranking only in the written corpus examined. The two words frequently occur as

verbs, and are often followed by quotations of speech, *that*-clauses, and objectives as contents of speech. Such communication verbs were not found even in the list of top fourteen words in the spoken corpus.

Next, I compare the most common grammatical class across the two registers. As shown in Chapters 4 and 5, verbal usage is the most common grammatical class across the registers. Nine of the fourteen words in the spoken corpus (*pop, bash, bounce, crash, dash, pat, bump, clatter, and jabber*) occur most frequently as verbs, and ten of thirteen words in the written corpus (*murmur, mutter, crash, dash, fumble, quiver, chatter, bump, pop, and puff*) occur most frequently as verbs.

Next, let me stress one significant difference between the two registers concerning the list of onomatopoeic items examined: The dominant type varies a great deal between the registers. As shown in Chapter 4, four out of top fourteen words in spoken corpus (*pop, bash, bounce, and dash*) typically denote a change of location. In contrast, as shown in Chapter 5, four out of top thirteen words in the written corpus (*crash, clash, lash, and bump*) typically refer to hitting.

A difference between registers can be seen also in the verbal usages alone. In the spoken corpus, five words (*pop, bash, bounce, dash, and clatter*) typically denote a change of location with the assist of a directional phrase, such as *pop in, bash through, bounce up and down, dash from, clatter out of*, and so on, in their verbal usages. In the written corpus, however, four words (*crash, clash, lash, and bump*) frequently refer to hitting in their verbal usages.

Chapter 7. Conclusion

The present research has been conducted with the following three aims:

- (i) to provide a non-intuitive (dictionary-based) list of onomatopoeic words in English;
- (ii) to conduct a quantitative, corpus- and usage-based analysis to clarify grammatical/semantic features of representative onomatopoeic words; and
- (iii) to examine register variations of onomatopoeic words.

The main findings of this dissertation can be summarized as follows.

First, a list of 287 onomatopoeic words based on the OED was obtained. 252 words in the list occur as verbs, and 226 occur as nouns. 194 words function as both verbs and nouns (85.8% of the 226 nouns).

Second, the most frequent and most onomatopoeic words in spoken English (i.e. the LLC) are *pop*, *dash*, *bash*, *bounce*, *tick*, *clash*, *crash*, *pat*, *bump*, *clatter*, *chatter*, *crisp*, *flap*, and *jabber*, in order of frequency. Four of these words (*pop*, *bash*, *bounce*, and *dash*) typically denote a change of location (especially in their verbal usages), three (*crash*, *clash*, and *pat*) denote hitting (as in a collision or conflict), and two (*chatter* and *jabber*) refer to talking. In addition, *tick* frequently refers to a check mark, *bump* to encountering, *crisp* to a state of “friable,” *flap* to a state of panic, and *clatter* to a sound emission.

Third, the most frequent and most onomatopoeic words in written English (i.e. the

LOB) are *murmur, flap, mutter, crash, dash, clash, fumble, quiver, chatter, lash, bump, pop,* and *puff*, in order of frequency. Four of these words (*crash, clash, lash,* and *bump*) typically denote hitting across different grammatical classes, three (*murmur, mutter,* and *chatter*) denote talking, and two (*dash* and *pop*) refer to a change of location. In addition, *flap* often indicates a state of swinging, *fumble* refers to a motion of the hands, *quiver* denotes shaking, and *puff* indicates smoking.

Fourth, the top five most frequent and most onomatopoeic words in the spoken corpus (*pop, bash, bounce, tick* and *clash*) are totally different from those in the written corpus (*murmur, flap, mutter, crash* and *dash*). Especially, *murmur* and *mutter*, ranked in the top five of the written corpus, frequently occur as verbs and are often followed by quotations of speech, *that*-clauses, and objectives as contents of speech. Such communication verbs were not found among even the top fourteen words in the spoken corpus.

Fifth, verb is the most common grammatical class across the two registers. Nine of the fourteen words in the spoken corpus (*pop, bash, bounce, crash, dash, pat, bump, clatter,* and *jabber*) occur most frequently as verbs, and ten of the thirteen words in the written corpus (*murmur, mutter, crash, dash, fumble, quiver, chatter, bump, pop,* and *puff*) occur most frequently as verbs.

Sixth, in the spoken corpus, the dominant type of event in the verbal usage is a change of location: five words (*pop, bash, bounce, dash,* and *clatter*) typically denote a change of location with the assist of a directional phrase, such as *pop in, bash through, bounce up and down, dash from, clatter out of,* and so on, in their verbal usages. In

contrast, in the written corpus, the dominant type is hitting: four words in the written corpus (*crash, clash, lash, and bump*) frequently refer to hitting in their verbal usages.

The first finding is consistent with the claim by Tamori and Schourup (1999) that onomatopoeic words generally function either as verbs or nouns in English. Tamori and Schourup (1999) also argue that almost all onomatopoeic nouns serve as verbs. However, this finding shows that it is more accurate to say that a majority, not “almost all,” of onomatopoeic nouns serve as verbs. In addition, the first finding shows the contrast between English and Japanese onomatopoeia. In Japanese, almost all onomatopoeic words occur as manner adverbs (Tamori and Schourup 1999: 47).

The fifth finding proves the argument by Schourup (1993) that onomatopoeic words in English frequently occur as verbs. This finding is also different from the tendency of Japanese onomatopoeia, which is generally used as adverb (Schourup 1993: 50).

This study in itself does not give a definitive answer to the question about the difference in the number of onomatopoeia across languages. Nor does it explain the relationship between the number of onomatopoeia and other lexical or grammatical aspects. Moreover, the following questions remain:

- a) Does every language possessing a large number of onomatopoeia (as in Japanese) have the tendency to use such vocabulary items generally as adverbs?
- b) Does every language holding a small number of onomatopoeia (as in English) have the tendency to use such items frequently as verbs?

- c) Are register variations between spoken and written onomatopoeia reported by the present research specific to only English, or are they common in all languages having a small number of onomatopoeia?

In order to answer these typologically important questions, further research on onomatopoeic words in other languages is required within a usage-based framework along the lines of the present study.

REFERENCES

- Biber, Douglas et al. 1999. *Longman Grammar of Spoken and Written English*. Harlow: Longman.
- Kaida, Masanao et al. 1985. *Manga-de tanosimu eigo giongo jiten* (A Treasure-House of English Onomatopoeias). Tokyo: Kenkyusha.
- Takechi, Hisao. 1988. "Amerika eigo no onomatope: Nihongo onomatope tono taihi ni oite" (Onomatopoeia in American English: In Comparison with Japanese Onomatopoeia). *America no gengo shakai II* (American Linguistic Society II): 87-82.
- Kato, Hisao and Sakaguchi Shoko. 1996. "Kosetsu-seibun to Onomatope no Seishitsu ni tsuite (On Characteristics of Following Elements and Onomatopoeia)," *Bulletin of Nara University of Education*. Vol.45. No.1. (Cult. and Soc.): 1-11.
- Kloe, Donald R. 1977. *A Dictionary of Onomatopoeic Sounds, Tones and Noises in English and Spanish*. Michigan: Blaine Ethridge Books.
- Ono, Masahiro. 2007. *Giongo-Gitaigo 4500: Nihongo Onomatope Jiten* (Giongo-Gitaigo 4500: Dictionary of Japanese Onomatopoeia). Tokyo: Shogakkan.
- Saussure, Ferdinand de. 1972. *Ippan Gengogaku Kogi* (Cours de linguistique générale). trans. Hideo Kobayashi. Tokyo: Iwanami Shoten.
- Schourup, Lawrence. 1993. "Nichi-Ei Onomatope no Taisho-kenkyu" (Contrastive Study of Japanese and English Onomatopoeia). *Gengo*. Vol. 22. No. 6: 48-55.
- Takeuchi, Yoshiharu. 1999. "Gengo-hyogen no Shintaisei ni tsuite: Ninchi-kozo, Metafa,

Onomatopoe” (The Cognitive Background of Linguistic Expressions and its Bodiliness: Structure of the Cognition, Metaphor and Onomatopoeia). *Studies and essays. Language and literature*. No. 19: 87-117.

Tamori, Ikuhiro and Lawrence Schourup. 1999. *Onomatopoe: Keitai to Imi* (Onomatopoeia: Morphology and Semantics). Tokyo: Kurosio Publishers.

Taylor, Kevin J. 2006. *Ka-boom!: A Dictionary of Comic Book Words, Symbols & Onomatopoeia*. Canada: Mora Publications.

Yamaguchi, Nakami. 2003. *Kurashi no Kotoba: Gion-Gitaigo Jiten* (Words in Daily Life: Dictionary of Giongo and Gitaigo). Tokyo: Kodansha.

DATA SOURCES

Lancaster-Oslo/Bergen Corpus (LOB). ICAME Collection of English Language Corpora Second Edition. 1999. Norway: The HIT Centre, University of Bergen. (e-mail: icense@hit.uib.no).

London-Lund Corpus. ICAME Collection of English Language Corpora Second Edition. 1999. Norway: The HIT Centre, University of Bergen. (e-mail: icense@hit.uib.no).

Oxford English Dictionary Second Edition on CD-ROM Version 3.1. 2004. UK: Oxford University Press.