A STUDY ON THE COUNT/NONCOUNT DISTINCTION OF ABSTRACT NOUNS IN ENGLISH FROM A PEDAGOGICAL PERSPECTIVE

by

MASAHIRO KODERA

A thesis submitted to
The University of Birmingham
for the degree of
DOCTOR OF PHILOSOPHY

Department of English Language and Linguistics
School of English, Drama and Creative Studies
College of Arts and Law
The University of Birmingham
September 2023

UNIVERSITY OF
BIRMINGHAM

University of Birmingham Research Archive

e-theses repository

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

Abstract

The count/noncount distinction of nouns is an essential part of EFL/ESL teaching. L2 learners need to know when to use an indefinite article (*a/an*), a zero determiner singular form (ø) or a plural form. The count/noncount distinction of abstract nouns is more difficult than that of concrete nouns because abstract nouns provide no perceptual information and many abstract nouns can be used as both count and noncount. L2 learners face two questions: when to use *a/an* with abstract noncount nouns (e.g. *knowledge*) and when to use abstract nouns as count or noncount (e.g. *Everyone stood in stunned silence/ a stunned silence/ stunned silences*). The following explanations are often found. 1) Based on the hypothesis that grammar reflects conceptualization, some cognitive linguists claim that every noun can be used as either count or noncount depending on how a referent is interpreted. 2) Some abstract noncount nouns admit *a/an* when they are pre-modified by an adjective and/or post-modified by a phrase or a clause. 3) *A/an* can be used with abstract noncount nouns when the individual, particular nature of a referent is emphasized. The validity of these three propositions is examined in this PhD thesis.

Regarding the first proposition, the count/noncount distinction is not a direct reflection of the conceptual distinction. The distinction is flexible only with nouns that have both a count and noncount use. Grammatical convention takes precedence with nouns that have only a count or noncount use. The second proposition is examined with the data collected from the Bank of English and other corpora such as COCA (Corpus of Contemporary American English) and BNC (British National Corpus). Thirty-six abstract nouns (e.g. *anger*, *warmth*) are collected from the example sentences presented by twelve reference grammars and eight English learner's dictionaries as the evidence to support

their proposition that abstract noncount nouns admit *a/an* when they are modified. Three case studies are conducted to examine how frequently the thirty-six nouns occur with *a/an* or ø when they are modified by three types of modifiers (adjectives, prepositional phrases and relative clauses). It is found that the presence of a modifier per se is not correlated with a high frequency of *a/an*. A high frequency of *a/an* is largely limited to particular combinations of nouns and adjectives, e.g. measurement adjectives and state nouns (*a long silence*), or limited to nouns denoting liking and disliking in the [*to have* (*to take*) + (Adj) Noun + PP] construction (e.g. *Victoria had a well-known dislike for small children*).

The third proposition is supported by the corpus analysis. All the nouns examined in this study occur with modifiers more frequently than without modifiers when the nouns combine with *a/an*, and most of them occur with modifiers highly frequently. It is more likely that *a/an* requires a modifier rather than the other way around. The semantic property of *a/an* is individuation, and an abstract noncount noun calls for modification to acquire an individuated interpretation of a referent.

Based on the hypothesis that there is some semantic connection between the meaning of a noun and the type of count reading available for the noun, the grammatical behavior of abstract nouns in four semantic groups (emotion, mental activity, quality, state) is examined to explore the circumstances under which abstract nouns that have both a count and noncount use acquire count readings. Many mental activity nouns (e.g. *awareness*), emotion nouns (e.g. *fear*) and state nouns (e.g. *silence*) acquire a count reading when they refer to a viewpoint, a cause and an event respectively. Quality nouns acquire various count readings such as an act (e.g. *cruelty*), a life form (e.g. *intelligence*), etc.

Little research has been done on the count/noncount distinction of abstract nouns, and

comprehensive guidelines have yet to be developed to help L2 learners to predict a type of count reading an abstract noun may acquire. For the meantime, L2 learners are advised to consult learner's dictionaries to find if a noun (or a sense of a noun) is count or noncount. However, dictionaries often fail to provide sufficient information about whether a noun can occur with *a/an*, ø or in the plural form. Based on the findings in this study, some revisions are proposed to make dictionaries more helpful for L2 learners. Also some suggestions are made to improve the way in which the count/noncount distinction of abstract nouns is taught.

Acknowledgements

I would like to express my sincere gratitude to my lead supervisor Dr. Florent Perek for his continuous support and insightful comments. He has been always supportive during my PhD study, and I could not have completed this thesis without his feedback and support. I also appreciate the support that I have received from my second supervisor Dr. Paul Thompson. I would also like to thank my family, friends and colleagues for all their understanding, support and help. A special thank you to my late wife, Chiemi. Without her support and understanding, I could not have concentrated on my study for many years.

Table of Contents

PART I: THEORETICAL BACKGOUND 1

Chapter 1 Introduction 1

1.1. Mass-count languages and classifier languages in EFL/ESL teaching 1

1.2. Research Questions 6

1.3. Purposes and Aims 8

1.4. The structure of the thesis 10

Chapter 2 C/NC Distinction of English Nouns and Questions It Poses to L2 Learners 13

2.1. Introduction 13

2.2. Syntactic distinction between count and noncount nouns 15

2.3. Mismatches between semantics and syntax 28

2.4. Connection between modification and the use of *a/an* with ANNs 36

Chapter 3 Theoretical Basis of the Study 43

3.1. Cognitive linguistics and the C/NC distinction of nouns 43

3.2. Bounding and flexibility of C/NC distinction 45

3.3. Flexibility of C/NC distinction and Type III nouns 51

3.4. Domains of instantiation and C/NC distinction 54

3.5. Summary 58

Chapter 4 Methodology 60

4.1. Corpus analysis with Bank of English 60

4.2. Statistical analysis 64

PART II: EMPRICAL ANALYSIS 71

Chapter 5 CASE STUDY A: Syntactic Connection between Modification and *a/an* – Pre-modifying Adjectives and *a/an*– 71

5.1. Introduction 71

5.2. Connection between determiners and abstract nouns 73

5.3. Connection between *a/an* and adjectives 80

5.4. The use of *a/an* with *aversion*, *dislike*, *fierceness*, *fondness* and *understanding*. 88

5.5. Directional relations between an adjective and *a/an* 95

5.5.1. Connection between an adjective and *a/an* 96

5.5.2. Connection between an adjective and *a/an* from the opposite direction 99

5.6. Summary of the findings and discussion 106

Chapter 6 Syntactic Connection between Modification and *a/an* –Post-modifying Prepositional Phrases and *a/an*– 108

6.1. Introduction 108

6.2. Methodology: PPs to be examined 108

6.3. Presence or absence of a PP and the use of *a/an* 114

6.3.1. The use of *a/an* and ø in the absence of a PP 118

6.3.2. The use of *a/an* and ø in the presence of a PP 120

6.3.3. Nouns denoting liking and disliking: *dislike* 122

6.3.4. *Aversion, fondness* and *love* 125

6.3.5. *Affection*, *distrust*, *fear* and *hatred* 132

6.3.6. *Understanding* in [*to have* + (Adj) Noun + PP] 138

6.4. Results and discussion 140

Chapter 7 Syntactic Connection between Modification and *a/an* –Relative Clauses and *a/an*– 142

7.1. Introduction 142

7.2. Methodology: Nouns and types of relative clauses to be examined 142

7.3. Connection between RCs and *a/an* 144

7.4. RCs and the use of *a/an* with ANNs 150

7.5. Summary of the findings in Chapters 5–7 and discussion 153

Chapter 8 CASE STUDY B: Semantic Connection between *a/an* and Types of Nouns and Adjectives 159

8.1. Introduction 159

8.2. Methodology: Nouns to be examined 160

8.3. Combinations of adjectives and nouns and the use of *a/an* and ø. 164

8.3.1. Connection between *a/an* and types of nouns and adjectives 168

8.3.2. Connection between ø and types of nouns and adjectives 176

8.4. Summary of the findings and discussion 182

Chapter 9 CASE STUDY C: Count Readings of Abstract Nouns 184

9.1. Introduction 184

9.2. Emotion nouns and count readings 184

9.2.1. Cause readings of emotion nouns 186

9.2.2. Emotion nouns in the sense of the feeling 189

9.2.3. Summary of the findings on emotion nouns and count readings 193

9.3. Mental activity nouns and count readings 194

9.3.1. Viewpoint reading of mental activity nouns 195

9.3.2. Mental activity nouns with evaluative adjectives and the use of *a/an* 198

9.3.3. Summary of the findings on mental activity nouns and count readings..... 201

9.4. Quality nouns and count readings 201

9.4.1. Various count readings of quality nouns..... 202

9.4.2. Summary of the findings on quality nouns and count readings 206

9.5. State nouns and count readings 207

9.5.1. Event reading of state nouns..... 208

9.5.2. Type reading of state nouns 213

9.5.3. Summary of the findings on state nouns and count readings 217

9.6. Summary of the findings and discussion 219

PART III: PEDAGOGICAL IMPLICATIONS 223

Chapter 10 Implications for Dictionary Compilation..... 223

10.1. Introduction 223

10.2. Count/noncount labeling in learner's dictionaries 224

10.2.1. Different count/noncount labels for a noun in the same sense 224

10.2.2. Labeling a noun in the same sense as both count and noncount 227

10.2.3. Illustrative sentences in learner's dictionaries..... 231

10.2.4. Information about the types of count readings available for a noun 232

10.2.5. Secondary sense of regular polysemy and its predictability..... 235

10.3. Learner-friendly descriptions of C/NC distinction 239

10.3.1. The case of *fear* 239

10.3.2. The case of *silence*..... 243

10.4. Summary 247

Chapter 11 Suggestions on How the C/NC Distinction of Abstract Nouns is Taught 248

11.1. Introduction 248

11.2. Four syntactic types of nouns and C/NC distinction 249

11.3. *A/an* with Type II nouns 251

11.4. *A/an* and the [*to have* + Noun + PP] construction 252

11.5. Domains of instantiation and semantic types of nouns 253

11.6. Nouns that can be used as both count and noncount in the same sense 255

11.7. Summary 257

Chapter 12 Conclusion 258

12.1. Summary of the findings 258

12.2. Directions for further inquiry 263

12.3. Final remarks 264

List of References 267

List of Learner's Dictionaries of English 284

Appendix Pre-modifying adjectives and the use of *a/an* and ø 285

List of Tables

Table 1.1. *Freedom* and grammar labeling 5

Table 2.1. Morpho-syntactic criteria for mass/count distinction 15

Table 2.2. Determiner-head combinations 16

Table 2.3. Distribution of countability markers of English nouns 18

Table 2.4. Patterns distinguishing subclasses of singular, plural and mass nouns 20

Table 2.5. Countability Preferences 21

Table 2.6. Morpho-syntactic classification of count and noncount nouns 23

Table 2.7. Different indicators of number-differentiability 29

Table 2.8. Connection between *a/an* and modification 38

Table 4.1. Contingency table of the target lexeme and construction 67

Table 4.2. Contingency table of the target lexeme and construction 67

Table 4.3. *A/an* attracted by [Adj + N] (ranked according to Reliance) 69

Table 5.1. Connection between abstract nouns and various determiners 74

Table 5.2. Presence and absence of an adjective and the use of *a/an* and ø 83

Table 5.3. Post-modifying PPs and *aversion, dislike*, *fondness*, *understanding* 88

Table 5.4. *A/an* and ø in [(Adj) + *fierceness* + (Relative Clause)] 89

Table 5.5. *A/an* and ø in [(Adj) *aversion* (*to*)] 90

Table 5.6. *A/an* and ø in [(Adj) *fondness* (*for*)] 91

Table 5.7. *A/an* and ø in [(Adj) *understanding* (*of*)] 92

Table 5.8. *A/an* and ø in [(Adj) *dislike* (*of/for*/*to*)] 94

Table 5.9. The use of ø and *a/an* and occurrence with an adjective 100

Table 5.10. *A/an* with adjective vs Adjective with *a/an* (without PP) 105

Table 6.1. Hit numbers of the 36 nouns followed by various PPs.....111

Table 6.2. Presence and absence of a PP and the use of *a/an* and ø 115

Table 6.3. *A/an* and ø in [(Adj) *dislike of/for/to*] 123

Table 6.4. *A/an* and ø in [(*to have/take*) + (Adj) *dislike* (*of/for/to*)] 124

Table 6.5. *A/an* and ø in [(*to have*) + (Adj) *aversion* (*to*)] 126

Table 6.6. *A/an* and ø in [(*to have*) + (Adj) *fondness* (*for*)]..... 128

Table 6.7. *A/an* and ø in [(*to have*) + (Adj) *love* (*of/for*)]..... 130

Table 6.8. *A/an* and ø in [(*to have*) + (Adj) *affection for*] 133

Table 6.9. *A/an* and ø in [(*to have*) + (Adj) *distrust* (*of*)] 134

Table 6.10. *A/an* and ø in [(*to have*) + (Adj) *fear* (*of*)]..... 136

Table 6.11. *A/an* and ø in [(*to have*) + (Adj) *hatred* (*of*)] 137

Table 6.12. *A/an* and ø in [(*to have*) + (Adj) *understanding* (*of*)] 139

Table 7.1. Presence of an RC and the use of *a/an* and ø 146

Table 7.2. Modification and the use of *a/an* 156

Table 8.1. Types of nouns and the use of *a/an*..... 169

Table 8.2. Types of adjectives and the use of *a/an* 173

Table 8.3. Types of nouns and the use of ø..... 176

Table 8.4. Types of adjectives and the use of ø 180

Table 9.1. Count readings of emotion nouns 193

Table 9.2. [Noun + Subordinator *that* + Content Clause] with *a/an* and ø..... 196

Table 9.3. Count readings of mental activity nouns 201

Table 9.4. Count readings of quality nouns 207

Table 9.5. *Confusion* and *silence* in [*after* + Noun]..... 211

Table 9.6. Count readings of state nouns..... 218

Table 9.7. Count readings of abstract nouns in four semantic groups 219

Table 10.1. *Anxiety* and grammar labeling 225

Table 10.2. *Sympathy* and grammar labeling 225

Table 10.3. *Knowledge* and grammar labeling 226

Table 10.4. *Generosity* and grammar labeling 226

Table 10.5. *Confusion* and grammar labeling 227

Table 10.6. *Freedom* and grammar labeling (same as Table 1.1 in Chapter 1) 227

Table 10.7. *Noise* and grammar labeling 229

Table 10.8. *Silence* and grammar labeling 229

Table 10.9. *Anxiety* and grammar labeling (partly cited from Table 10.1) 229

Table 10.10. *Fear* and grammar labeling 230

Table 10.11. *Freedom* and grammar labeling 230

Table 10.12. *War* and grammar labeling 230

Table 10.13. Two senses of *fear* and grammar labeling 234

List of Figures

Figure 5.1. *A/an* and ø when unmodified by an adjective 86

Figure 5.2. *A/an* and ø when modified by an adjective 87

Figure 5.3. *A/an* when modified by an adjective vs *a/an* unmodified by an adjective... 98

Figure 5.4. Ø with and without an adjective..... 102

Figure 5.5. *A/an* with and without an adjective..... 103

Figure 5.6. Adjective when combining with *a/an* vs *A/an* when modified by adjective 104

Figure 6.1. *A/an* and ø when unmodified by a PP 119

Figure 6.2. *A/an* and ø when modified by a PP 121

Figure 7.1. *A/an* and ø when modified by an RC 147

PART I: THEORETICAL BACKGOUND

Chapter 1

Introduction

1.1. Mass-count languages and classifier languages in EFL/ESL teaching

Languages can be classified into two types with respect to number: mass-count languages and classifier languages (Gil 2013)[1]. English is a mass-count language, in which nouns of high countability (i.e. count nouns) generally combine directly with numerals (e.g. *one car, two dogs*), whereas nouns of low countability (i.e. noncount nouns) do not combine directly with numerals and require a mensural numeral classifier (or a measure word) to indicate a unit of measure (e.g. *one glass of water, two pounds of sand*).[2] On the other hand, classifier languages such as Japanese, Korean and Chinese do not mark plurality morpho-syntactically, and a bare noun can have a singular or plural reading. Sortal numeral classifiers are required when nouns combine with numerals. For example, *two*

[1] There are two types of numeral classifiers: sortal and mensural. Sortal numeral classifiers divide count nouns into semantic classes (e.g. human nouns, nonhuman animate nouns, etc.), while mensural numeral classifiers provide nouns of low countability with a unit of measure (e.g. *one glass of water, two pounds of sand*) (Gil 2008, Lyons 1977: 463). Most or all languages have mensural numeral classifiers. When comparing different languages, sortal numeral classifiers are referred to as numeral classifiers or simply as classifiers, and classifier languages refer to those languages in which sortal numeral classifiers are obligatory (e.g. Chinese, Japanese, Korean). In this study, the focus of attention is on nouns in English, in which sortal numeral classifiers are absent, and mensural numeral classifiers are referred to as numeral classifies or simply classifiers unless otherwise mentioned.

[2] Various terms such as 'countable nouns' and 'mass nouns' are used to refer to count nouns and noncount nouns. In this study, the terms 'count noun' and 'noncount noun' are used, following Quirk (1985: 246) and Payne & Huddleston (2002: 340). Payne & Huddleston states as follows: "The term 'mass' is readily applicable with nouns like *water* or *coal* that denote substances but it is less evident that it applies transparently to abstract non-count nouns such as *knowledge*, *spelling*, *work*." In this study, the term 'count noun' is used for 'countable nouns,' 'thing words,' 'unit words,' 'bounded nouns,' 'individual nouns,' etc., and 'noncount noun' for 'uncountable nouns,' 'mass nouns,' 'mass words,' 'unbounded nouns,' etc. Both 'mass noun' and 'noncount noun' may be used interchangeably when a noun refers to a substance (i.e. a mass of homogeneous matter) and when citing arguments of linguists.

dogs are referred to in Japanese as *ni-hiki-no inu* (*two*-CLASSIFIER-GENITIVE *dog*), where a sortal numeral classifier *hiki* indicates non-human animals (Muromatsu 2003: 87).

The English count/noncount distinction (henceforth referred to as C/NC distinction) is problematic for L2 learners (Palmer 1938: vi, Master 1987, 1988, Hiki 1991, Yoon 1993, Celce-Murcia & Larsen-Freeman 1999: 273, Butler 2002, Tsang 2017, Xue 2010), particularly for those learners whose native languages are classifier languages such as Chinese, Japanese and Korean (Hua & Lee 2005, Inagaki 2014, Amuzie & Spinner 2012), in which a noun phrase consisting entirely of a bare noun may be understood as either count or noncount and as either singular or plural (Gil 2013). What makes the C/NC distinction still more difficult is the indefinite article (henceforth referred to as *a/an*). In some languages such as Chinese, Japanese and Korean, the indefinite article similar to the one in English is absent (Han et al., 2006).[3]

Studies looking at learners' corpora of Chinese and Japanese learners of English (Wen et al. 2005, Izumi et al. 2004) found errors of pluralizing noncount nouns (e.g. **equipments*, **researches*) and modifying them with *a/an* (e.g. **an evidence*). The following are some examples of errors found in the two learners' corpora of Chinese learners (Wen et al. 2005) and Japanese learners (Izumi et al. 2004). The Japanese corpus has interviewees' TOEIC[4] and/or TOEFL scores if available, shown in brackets at the end of each example. In the example sentences, boldface is used for emphasis.

[3] The definite article '*the*' is not discussed in this research since we cannot judge if a noun is used as count or noncount when a noun in the singular form is modified by a definite article.

[4] Test of English for International Communication (TOEIC) is an international standardized test of English language proficiency for non-native speakers, which is provided by Educational Testing Service (ETS) in the United States. ETS designs and administers TOEFL (Test of English as a Foreign Language), which is a standardized test to measure the English language ability of non-native speakers who are planning to enroll in English-speaking universities.

Japanese Learners' Errors

1) There is a room and, ah, there is a girl and cat and dog. And there is a lot of **furnitures** and audio **equipments**. (TOEIC: 690)
2) He showed the broken cellular phone as **an evidence**. (TOEIC: 920)
3) So it's kind of hard for me to find some relevant, er, the past **researches** or the, you know, past studies in the book. (TOEIC: 990)
4) So probably, he will give you **some advices**, advice.
5) Could you give me **a information** about very popular place?
6) Why didn't you tell me the exact **informations**?
7) These fourth grade seniors are all has very interesting figures and **many knowledges**.

Chinese Learners' Errors

8) He put his **furnitures** in the living room on the ice.
9) Despite the physical condition of the women, modern **equipments** can help them a lot.
10) If you want to do some **researches** it will require much time... and much energy.
11) Oh, it's **a good advice**, thank you.
12) Can you give me some **advices**?
13) I have **another advice** to give you.
14) A boy went to the town and ask the Socrates to know... why he can get so **many knowledges**.
15) And after a while she found that getting **an information** was not so that easy.
16) We can get some new **informations** through it.

As these errors show, Japanese and Chinese learners make similar errors: pluralizing noncount nouns and modifying them with *a/an*. TOEIC scores of Japanese subjects show that even advanced learners make errors. TOEIC score 690 of (1) is roughly 540 in paper-based TOEFL (PBT) and 210 in computer-based TOEFL (CBT). TOEIC 920 (2) and 990 (4) are 610-640 in PBT and 260-270 in CBT. The C/NC distinction of abstract nouns is

very difficult for L2 learners from classifier languages, since abstract nouns provide no perceptual information and there are no guidelines to help them to predict if a particular abstract noun is used as count or noncount. *Research*, for instance, is a noncount noun, but it is impossible to predict a noncount use from its meaning. *Research* can be defined as a careful study of a subject, which can be designated by the count noun *study*. Inagaki (2014: 465) found that Japanese learners are insensitive to syntactic cues that distinguish between count and noncount nouns, and errors such as **advices* and **a news* are common. Hiki (1991: 140) found that the C/NC distinction of abstract nouns is the most difficult for Japanese learners of English among various types of nouns (e.g. collective nouns, individual nouns, material nouns, proper nouns).

The C/NC distinction of concrete nouns and that of abstract nouns pose two different questions to L2 learners. One question posed by concrete nouns is the mismatch between count-noncount syntax and semantics. For example, *furniture* is syntactically noncount in English, but it is semantically count denoting a collection of discrete objects. This causes L2 learners to make grammatical mistakes such as pluralizing *furniture*. The question posed by abstract nouns is the use of *a/an* with abstract noncount nouns[5] (e.g. *a knowledge of English*, *a courage that frightened their killers*) and the circumstances under which abstract nouns that have both a count and noncount use acquire count readings. For example, nouns denoting emotions such as *fear* are used as count nouns when they refer to a cause that arouses the emotion (e.g. *Crime is a constant fear*), while nouns denoting a state is used as count nouns when they refer to an event (e.g. *after a long silence*).

[5] In this study, abstract noncount nouns are defined as those abstract nouns that have no established count use. Abstract noncount nouns include those noncount nouns that may admit *a/an* such as *knowledge* and the noncount use of those abstract nouns that have both a count and a noncount use. The definition of abstract noncount nouns in this study is discussed in Section 2.2 in Chapter 2.

Unfortunately, research on the C/NC distinction has been conducted mainly on concrete nouns, and little research has been done on abstract nouns (Svensson 1998: 179, Amuzie & Spinner 2012: 415, Grimm 2014: 182). Also, the C/NC distinction of abstract nouns is often neglected in EFL/ESL teaching (Amusie & Spinner 2012: 430). Some researchers suggest using a dictionary when L2 learners are not sure if a noun is count or noncount (Downing & Locke 2002: 424, Swan 2005: 128, Tsang 2017: 345). However, grammar labeling of abstract nouns varies from dictionary to dictionary, and dictionaries often fail to provide information that L2 learners need regarding the C/NC distinction of abstract nouns. Table 1.1 shows how *freedom* is labeled in seven English learner's dictionaries.[6]

Table 1.1. *Freedom* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	the right to do what you want	U/C	U/C	U/C	C	U	U/P	C
2	the state of being free	U	U	U/S	U/C	U		U

U: Uncountable, C: Countable, P: Plural, S: Singular.

Freedom in the first sense is labeled as 'Countable' and 'Uncountable' in some dictionaries, 'Countable' in others, 'Uncountable' or 'Uncountable' and 'Plural' in still others. In the same way, *freedom* in the second sense is labeled as 'Uncountable' in some dictionaries, 'Uncountable' and 'Singular', 'Uncountable' and 'Countable', or 'Uncountable' and 'Plural' in others. A similar situation can be found in the grammar labeling of many other abstract nouns. Lexicographers are often not unanimous regarding

[6] Dictionary titles are abbreviated. Refer to the reference section for their titles. For example, LAAD represents *Longman Advanced American Dictionary* (2nd Ed).

the C/NC distinction of abstract nouns. Dictionaries may not be as helpful as expected.

1.2. Research Questions

This situation has led to the following research questions. Firstly, what is the connection between the use of *a/an* and abstract noncount nouns (henceforth referred to as ANNs), which have no established count use. Secondly, it needs to be investigated under which circumstances abstract nouns that have both a count and noncount use acquire count readings. Regarding the C/NC distinction of nouns, the following explanations are often found in reference grammars and learner's dictionaries.

1. The conceptualization of a referent determines whether the noun is count or noncount, and practically every noun can be used as either count or noncount in a proper context. (Taylor 2002: 378, Langacker 2008: 142-144)
2. Some ANNs such as emotion nouns and mental activity nouns admit *a/an* when they are pre-modified by an adjective and/or post-modified by a phrase or a clause. (Jespersen 1949, Quirk et al. 1985: 287, Swan 2016: 120.4, Hands et al. 2017: 64)
3. *A/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent. (Berry 1993: 21)

The first statement entails that any noun can be used as either count or noncount depending on how we interpret the referent of a noun. If this is the case, there is no point in exploring the connection between *a/an* and ANNs or the circumstances under which abstract nouns acquire count readings. We can use *a/an* with ANNs or can pluralize abstract nouns whenever we find it appropriate. The second statement means that there is

some syntactic correlation between the use of *a/an* and modifiers, and it implies that an ANN automatically combines with *a/an* when it is modified. The third statement is confusing and not very helpful for L2 learners. It is necessary to clarify the semantic connection between the use of *a/an* and the individual, particular nature of a referent.

The second and the third statement are examined with the data collected from the Bank of English, which is a general-purpose, reference corpus with 700 million words, and other corpora such as COCA (Corpus of Contemporary American English) and BNC (British National Corpus). Thirty-six abstract nouns are collected from the example sentences presented by twelve reference grammars and eight English learner's dictionaries as the evidence to support their proposition that ANNs admit *a/an* when they are modified. The following thirty-six nouns are selected:

anger	*anxiety*	*aversion*	*awareness*	*coarseness*	*consciousness*
courage	*determination*	*dislike*	*distrust*	*eagerness*	*education*
faith	*familiarity*	*fierceness*	*fondness*	*happiness*	*hatred*
help	*kindness*	*knowledge*	*love*	*peace*	*pride*
quietness	*rationality*	*sadness*	*sensitivity*	*shyness*	*silence*
sincerity	*sleep*	*tranquility*	*understanding*	*unhappiness*	*warmth*

A case study (Case Study A) is conducted to examine how frequently these nouns occur with *a/an* or ø when they are modified by a pre-modifying adjective, a post-modifying prepositional phrase and a relative clause.

Another case study (Case Study B) is conducted to examine if there are any combinations of a noun and an adjective that motivates the use of *a/an*. Fifty-one abstract nouns are selected and placed into four semantic groups (emotion, mental activity, quality, state) to examine if there is any semantic connection between these four types of nouns and three types of adjectives (classifying, qualitative, emphasizing) that motivate the use of *a/an* or ø. The following is a list of the fifty-one abstract nouns grouped into four

semantic groups:

Emotion nouns (i.e. nouns that denote emotions and feelings) (15 nouns):

anger, anxiety, comfort, fear, happiness, hatred, hope, joy, love, pleasure, sadness, sorrow, surprise, sympathy, worry.

Mental activity nouns (i.e. nouns that denote mental activities) (6 nouns):

awareness, consciousness, knowledge, perception, recognition, understanding.

Quality nouns (i.e. nouns that denote qualities of a person as part of his/her character) (15 nouns)

courage, cruelty, curiosity, determination, generosity, honesty, impatience, intelligence, intolerance, kindness, patience, sensitivity, shyness, sincerity, tolerance.

State nouns (i.e. nouns that denote a state of affairs) (15 nouns):

absence, confusion, dependence, freedom, health, illness, independence, marriage, peace, poverty, presence, silence, sleep, unemployment, war.

1.3. Purposes and Aims

The purpose of this research is to explore the connection between the use of *a/an* (as opposed to ø) with ANNs, which have no established count use, and to shed some light on the circumstances under which abstract nouns that have both a count and noncount use acquire count readings. This study subscribes to a usage-based, cognitive view of language and is based on the assumption that grammar reflects conceptualization, which is one of the major hypotheses of cognitive linguistics (Croft & Cruse 2004: 2). In cognitive linguistics, the notions of conceptualization, bounding and domain are employed to account for the C/NC distinction of nouns, and bounding is the basis of the C/NC distinction (Langacker 2008: 133). It is generally agreed that the noncount use of abstract nouns refers to the general phenomenon (i.e. generic reference), while the count use refers to individual instances or types (Biber et al. 1999: 244) as shown in the

following examples of *kindness* (17–19). Note: All the example sentences presented in this thesis are collected from the Bank of English unless otherwise noted. In the example sentences, boldface is used for emphasis.

17) It would be **a kindness** if you would collect up these papers for me.
18) Thank you for your **many kindnesses**.
19) Treat your elders with **kindness**.

Kindness in (17) and (18) are used as a count noun, and it is construed as an event, referring to a kind act (or acts) that is experienced at a particular time. *Kindness* in the sense of a kind act is count, since it refers to an event, which is bounded in time, i.e. in the domain of time. This type of count reading is often called 'event reading'. On the other hand, *kindness* in (19) denotes the quality of being kind in general, which is unbounded in time, and it is used as noncount. The noncount use is designated by the singular form of a noun with ø, while the count use is designated by the singular form of a noun with *a/an* and the plural form.

The semantic property of *a/an* is individuation, and the use of *a/an* indicates that a noun is used as count when it is used in the singular form. No other determiners give the meaning of individuation as clearly as *a/an*, except for *another*, *each*, and *every*, which rarely occur with abstract nouns (see Table 5.1 in Chapter 5). The frequency of occurrence with *a/an* and that with ø are compared to explore the conditions that allow the use of *a/an* with abstract nouns, particularly with ANNs.

Morpho-syntactically, abstract nouns can be grouped into four types in terms of the C/NC distinction: 1) Count nouns that have no established noncount sense (e.g. *problem, thing*). They occur in the singular form with *a/an* (henceforth referred to as *a*N) and in

the plural form (henceforth referred to as N*s*), but not in the singular form with a zero determiner (henceforth referred to as øN). 2) Noncount nouns that have no established count sense (e.g. *advice*, *luck*). They occur only in the form of øN. 3) Noncount nouns that may admit *a/an* but do not occur in the plural form (e.g. *knowledge*, *awareness*). They occur in øN and *a*N, but not in N*s*. 4) Nouns that have both a count and a noncount use (e.g. *experience*, *kindness*). They occur in all three NP forms (øN, *a*N or N*s*).

In EFL/ESL teaching, the first two types pose no problems. Their count and noncount statuses are lexically fixed regardless of their meanings and how their referents may be conceptualized. The last two types pose a serious challenge to L2 learners. First, they need to know the conditions that allow ANNs to co-occur with *a/an*. Second, various count readings are available for abstract nouns (e.g. type reading, event reading, cause reading, result reading, etc.), and L2 learners need to know the type (or types) of count reading available for a particular noun. This study focuses on the last two types of abstract nouns. The first two types of nouns are not discussed in this study, since their C/NC distinction is lexically fixed. The ultimate aim of this study is to develop practical guidelines that would help L2 learners to make an appropriate choice of NP forms (øN, *a*N or N*s*) when using abstract nouns.

1.4. The structure of the thesis

Chapter 2 briefly reviews various syntactic and semantic criteria that have been proposed to account for the C/NC distinction of both concrete and abstract nouns. It also reviews the connection between *a/an* and modification. Chapter 3 reviews the notion of bounding as a basis for the C/NC distinction of nouns. Chapter 4 introduces the Bank of English corpus, which provides the basic data for this research, and explains how I conducted my

research: e.g. how I searched for the combinations of [*a/an* (or ø) + (Adjective) + Noun] and how I sorted the collected data. It also explains how I analyzed the data and why I chose the descriptive statistics. Collostructional analysis is conducted with the Attraction and Reliance approach, which are descriptive measures of associations, to measure the associational strength between the [(*a/an*) + Adj + Noun (com, sing)] construction and *a/an* filling the slot in this construction and examine whether a modifier attracts *a/an* more strongly, or *a/an* attracts a modifier more strongly.

Chapters 5–7 (Case Study A) examine two propositions: 1. ANNs admit *a/an* when they are modified; 2. *A/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent. The connection between *a/an* and three types of modifiers is examined to check if a higher frequency of *a/an* is connected to the presence of modifiers: the connection between *a/an* (or ø) and pre-modifying adjectives in Chapter 5, between *a/an* (or ø) and post-modifying prepositional phrases in Chapter 6 and between *a/an* (or ø) and relative clauses in Chapter 7.

Chapter 8 (Case Study B) examines if a high frequency of *a/an* is connected to particular combinations of nouns and adjectives. For example, *long silence* and *short silence* occur with *a/an* far more frequently than with ø, while *absolute silence* and *total silence* occur with ø far more frequently than with *a/an*. Chapter 9 (Case Study C) explores the circumstances under which abstract nouns that have both a count and a noncount use acquire count readings. Chapter 10 looks into the grammar labeling of the C/NC distinction of abstract nouns in seven learner's dictionaries and addresses four issues. Some revisions are proposed based on the findings in this study to make dictionaries more helpful for L2 learners. Chapter 11 makes some suggestions on the way in which the C/NC distinction of abstract nouns should be taught in EFL/ESL classes.

Chapter 12 is the conclusion. It summarizes the findings in the previous chapters and gives an outlook on future investigations.

Chapter 2

C/NC Distinction of English Nouns and Questions It Poses to L2 Learners

2.1. Introduction

This chapter reviews previous studies on the C/NC distinction in English and addresses the problems it poses to L2 learners. For L2 learners, the issue with concrete nouns is the complexity of their grammatical behavior (e.g. determiner-head combination restrictions) and mismatches between count-noncount syntax and semantics (e.g. *Furniture* is noncount, while it is possible to count furniture). The problems with abstract nouns are the use of *a/an* with ANNs as in (1–2) and the fact that various types of count readings are available for abstract nouns: e.g. type reading (3), event reading (4), cause reading (5) and result reading (6).

1) Carpentry requires **a knowledge** of geometry and even trigonometry for advanced woodworking.
2) He discovered **a courage** he never knew he had.
3) WHO listed **17 illnesses**, ranging from Alzheimer's to tuberculosis to alcoholic liver disease, which need urgent attention.
4) There had been pauses, awkward **silences** as if neither had known what words to use.
5) Clean water is **a constant worry**.
6) In fact I'm atop **a wooden construction** – part dacha, part pagoda and as tall as Nelson's column – set in a forest.

Research on the C/NC distinction of English nouns has a long history ever since Jespersen (1909-49, vol. 2, ch. 5.2) recognized the distinction (Gillon 1992: 597, Svensson 1998: 52, Cowie 1999: 46, Lasersohn 2011: 1133). Since then, research has been mainly on concrete nouns, while little research has been done on abstract nouns

(Svensson 1998: 179, Amuzie & Spinner 2012, Grimm 2014: 182). Count nouns and noncount nouns are defined in semantics and syntax (including morphology). Semantically, the C/NC distinction of concrete nouns is generally explained in terms of ontology (i.e. the physical condition of a referent) or conceptualization (i.e. how the condition of a referent is interpreted). Whether in physical reality or in conceptualization, count nouns denote individual entities that can be counted, while noncount nouns denote undifferentiated substances that cannot be counted (Quirk et al. 1985: 246). With abstract nouns, there seem to be no clear semantic criteria that distinguish typical count nouns (e.g. *thing*, *problem*) from typical noncount nouns (e.g. *advice*, *luck*).

Syntactically, the C/NC distinction of concrete nouns is complex compared to that of abstract nouns. Concrete nouns are generally classified into several levels of countability, from fully count to fully noncount, depending on complex morpho-syntactic restrictions such as determiner-head combination restrictions (i.e. co-occurrence restrictions between determiners and nouns). In contrast, the C/NC distinction of abstract nouns is relatively simple. Morpho-syntactic restrictions do not need to be considered to distinguish count nouns from noncount nouns except the use of *a/an*. Abstract nouns can be grouped into four types: 1. count nouns (e.g. *thing*, *problem*); 2. noncount nouns (e.g. *advice*, *luck*); 3. noncount nouns that may admit *a/an* (e.g. *knowledge*, *awareness*); 4. nouns that have both a count and a noncount use (e.g. *experience*, *kindness*).

Section 2.2 reviews syntactic definitions of count and noncount nouns in previous studies. Section 2.3 reviews various notions that have been proposed to account for mismatches between count-noncount syntax and semantics. Section 2.4 reviews previous studies on the connection between modification and the use of *a/an* with abstract nouns.

2.2. Syntactic distinction between count and noncount nouns

This section shows that the C/NC distinction of concrete nouns is syntactically complex, while that of abstract nouns is relatively simple. Syntactically, nouns can be classified into several levels of countability based on various morpho-syntactic criteria, and the classification varies from linguist to linguist. Morpho-syntactically, Gillon (1996: 51) classifies nouns into two groups, mass nouns and count nouns, based on the seven criteria listed in Table 2.1.

Table 2.1. Morpho-syntactic criteria for mass/count distinction

MORPHO-SYNTACTIC CRITERIA	MASS NOUN	COUNT NOUN
modified by cardinal numerals	-	+
modified by quasi-cardinal numerals (e.g. *several*)	-	+
modified by indefinite article	-	+
modified by *many* and *few*	-	+
modified by *much* and *less*	+	-
SG/PL contrast	-	+
one antecedent	-	+

According to Gillon's classification, there are six criteria that positively identify count nouns, while there is only one criterion (*much* and *less*) that positively identify noncount nouns. His classification does not sufficiently describe the grammatical behavior of various nouns. There are many nouns that do not fit into his classification. For example, neither *knowledge* nor *police* marks a singular/plural contrast (SG/PL contrast in Table 2.1), but *knowledge* admits *a/an*, while *police* can combine with cardinal numerals (except *one*) and other quantifiers such as *many* and *few*.

In order to avoid the binary opposition between count and noncount nouns, nouns are

classified in terms of degrees of countability, based on various morpho-syntactic restrictions, such as determiner-head combination restrictions (i.e. co-occurrence restrictions between determiners and nouns). Huddleston (1984: 245) and Downing & Locke (2002: 422-424) classify nouns into six levels, Lasersohn (2011: 1135) into seven levels, Allan (1980) into eight levels, Wierzbicka (1988: 555-560) into fourteen levels, and Goddard (2010: 137) into eighteen levels. Classification depends on how much in detail each linguist describes the syntactic behavior of nouns: i.e. classification depends on which and how many restrictions they employ to distinguish the syntactic behavior of one group of nouns from that of another. The problem is that the more restrictions they use, the more likely they face disagreement on the restrictions. Among various syntactic restrictions, determiner-head combination restrictions are the most complex.

Huddleston (1984: 245) classifies nouns into uncountable nouns and fully countable nouns, and then he classifies uncountable nouns into four types, Degree I to IV, as shown in Table 2.2.

Table 2.2. Determiner-head combinations

	Degree	Examples	Determiners permitted from list (i-iv)
Uncountable	I	*equipment, outskirts*	None
	II	(α) *knowledge, phonetics*	*a*
		(β) *clothes, dregs*	*many, few*
	III	*cattle*	*many, few*, and relatively large round numbers
	IV	*police, people* ("persons")	All except those requiring a singular head
Fully countable	V	*cake, dog*	All

His classification is based on the following four types of co-occurrence restrictions between determiners and nouns (i-iv).

i the cardinal numerals *one, two, three*, etc.

ii other numerically quantifying expressions such as *both, a dozen*, etc.

iii the 'fuzzy' quantifiers *many, several, few*.

iv *a, another, each, every, either, neither*, which take singular heads.

Nouns are identified as count nouns when they satisfy all four criteria (V), and all the other nouns are noncount with varying degrees of countability (I–IV). In this classification, the syntactic feature of subject-verb agreement is not mentioned, and *equipment* (a singulare tantum) and *outskirts* (a plurale tantum)[7] are placed in the same group (I). *Police* and *people* (in the sense of persons) are classified as noncount. In the same way, those nouns that can occur with *many* and *few* (e.g. *clothes*, *cattle*) are classified as noncount.

Downing & Locke (2002: 420-428) divide nouns into six levels (A-F) as shown in Table 2.3.

[7] A plurale tantum (or a plural-only noun) is a noun which is plural in form and has no singular counterpart (Crystal 2008: 372). A singulare tantum (or a singular-only noun) is a noun that has no plural form and is only used with singular verbs.

Table 2.3. Distribution of countability markers of English nouns

	Type	MASS			COUNT				
		1	2	3	4	5	6	7	8
		0 + N.SG	*all* + N.SG	*much, little* + N.SG	*a*(*n*) + N.SG	*each, every, either* + N.SG	Number contrast on noun	*many,* (*a*) *few* + N.PL	Number concord with verb, pronoun.
A	FULLY MASS (some with *a*(*n*)) *drinking; luck, advice; furniture*	+	+	+	(+)				
B	FULLY MASS (some with *a*(*n*) or pluralised) *rain; happiness; help; education*	+	+	+	(+)		(+)		
C	FULLY MASS, FULLY COUNT *cake; building; truth; kindness, love*	+	+	+	+	+	+	+	+
D	Never mass, Partially count *people, police,* (*the*) *Alps, goods; scissors*							+	+
E	FULLY COUNT, Never mass (except number contrast on noun) *sheep, aircraft; barracks, means*				+	+		+	+
F	FULLY COUNT, Rarely mass *car; deed, fault; way, look*	(+)	(+)	(+)	+	+	+	+	+

NOTE: The plus sign '+' indicates that most nouns in the set admit the given mass or count marker, and the bracketed sign '(+)' indicates that some do not admit it.

Their classification is based on the following eight criteria of grammatical markers (i-viii).

(a) Grammatical markers of mass nouns

(i) The singular form of the noun with zero determiner: e.g. *beauty, coffee*.

(ii) The singular form of the noun preceded by *all*: e.g. *all sincerity.*

(iii) The singular form of the noun, quantified by *much, little, a little*: e.g. *much room, little furniture.*

(b) Grammatical markers of count nouns

(iv) The singular form of the noun determined by *a*(*n*): e.g. *a new job*.

(v) The singular form of the noun determined by *each, every*: e.g. *each day*, *every year*.

(vi) With number contrast marked on the noun: e.g. *lion/lions; child/children*.

(vii) Invariable or plural form of the noun preceded by a plural determiner: e.g. *many choices; those sheep*.

(viii) Plural number concord with verb or pronoun: e.g. People *like* to be happy, don't *they*?

Their criteria are different from Huddleston's. For example, the criterion of cardinal numerals is missing in Downing & Locke. On the other hand, Huddleston does not have zero determiner[8], the determiner *all*, noncount quantifiers (*much, little, a little*), and singular/plural contrast.

Lasersohn (2011: 1135) adds 'cumulative reference' and 'stubbornly distributive predicates' as criteria, and he classifies nouns into seven types as shown in Table 2.4.

[8] 'Degree I' in Table 2.2 may mean the zero determiner.

Table 2.4. Patterns distinguishing subclasses of singular, plural and mass nouns

	ordinary singulars	collective singulars	lexical plurals	ordinary plurals	hetero-geneous mass nouns	homo-geneous mass nouns	plural mass nouns
	cup	*government*	*police*	*cups*	*furniture*	*water*	*dues*
agreement	sg	sg/pl	pl	pl	sg	sg	pl
many vs *much*	*	*	*many*	*many*	*much*	*much*	*much*
numerals	*	*	?	✓	*	*	*
bare	*	*	✓	✓	✓	✓	✓
cumulative reference	no	no	yes	yes	yes	yes	yes
combine with "stubbornly distributive" predicates	✓	✓	✓	✓	✓	*	*

'Cumulative reference' is the criterion that originates with Quine (1960: 91). He defines cumulative reference as follows: "So-called mass terms like 'water', 'footwear' and 'red' have the semantical property of referring cumulatively: any sum of parts which are water is water." 'Stubbornly distributive predicates' include adjectives of size, shape, duration, etc. (e.g. *big*, *small, large*, *long*, *round*) that allow distributive readings, but stubbornly refuse to allow collective readings (Rothstein 2010: 360, Rothstein 2017: 87, Schwarzschild 2011). For example, *the big furniture* in '*Please carry the big furniture downstairs first*' refers to an individual piece of furniture. An adjective *big* allows only a distributive reading and refuses to allow a collective reading. The following criteria are missing in Table 2.4: singular/plural contrast, the determiner *all*, the indefinite article *a/an*, distributive determiners (e.g. *another, each, every, either, neither*).

Allan (1980: 562) classifies nouns into eight levels as shown in Table 2.5.

Table 2.5. Countability Preferences

NOUN								
ENVIRONMENT	*car*	*oak*	*cattle*	*Himalayas*	*scissors*	*mankind*	*admiration*	*equipment*
EX-PL	+	+	+	+	+	+		
A + N	+	+		+		+	+	
All + N	+		+	+	+			
F + N	+	+	+		?			
O-DEN	+	+						

(+ indicates that the given NP environment defines the head noun as countable)
(In the *All* + N Test, it is FAILURE that gets a plus, not success.)

His classification is based on five criteria (or what he calls NP environments): EX-PL (subject-verb and pronoun-antecedent agreement), *A* + N (*a*(*n*)*, one* + singular noun), *All* + N (*all* + singular noun), F + Ns (fuzzy denumerators + plural noun: (*a*) *few, several, many, about fifty*, etc.), and O-DEN (other denumerators: e.g. *each, every, either, both*, natural numbers from *one* to infinity). The following criteria in Table 2.3 are missing in Table 2.5: zero determiner and singular/plural contrast.

As has been shown, different linguists employ different criteria to classify nouns into several groups in terms of the degrees of countability. There are some differences between their classifications. For example, Allan's list (Table 2.5) has a class for nouns that are fully noncount (e.g. *equipment*), which does not admit *a/an*, while Downing & Locke's Type A nouns (i.e. fully mass nouns) (Table 2.3) may combine with *a/an*. Allan does not list the Type B nouns of Downing & Locke, which are fully noncount but may admit pluralization as well as *a/an*. Also missing in Allan's list are Type C nouns, which are fully count and fully noncount (e.g. *cake*, *kindness*).

There is some disagreement on determiner-head combination restrictions. Allan claims that *scissors* is not clearly grammatical in the F+Ns environment ((*a*) *few, several, many, etc.*), whereas Downing & Locke claim that *scissors* (Type D) admit such plural

determiners as *many* and *a few*. Downing & Locke claim that (*the*) *Alps* admits *many* and *a few* but not *a/an,* whereas Allan claims that *Himalayas* admits *a/an* but not *many*, *a few* and other fuzzy denumerators.

These differences in their classifications mostly come from disagreements on determiner-head combination restrictions, i.e. whether a particular noun combines with certain determiners such as *many*, *few*, *much*, *little*, low numerals, etc. Huddleston (1984: 245) states: "judgements concerning the acceptability of relevant determiner-head combinations are not always clear or constant from speaker to speaker." Considering these disagreements among linguists, it is pedagogically advisable not to include determiner-head combination restrictions in the criteria to distinguish between count nouns and noncount nouns.

Disregarding determiner-head combination restrictions as the criteria listed in Tables 2.1–2.5, there are five criteria left: inflection for number (or singular-plural contrast), subject-verb agreement (or singular-plural concord), direct combination with cardinal numerals (one to infinity), cumulative reference and stubbornly distributive predicates. From the five criteria, the last two criteria need to be removed, since neither of them (neither cumulative reference nor stubbornly distributive predicates) distinguishes noncount nouns (e.g. *furniture*) from count nouns in the plural form (*cups*). Based on the three criteria left, I suggest that nouns should be grouped into the following seven types as shown in Table 2.6.

Table 2.6. Morpho-syntactic classification of count and noncount nouns

	Noun Type	Concrete / Abstract	Examples	Singular/Plural Contrast			
				Mor-phology	Syntax	Cardinal Numerals	
				Inflec-tion	Subject-Verb Agreement	*one*	*two* to infinity
1	Typical Count Noun	concrete	*book, car, cat, pencil*	+	+	+	+
		abstract	*entity, irritant, piece, problem, thing*	+	+	+	+
2	Collective Noun	concrete	*committee, crew, family*	+	+/–	+	+
3	Identical SG/PL Noun	concrete	*sheep, barracks, headquarters*	–	+	+	+
4	Flexible Noun	concrete	*brick, rope, stone*	+/–	+	+/–	+/–
		abstract	*difficulty, experience, kindness*	+/–	+	+/–	+/–
5	Pluralia Tantum I	concrete	*people, police, cattle*	–	– (PL)	–	+
6	Pluralia Tantum II	concrete	*clothes, groceries, scissors*	–	– (PL)	–	– (?)
7	Typical Noncount Noun (Singularia Tantum)	concrete	*rice, garbage*	–	– (SG)	–	–
			equipment, furniture (object-mass noun)	–	– (SG)	–	–
			water, mud, gold (substance noun)	–	– (SG)	–	–
		abstract	*advice, courage, information, knowledge, luck*	–	– (SG)	–	–

Note: Pluralia tantum (or plural-only nouns) are nouns which are plural in form and have no singular counterpart (Crystal 2008: 372). Singularia tantum (or singular-only nouns) are nouns that have no plural form and are only used with singular verbs.
'PL' and 'SG' in 'Subject-Verb Agreement' mean that nouns occur with a plural verb and a singular verb respectively.

Typical count nouns satisfy all three criteria (marked with '+'), and typical noncount nouns (Singularia Tantum) satisfy none of the three criteria (marked with '–'). Highlighted in gray are abstract nouns. The grammatical behavior of the seven types of nouns in Table 2.6 are described below:

1. Typical Count Nouns satisfy all three criteria.
2. Collective Nouns satisfy all three criteria. The singular form can take either a

singular or a plural verb depending upon whether it is interpreted as referring to a single collective entity or a collection of individual entities. They can combine with numerals when they refer to more than one group.

3. Identical SG/PL Nouns have only one form, but they can take both a singular and a plural verb, and they can combine with numerals.
4. Flexible Nouns can be used as both count and noncount, and they can combine with numerals when they are interpreted as referring to discrete entities.
5. Pluralia Tantum I have only one form. They take a plural verb, and they can combine with numerals except *one*.
6. Pluralia Tantum II have only one form. They take a plural verb and may or may not combine with numerals.
7. Singularia Tantum satisfy none of the three criteria. ('Object-mass nouns' denote a set of individual entities.)[9]

Nouns of Type 1 to 6 are defined here as count nouns with varying degrees of countability. They can occur with a plural verb and with numerals, although the acceptability of numerals with pluralia Tantum II may vary from noun to noun and may depend on an individual judgment. Nouns of Type 7 are defined here as noncount nouns. They have only one form, and they always occur with a singular verb and do not directly combine with numerals. Noncount nouns can be defined morpho-syntactically as those nouns that occur in the singular form with a zero determiner (øN), while count nouns as

[9] Noncount nouns that denote a set of individual entities (e.g. *furniture*) are given different names: 'object mass nouns' (Barner & Snedeker 2005), 'naturally atomic mass nouns' (Rothstein 2010: 356), 'fake mass nouns' (Chierchia 2010a: 110), and other names such as 'count mass nouns,' 'individual mass nouns' and 'superordinate mass nouns' as opposed to superordinate count nouns (e.g. *animal* and *vehicle*).

those nouns that can occur with a plural verb (N*s*). The basic C/NC distinction can be represented by these two NP forms: øN and N*s*.

In Table 2.6, abstract nouns have three types (highlighted in gray). However, one more type needs to be added, i.e. noncount nouns that may combine with *a/an*. The combination with *a/an* is not listed as a criterion in Table 2.6 because the classification is based on the grammatical behavior of concrete nouns, and the combination with cardinal numerals can check if a noun can combine with *a/an*. This does not apply to abstract nouns. Abstract nouns that do not combine with numerals may admit *a/an* (e.g. *knowledge*). Thus, abstract nouns are grouped into the following four types:

Type I

Noncount nouns that have no established count use: e.g. *advice*, *fun*, *luck, research*.

7) In golf, I need to know the player well before I can give **advice** on how to respond under pressure of a big match.
8) It is **fun** to get a glimpse of what your past lives might have been.
9) It was **luck** that Agnes was alone that day.
10) Drug companies do not do **research** for the sake of our health.

Type II

Noncount nouns that have no established count use, but admit *a/an*: e.g. *courage*, *knowledge*.

11) I offer this ring as evidence that I have **knowledge** of his whereabouts.
12) Carpentry requires **a knowledge** of geometry and even trigonometry for advanced woodworking.
13) She led a full and active life right up to the last couple of weeks. She faced the situation with **courage** and died serenely and without pain.
14) We learned of passengers on a doomed plane who died with **a courage** that frightened

their killers.

Type III

Nouns that have both a count and a noncount use: e.g. *difficulty*, *experience*, *kindness*.

15) Martinson had **difficulty** in finding a publisher and eventually published the work himself.
16) "Each of those countries," said Frido, "has **a difficulty** in the relationship with Germany."
17) They must have had **difficulties** getting pregnant.
18) Since he had not had **experience** of dealing with data in which the principal source of error was statistical, this seemed a good chance for him to learn that too by helping take the data.
19) I have to make sure that the guest will have **an experience** in the hotel which will make him remember and come back.
20) Many men have also had **experiences** of sexual violence.
21) Treat your elders with **kindness**.
22) Deep inside of him, there was **a kindness** and a gentleness about him.
23) Thank you for your many **kindnesses**.

Type IV: Count nouns that have no established noncount use: e.g. *irritant*, *problem*, *thing*.

24) Caffeine can be **an irritant**.
25) Wash new clothes before use to remove **irritants**.
26) I have had **a problem** with alcohol.
27) If a doctor is having **problems** with alcohol or using psychotropic drugs, they can ring a colleague, anonymously.
28) Job security is **a thing** of the past and layoffs happen all the time.
29) Tribe, clan, village, community are **things** of the past.

The nouns of Type I are noncount regardless of their meanings and how their referents may be conceptualized, and they do not admit *a/an*. Type II nouns are noncount, and they

have no established plural, but they may admit *a/an*. Type III nouns can be used as both count and noncount. Type IV nouns are count regardless of their meanings and how their referents may be conceptualized. In this study, nouns of Type I and Type II are referred to as "abstract noncount nouns" or "ANNs". ANNs include the noncount use of Type III nouns. Nouns of Type III, which have both a count and noncount use, are referred to as "Type III nouns." Type IV nouns may be referred to as "abstract count nouns."

It should be noted that the noncount use of Type III nouns behave in the same way as Type II nouns, which have no established plural, but they may admit *a/an*. This means that *a/an* can occur with both a count and noncount use of Type III nouns. The problem is the distinction between [*a/an* + count use] and [*a/an* + noncount use]. For example, *kindness* is a Type III noun, which has both a count and noncount sense. *Kindness* is count when it denotes a kind act. It can be used with *a/an* as in (30), and it can also be used in the plural form as in (31). *Kindness* is noncount when it denotes the quality of being kind as in (32–33). The noncount sense of *kindness* may occur with *a/an* as in (34–35).

30) Thank you, it would be **a great kindness**.
31) Thank you for your **many kindnesses**.
32) Treat your elders with **kindness**.
33) Showing **kindness** is never wrong.
34) Yet, despite his bluster and bitterness, there was **a kindness** in Trey.
35) Deep inside of him, there was **a kindness** and a gentleness about him. (Beverly J. Bond-Cox. 2011. *Into the Outer Darkness: A Journey into Domestic Violence*, via Google Books)

A kindness in (34–35) does not refer to a kind act, but to the quality of being kind that a particular individual has. The use of *a/an* can be interpreted as indicating that the kindness

has an individual, particular nature, which distinguishes it from the general quality of being kind. The distinction between [*a/an* + count use] and [*a/an* + noncount use] depends on a context, and it is difficult to distinguish them without a context. However, there is a distinction as shown in the above examples between (30) and (34–35), and this is the reason why ANNs include the noncount use of Type III nouns as well as Type I and II nouns.

Previous studies focus mainly on the C/NC distinction of concrete nouns, and little attention has been paid to abstract nouns. This section has shed some light on abstract nouns. It has shown that the grammatical behavior of abstract nouns is relatively simple compared to that of concrete nouns, and that abstract nouns can be syntactically classified into four types, Type I to IV. This study focuses on the abstract nouns of Type II and Type III. Nouns of Type I and IV are not discussed in this study, since their C/NC distinction is lexically fixed.

2.3. Mismatches between semantics and syntax

This section reviews various semantic criteria that have been proposed to solve mismatches between semantics (physical condition of a referent) and syntax (i.e. grammatical behavior). Semantically, the C/NC distinction of concrete nouns is simple, although referents of concrete nouns take various forms in real life. A count noun denotes an object, while a noncount noun denotes a substance. There are many nouns whose grammatical behavior (i.e. syntax) does not reflect the physical conditions of referents (i.e. semantics). Table 2.7 shows a basic singular-plural system (Corbett 2000: 172).

Table 2.7. Different indicators of number-differentiability

Different indicators of number-differentiability				
	dog	*sheep*	*scissors*	*friendliness*
semantics	+	+	+	-
syntax	+	+	-	-
morphology	+	-	-	-

Corbett classifies nouns into four levels that represent the possible combinations of singular/plural contrast in semantics (i.e. referential properties), syntax (i.e. noun-verb agreement) and morphology (i.e. inflection for singular-plural contrast). *Dog* and *friendliness* have no mismatch between semantics, syntax and morphology. *Dog* marks a singular/plural contrast in all three domains, and *friendliness* marks a contrast in none of them. *Sheep* is semantically (i.e. perceptually) countable, and it marks a singular/plural contrast syntactically but not morphologically. *Scissors* is semantically countable, but syntactically plural, and it does not mark a singular/plural contrast morphologically.

Concrete nouns denote diverse entities, and their count or noncount status is generally explained in terms of referential properties (e.g. atomicity, individuability, boundedness, arbitrary divisibility, internal homogeneity, etc.). Referential properties do not always work well as the criteria for the C/NC distinction of concrete nouns. For example, perceptually similar entities may be designated by either count or noncount nouns (e.g. *lentils* vs. *rice*), and the same entity can be designated by either a count or noncount noun (e.g. *Remove your shoes* vs. *footwear*) or by a count or a noncount use of the same noun (e.g. *some ropes* vs. *some rope*).

Mismatches between count-noncount syntax and semantics are often observed. Some count nouns denote perceptually uncountable entities (e.g. *tear*, *cloud*), while some

noncount nouns denote perceptually countable entities (e.g. *toast*, *bacon*, *furniture*). For example, object-mass nouns such as *furniture* and *silverware* are morpho-syntactically noncount, but they denote countable entities, and it is possible to count furniture (Nicolas 2002: 134, Barner & Snedeker 2005: 51, Bale & Barner 2009, Chierchia 2010a: 151, Wiese 2012: 58).[10]

Observing these mismatches, some linguists argue that the C/NC distinction is arbitrary, unprincipled, or idiosyncratic (Bloomfield 1961: 266, Gleason 1955: 144-145, 1965: 135, McCawley 1975, Markman 1985, Palmer 1938: vi, Palmer 1971: 34-35, Ware 1975: 387, Whorf 1956: 141-142). Other linguists argue that grammatical forms are semantically motivated (Bloom 1996, Langacker 1987a, 1987b, 1991a, 1991b, 2008, Soja et al. 1991, Wierzbicka 1988, Wisniewski et al. 1996, Wisniewski et al. 2003, Wisniewski 2010).

Various criteria have been proposed to identify referential properties that could be shared by all count nouns or all noncount nouns: e.g. atomicity (Gillon 1996: 54, Chierchia 1998: 54, Rothstein 2010), cumulativity (Quine 1960: 91), divisity (Cheng 1973: 286-288), arbitrary divisibility (Wierzbicka 1988: 506-508), internal homogeneity, which includes divisibility, replicability and inherent boundedness (Taylor 2002: 367), boundedness, homogeneity, expansibility/contractibility and replicability (Langacker

[10] Nicolas (2004: 134) states as follows: "[…], furniture and silverware can also be counted. The linguistics department chair could ask someone to count the furniture in the main office. This person could straightforwardly answer: ten chairs, five tables, and six lamps. Likewise, the chair's wife may ask him to count the silverware that they have."

Rothstein (2017: 142) disagrees. She argues that counting furniture is not possible. She finds the following sentence infelicitous: ??*John has more tables than Bill has furniture*. She argues as follows: "Two sums in the count domain are compared directly in terms of their cardinalities as in *John has more tables than Bill has books*. However, a sum in the count domain and another in the noncount domain cannot be compared, unless the two sums are mapped onto some relevant scale, for example, on a scale of volume, where the sentence means that John's tables take up more space than Bill's furniture."

1991a: 69-70), contiguity and functional unity (Wierzbicka 1988: 543, Wisniewski et al. 1996: 297, Lee 2001: 142, Payne & Huddleston 2002: 336, Barner & Snedeker 2005: 63). Cumulativity and divisiveness (i.e. divisity and arbitrary divisibility) may be put together under the name of homogeneity (Pelletier 2012: 12).

Atomicity, inherent individuability and inherent boundedness are proposed to identify count nouns (or a count use of nouns). A count noun denotes an atomic entity, i.e. a bounded, individuated entity with internal structure, which cannot be divided into smaller parts of the same kind. These criteria do not sufficiently account for the morpho-syntactic properties of the following types of nouns.

1. Count nouns that denote entities that are difficult to count (e.g. *tear*, *mountain*, *ripple*).
2. Noncount nouns that denote countable entities (e.g. *aspirin*, *toast*, *bacon*).
3. Nouns that refer to similar entities (e.g. *rice* vs. *lentils*, *spaghetti* vs. *noodles*, *gravel* vs. *pebbles, sweat* vs. *tears*).
4. Nouns that refer to the same collection of entities (e.g. *foliage* vs. *leaves*, *clothing* vs. *clothes*/*garments*, *kitchenware* vs. *kitchen utensils*).

Divisity, arbitrary divisibility and internal homogeneity are proposed to identify noncount nouns (or a noncount use of nouns). They indicate that a portion of X (e.g. water) divided in two is still X. These criteria do not account for the grammatical behavior of homogeneous count nouns (e.g. *fence, line, wall*), and mass-count flexible nouns (e.g. *cord*, *cloud*, *forest*, *rope*, *sky, steak*, *stone*, *rock*) (Nicolas 2002: 128). For example, two adjoining fences can make one fence (Rothstein 2017:97), and the minimal part (i.e. atom) of a line is unstable and context-dependent (Rothstein 2017: 98). When a rope is cut into four pieces, you will have four ropes (Gillon 1996: 52).

Cumulativity indicates that any sum of parts which are X (e.g. water) is X (Quine

1960: 91), and it is expected to account for the noncount status of nouns that denote substances. However, it applies to count nouns in the plural form as well: e.g. “if the animals in this camp are horses and the animals in that camp are horses, then the animals in the two camps are horses” (Link 1983: 128). Cumulativity does not distinguish noncount nouns from count nouns in the plural form.

The examples above show that referential properties do not sufficiently distinguish between count nouns and noncount nouns. Then, some notions (or ideas), such as the cognitive individuation hypothesis, conceptualization and communicative function are proposed to show that there is a systematic relationship between count–mass syntax and how people conceptualize entities in the world (Middleton et al: 2004). The cognitive individuation hypothesis emphasizes the role of the human or cognitive agent. Our focus of attention influences our interpretation of the perceptual input, which motivates us to refer to an entity with a count or a noncount noun (Bloom 1996, Langacker 1987a, 1987b, 1991a, 1991b, 2008, Soja et al. 1991, Wierzbicka 1988, Wisniewski et al. 1996, Wisniewski et al. 2003, Wisniewski 2010). For example, the noncount syntax of *furniture* and *cutlery* is explained in terms of our ways of interacting with things. We use a collection of eating utensils (e.g. knives, forks, spoons) for a particular purpose (i.e. for eating) in one place at one time. The unitary function (i.e. being united by a common purpose) and the spatio-temporal contiguity make *cutlery* noncount (Wierzbicka 1988: 513, Wisniewski et al. 1996: 297, Lee 2001: 142, Payne & Huddleston 2002: 336, Barner & Snedeker 2005: 63).

Wisniewski (2010) proposes that speakers flexibly construe the referents of nouns as individuated or nonindividuated entities depending on what aspect of an entity speakers find important to communicate (communicative function). For example, *mashed potatoes*

and *scrambled eggs* are usually used in the plural form in American English, although they do not denote multiple entities. Wisniewski (2010: 186) argues that *mashed potatoes*, *scrambled eggs*, and other items of food are used in the plural form to communicate a message that the transformation (mashing, scrambling, etc.) is applied not to a substance but to multiple individuals (i.e. potatoes, eggs, etc.). Then, a question arises: why *furniture* (or *equipmen*t) cannot be pluralized when we want to communicate that we have more than one piece of furniture (or equipment) in mind.

Some linguists propose that the C/NC distinction of a noun is determined by how a referent is conceptualized (or construed), and every noun can be used as either count or noncount in a proper context (Gleason 1965: 137, Pelletier 1979: 6, Taylor 2002: 378, Langacker 2008: 142). They present examples of typical count nouns being used as noncount under semantic coercion, which is expected to force a noncount interpretation of a count noun as in (36).

36) After I ran over the cat with our car, there was **cat** all over the driveway.
(Langacker 1991a: 73)

Cat in (36) is used as a noncount noun because the structural integrity of the cat is destroyed. This type of count-to-noncount conversion does not make a good example since its acceptability is not very high, and it does not apply to abstract nouns very well because they do not provide perceptual information. Count-to-noncount conversion will be discussed further in Section 3.2. in Chapter 3.

These ideas have been proposed to solve the mismatches between count-noncount syntax and semantics and to show that there is a systematic relationship between them. However, there are some nouns whose grammatical behavior cannot be explained by any

of these ideas. For example, it is difficult to explain the noncount syntax of *toast*. *Toast* is a noncount noun, but it denotes an entity that is perceptually and conceptually countable. Also, it used to be a count noun as in (37).

37) He had stopped taking cereals after the age of sixty but after 85 he had to re-start on medical advice taking **two toasts** or some cornflakes.
(1978, cited from *The Oxford English Dictionary*)

Somehow, the current usage does not allow *toast* to be used as a count noun. This suggests that the C/NC distinction is not an ontological or a conceptual distinction (Rothstein 2010: 361) but a grammatical distinction. Gordon (1985: 227) argues that the distinction is essentially, but not exclusively syntactic. This is supported by the experiments conducted by developmental psychologists.

Some psychologists (Gordon 1985, Gentner & Boroditsky 2001, Barner & Snedeker 2006) cast doubt on the proposition that children's acquisition of the C/NC distinction is based on an object/substance distinction. A lot of research has been done by psychologists to determine whether the C/NC distinction is rooted in prelinguistic knowledge, or syntax provides the foundations for the conceptual development of the distinction (Wynn 1992, Spelke 1994, Imai & Gentner 1997, Hauser 2000, Wynn et al. 2002). Their studies deny the Quinian view of empiricism (Quine 1960) and indicate that the object/substance distinction and the concept of individuation are prelinguistic. On the other hand, children do not have a clear semantic categorization of mass nouns (i.e. concrete noncount nouns) prelinguistically, and they acquire it as they grow older with more linguistic experience and syntactic information (Gordon 1985, Soja et al. 1991, Bloom & Kelemen 1995, Yoshida & Smith 2005, Kouider et al. 2006, Barner & Snedeker 2006).

For example, Soja et al. (1991) found that 2-year-olds were more consistent with a solid object than with a non-solid substance in differentiating objects and substances. Children's ontological knowledge of solid objects and concept of individuation mostly coincide with the semantic and syntactic categorization of count nouns, while that of nonsolid substances does not fit very well into the grammatical categorization of mass nouns. Children at the age of 2, 2½, and 3 years have not acquired the semantic categorization of mass nouns, and they need syntactic encouragement to conceptualize nonsolid substances as a semantic category of mass nouns.

Children become sensitive to the count/noncount and singular/plural distinction at the age of two and become able to extend the semantic categorization of noncount nouns to novel words at around five. They acquire the semantic categorization of noncount nouns through syntactic information, but not through semantic analysis. Gordon (1985) says that syntactic cues are clearly the most effective and predominate over semantic cues as a basis for the C/NC distinction of concrete nouns. This probably applies to the C/NC distinction of abstract nouns, since abstract nouns provide no perceptual information. Then, the question is the conceptual basis that distinguishes the count use and the noncount use of abstract nouns.

Abstract nouns, by definition, denote abstract entities, which lack distinct physical properties.[11] Unlike concrete nouns, the C/NC distinction of abstract nouns is not based on the physical condition of a referent, or the perceptual input received from a referent. Among various criteria that have been proposed to account for the C/NC distinction of concrete nouns, bounding is probably the only notion that may apply to abstract nouns. Langacker (1987b: 207) and Radden & Dirven (2007: 80–83) mention the applicability

[11] There are some abstract nouns that can be reified as physical entities (ontological metaphor): e.g. *beauty* in *all these Bond beauties*, referring to beautiful women.

of bounding to the C/NC distinction of abstract nouns. Chapter 3 will introduce the notions of conceptualization, bounding (or boundedness) and domain that are employed to account for the C/NC distinction of nouns in cognitive linguistics, and discuss the applicability of these notions to the C/NC of abstract nouns.

2.4. Connection between modification and the use of *a/an* with ANNs

This section reviews how the connection between modification and the use of *a/an* with abstract nouns is described in reference grammars and learner's dictionaries. Twelve reference grammars and eight learner's dictionaries (in the entry for the indefinite article *a*) are consulted (listed in Table 2.8 below). Six learner's dictionaries mention the presence of an adjective and a postmodifier (e.g. phrase, clause) that is connected to the use of *a/an*. OALD states as follows: "[*A/an* is] used before uncountable nouns when these have an adjective in front of them, or phrase following them." CALD and MEDAL do not directly mention the presence of an adjective or a postmodifier, but they imply it with illustrative sentences. CALD states as follows: "[*A/an* is] used before some uncountable nouns when you want to limit their meaning in some way, such as when describing them more completely or referring to one example of them", along with the following illustrative sentences (38–39), in which *knowledge* (38) and *love* (39) are modified by an adjective (*limited*, *great*) and a prepositional phrase (*of Spain*, *of music*).

38) I only have **a limited knowledge** of Spanish. (CALD)
39) He has **a great love** of music. (CALD)

As examples of nouns that may combine with *a/an*, Quirk et al (1985) list three nouns: *education*, *dislike*, *sensitivity*. The types of nouns may be mentioned. For example, Hands

et al (2017: 64. 1.233) mention nouns that denote human emotions and mental activity. Regarding the frequency of cooccurrence of *a/an*, Swan (1995: 139) states as follows: "we have to use *a/an* when we are limiting their meaning in some way." Berry (1993: 20-21) states as follows: "Many abstract nouns, […], can be used with the indefinite article when an adjective is used with them." Others mention the frequency of occurrence of *a/an* using adverbs such as *often* and *sometimes.* Many others do not mention the frequency. COBUILD states as follows: "You use *a* or *an* in front of an uncount noun when that noun follows an adjective, or […]", which implies that *a/an* is generally used when a noun is modified. Regarding semantic conditions that motivate the use of *a/an*, some mention instance and type. Biber et al. (1999: 244) states as follows: "[…] the uncountable use refers to the general phenomenon, while the countable use refers to individual instances or types." Table 2.8 summarizes their accounts of the connection between *a/an* and modification.

Table 2.8. Connection between *a/an* and modification

Grammars and Dictionaries	Nouns	Types of Nouns	Frequency of *a/an*	Syntactic Conditions		Semantic Conditions
				pre-modifier	post-modifier	
CALD	*knowledge, love, fierceness*	N/A	Generally	N/A	N/A	referring to one example
COBUILD Am	*happiness*	N/A	Generally	adjective	words	describe more fully
COBUILD Br	*sadness*	N/A	Generally	adjective	words	describe more fully
LAAD	*beauty, coarseness*	N/A	Generally	adjective	phrase	other information is added
LDOCE	*knowledge*	quality, feeling	Generally	adjective	phrase, clause	other information is added
MALED	*warmth, fondness, rain*	N/A	Often	adjective	phrase	N/A
MEDAL	*knowledge, determination*	quality, feeling	Generally	N/A	N/A	described in some way
OALD	*knowledge, sadness*	N/A	Generally	adjective	phrase	N/A
Berry (1993)	*hatred, anger, charm*	N/A	Possible: *a/an* can be used	adjective	qualifier (clause)	referring to type/instance
Biber et al. (1999)	*education, freedom, kindness*	N/A	N/A	N/A	N/A	referring to type/instance
Downing & Locke (2002)	*courage, sincerity*	N/A	Possible: *a/an* can be used	N/A	defining qualifier	referring to type/instance
	sleep, knowledge, happiness, help, pride, fog	N/A	Possible: *a/an* can be used	especially when modified		N/A
Francis et al (1998)	*anxiety, faith, happiness*	N/A	Possible: *a/an* can be used	modifier	qualifier	N/A
Hands et al (2017)	*eagerness, education, knowledge*	emotions, mental activity	Sometimes	adjective	phrase, clause	giving more information
Hewson (1972)	*silence*	N/A	N/A	Modifiers, whether adjectival or phrasal, do not affect the use of the [indefinite] article.		Count: type or quality Noncount: size or quantity
Jespersen (1949)	*silence, death, desire, heresy, familiarity, rationality, aversion, shyness, rain, dew*	N/A	Frequently, Practically always	adjective	phrase, clause	N/A
Payne & Huddleston (2002)	*knowledge*	N/A	N/A	N/A	N/A	to individuate a subamount of knowledge
Quirk et al (1985)	*education, dislike, sensitivity*	quality/abstraction of a person	N/A	Pre- and/or post-modified. Greater the amount of modification, greater the acceptability of *a/an*.		N/A

Sinclair (1992)	*conflict*	N/A	Generally	N/A	N/A	a particular instance
Svensson (1998)	*danger, stupidity*	N/A	Occasionally	adjective	post-modification	a specific type
Swan (1995, 2005, 2016)	*knowledge, distrust, sleep, understanding, education, help*	emotions, mental activity	Have to use *a/an* (1995), Often (2005)	N/A	N/A	limiting the meaning in some way

N/A: Not Available

All the nouns listed in Table 2.8 are abstract nouns except three concrete nouns, *rain*, *fog* and *dew*, which are all weather related. Some of the nouns such as *kindness* and *death* have an established count use (e.g. *many kindnesses*, *many deaths*). There are at least eight abstract nouns that have an established count use, i.e. Type III nouns (*beauty*, *conflict*, *death*, *desire*, *freedom*, *kindness*, *love*, *silence*). Reference grammars and learner's dictionaries generally list both Type II nouns (e.g. *knowledge*) and Type III nouns as abstract noncount nouns (ANNs).

The column 'Types of Nouns' in Table 2.8 shows that nouns that denote human emotions, mental activity and a quality of a person (e.g. *education*, *knowledge*, *sensitivity*) are mentioned as the types of nouns that may combine with *a/an* (Hands et al. 2017: 64, Quirk et al. 1985: 287, Swan 2016: 120.4, LDOCE, MEDAL). The column 'Frequency of *a/an*' shows how frequently ANNs occur with *a/an* when they are modified. The frequency of occurrence with *a/an* varies. Some state that it is obligatory (Swan 1995, Jespersen 1949), while others state that we don't have to use *a/an* just because of the adjectives (Berry 1993, Hewson 1972). Many of them do not mention how frequently ANNs occur with *a/an*, which implies that it is a general rule that ANNs occur with *a/an* when they are modified. Thus, the frequency is described as 'Generally' in the column of 'Frequency of *a/an*'.

The connection between *a/an* and a modifier is described from two aspects: syntactic and semantic (in the two rightmost columns). Syntactically, many authors imply that modifiers motivate the use of *a/an*. Semantically, there are two types of explanation. The first type simply describes the function of an adjective (or other types of modifiers), i.e. to specify the attributes of nouns, which is mentioned in various ways, such as 'describe more fully' (COBUILD Am, Br), 'other information is added' (LAAD, LDOCE), 'limiting the meaning in some way' (Swan 1995, 2005, 2016), etc. In this type, the syntactic condition, i.e. the presence of a modifier, is directly linked to the semantic condition, and the semantic conditions such as 'describe more

fully' are redundant. The other type explains that *a/an* is used when a noun refers to a type (or kind) or an instance (Sinclair 1992, Berry 1993, Svensson 1998, Biber et al. 1999, Downing & Locke 2002). In this type, the semantic condition (i.e. reference to a type or an instance) is not directly linked to the syntactic condition (i.e. the presence of a modifier). However, the nouns in all the examples presented by the reference grammars and dictionaries are modified in some way, which means that the presence of a modifier is implied.

Various descriptions of the connection between *a/an* and modification in Table 2.8 can be summarized as follows:

i) Modifiers include pre-modifying adjectives and post-modifying phrases and clauses that describe the quality or feature of a referent of a noun.
ii) There is a syntactic connection between *a/an* and a modifier. It is implied that the presence of a modifier motivates the use of *a/an*.
iii) There is a semantic connection between *a/an* and a modifier. Some ANNs admit *a/an* when they refer to a type (or kind) or an instance.

Reference grammars and dictionaries generally agree that there is some connection between *a/an* and a modifier,[12] either syntactic connection or semantic connection or both, in which the presence of a modifier motivates the use of *a/an*. They seem to assume that an ANN does not combine with *a/an* unless it is modified. Hands et al (2017: 64. 1.233) states as follows:

> Sometimes, *a* or *an* are used with an uncountable noun, especially one that relates to human emotions or mental activity. This only happens when the uncountable noun is limited by an adjective, or a phrase or clause giving more information.

[12] Hewson (1972: 124) is the only exception. He argues: "Modifiers, whether adjectival or phrasal, do not affect the use of the [indefinite] article."

A general education is perhaps more important than an exact knowledge of some particular theory.
She had an eagerness for life.

According to Hands et al, an ANN such as *education*, *knowledge* and *eagerness* can combine with *a/an* only when it is modified. However, ANNs can combine with *a/an* without a modifier as in (40–44).

40) Although she was a girl she wanted **an education**. (Biber et al. 1999: 244)
41) **A knowledge** comes to men in battle when the battle is nearly lost.
42) His body continues to shrink, his sores split and multiply, his vision grows dark; but **an eagerness** returns, words begin to form. Miracle of miracles, the words begin to come. At first a simple statement, a request. I'm hungry.
43) There was **an anger** in him. He would fight anyone.
44) In rediscovering their sexual identities they alight from Freud's analogous "train journey" of analysis and achieve, albeit somewhat fragile, **a happiness**.

It is generally agreed that there is some connection between the use of *a/an* and modification. However, it seems to be difficult to explain the connection syntactically. Semantic analysis of the connection seems to be required. The connection between *a/an* and modification is discussed further in Chapter 5 to Chapter 7: the connection with adjectives in Chapter 5, the connection with prepositional phrases in Chapter 6 and the connection with relative clauses in Chapter 7.

Chapter 3

Theoretical Basis of the Study

3.1. Cognitive linguistics and the C/NC distinction of nouns

This research is based on the assumption that grammar reflects conceptualization (or construal); i.e. syntactic and morphological representation is basically conceptual, which is one of the major hypotheses of cognitive linguistics (Croft & Cruse 2004: 2). This section introduces the notions of conceptualization, domain and bounding that are employed to account for the C/NC distinction of nouns in cognitive linguistics. Then, in the following sections (3.2–3.4), I will point out three issues with these notions that need to be discussed in applying them to the C/NC distinction of abstract nouns: bounding and flexibility of C/NC distinction in Section 3.2, flexibility of C/NC distinction and Type III nouns in Section 3.3 and domains of instantiation and C/NC distinction in Section 3.4.

In cognitive linguistics, the notions of conceptualization, bounding (or boundedness) and domain are employed to account for the C/NC distinction of nouns, and bounding is the basis of the C/NC distinction (Langacker 2008: 133). Bounding is often mentioned in the literature of cognitive linguistics, which includes cognitive grammar (Langacker: 1987, 1991, 2008) and cognitive semantics (Talmy: 2001). A noun is count when a referent is conceptualized (or construed) as having inherent boundaries (i.e. being bounded), and a noun is noncount when a referent is construed as not having inherent boundaries (i.e. being unbounded). The same entity may be designated by a count or a noncount noun (e.g. *leaves* vs. *foliage*) depending on how the condition of a referent is interpreted. The count noun *leaves* evokes a more fine-grained construal than the noncount noun *foliage* (Croft & Cruse 2004: 64). The same noun may be used as count or noncount depending on a speaker's construal. For example, typical count nouns such as *shelf* and *table* may be used as noncount from a termite's point of view as in (1).

1) I don't like shelf – I'd rather eat table. (Langacker 1991a: 72-73).

In this sentence (1), *shelf* and *table* are interpreted as food, i.e. they are conceptualized in the food domain and construed as being unbounded, which allows *shelf* and *table* to be used as noncount. This example shows that the C/NC distinction of a noun depends on the domain in which a referent is conceptualized: e.g. furniture domain or food domain. Langacker (1987) uses the term 'domain' for the base when he makes a distinction between the notions of profile and base. Profile–base organization is a special kind of figure/ground relation between an expression and its conceptual base (Radden & Dirven 2007: 30). The profile refers to the concept symbolized by the word in question, and the base (or domain) is the knowledge that is presupposed by the profiled concept (Croft & Cruse 2004: 15). Langacker (1987: 488) defines domain as a coherent area of conceptualization relative to which semantic units may be characterized. In other words, domain is the necessary context for the characterization of a word. For example, a knife is a cutting tool in the domain of 'eating', while it is a weapon in the domain of 'fighting' (Radden & Dirven (2007: 11). Some basic domains are space, time, smell, color, etc.

The domain in which the presence or absence of bounding determines a noun's categorization as count or noncount is the domain of instantiation (Langacker 2008: 134). Instantiation is the mental operation serving to transform a type conception (e.g. *dog* as a type of animal) into an instance conception (e.g. each individual dog) (Langacker 2008: 267). For concrete nouns that refer to physical objects and substances, the primary domain of instantiation is space (i.e. physical space), and the notion of bounding makes a good semantic criterion. For abstract nouns, the notions of bounding and domain do not work very well in accounting for the C/NC distinction, since abstract nouns provide no perceptual input and they are

conceptualized in various domains of instantiation (space, time, type, cause, etc.).

Based on the hypothesis that grammar reflects conceptualization, cognitive linguists claim that the C/NC distinction is flexible, depending on how a speaker interprets a referent (Biber *et al*. 1999: 242, Taylor 2002: 371-2, Langacker 2008: 142, Croft & Cruse 2004: 8). However, there are some nouns that are not used as count even when a referent is construed as being bounded: e.g. *furniture* and *advice* are syntactically noncount even when they refer to individual pieces. I will argue that the C/NC is flexible only with nouns that have both a count and noncount use (Type III nouns) and that the grammatical distinction does not always reflect the conceptual distinction.

3.2. Bounding and flexibility of C/NC distinction

The C/NC distinction of concrete nouns is basically determined by the physical condition of a referent. Count nouns denote individual objects that can be counted (e.g. *car*, *dog*), while noncount nouns denote undifferentiated substances that cannot be counted (e.g. *flour*, *water*). In cognitive linguistics, it is generally agreed that the C/NC distinction of nouns reflects how a speaker chooses to conceptualize an entity they want to talk about (Biber *et al*. 1999: 242, Taylor 2002: 371-2, Langacker 2008: 142, Croft & Cruse 2004: 8). Nouns that refer to physically countable entities may be used as noncount when they are construed as being unbounded as in the case of *shelf* and *table* that are interpreted as food by a termite. Cognitive linguists claim that the C/NC distinction is flexible and that every noun can be used as either count or noncount depending on how the condition of an entity is construed. For example, Langacker and Taylor argue as follows:

Langacker (2008: 142-144):

Being conceptual in nature, the count/mass distinction reflects our capacity for conceiving

and portraying a situation in alternate ways. The dexterity we exhibit in this regard has the consequence that categorization is rather fluid. In one way or another, probably every noun can be used in either manner.

(8) (d) *With pre-owned vehicles, you get a lot of car for your money*.

(9) (b) *After a cat got in the way of our SUV, there was cat all over the driveway*.

Taylor (2002: 378):

In fact, it may not be too outrageous to suggest that just about any noun – some more readily than others, to be sure – can, under special circumstances, be used as either count or mass.

(3) a. *After the accident, there was cat all over the road*.

b. *There's a smell of cat in this room*.

Predominantly count nouns such as *cat* and *car* may be used as noncount when their structural integrity is destroyed (9b, 3a) or when they are construed as being unbounded (8d, 3b). *Cat* in (9b, 3a) has lost its physical integrity. *Car* in (8d) is construed as the space it provides, and *cat* in (3b) is interpreted as its smell. Cognitive linguists present these examples of count-to-noncount shifts of concrete nouns to demonstrate that the C/NC distinction of nouns is flexible. Somehow, they do not present abstract nouns as examples. They contrive sentences with a typical count noun in a noncount context that is expected to force a noncount reading of a count noun, i.e. count-to-noncount conversion.[13] The following (a-m) are some examples. There are two types of count-to-noncount conversion: deformation type (a-m) and domain shift type (n-v).

Deformation type:

a) Put some apple in the salad. (Quine 1960: 91)

b) He's got egg on his tie. (Celce-Murcia & Larsen-Freeman 1999: 295)

[13] 'Conversion' is also known as 'reclassification' (Quirk, et al.1985: 248, 1564) or 'recategorization' (Corbett. 2000: 84).

c) There is man all over the floor. (Pelletier 1979: 6)

d) There is cat all over the driveway. (Talmy 2000: 52)

e) There was cat all over the driveway. (Huddleston & Pullum 2002: 337)

f) After the accident, there was cat all over the road. (Taylor 2002: 378)

g) After I ran over the cat with our car, there was cat all over the driveway. (Langacker 1991: 73)

h) There was dog all over the road. (Corbett 2010: 84)

i) There was dog splattered all over the road. (Bach 1986: 10)

j) After several lorries had run over the body, there was rabbit splattered all over the road. (Copestake & Briscoe 1991: 98)

k) Emmy finds squashed spider more nauseous than the thing alive. (Allan 1980: 547)

l) The scrapyard is full of smashed car awaiting recycling. (Allan 1980: 547)

m) After he had finished the job, there was bicycle all over the floor. (Rothstein 2010: 390)

Domain shift type:

n) The termite was living on a diet of book. (Huddleston & Pullum 2002: 337)

o) Johnny is very choosey about his food. He will eat book, but he won't touch shelf. (Gleason 1965: 136)

p) It smells like new baby here. (Reid 1991: 88)

q) There's a smell of cat in this room. (Taylor 2002: 378)

r) The whole neighbourhood is full of skunk. (Radden & Dirven 2007: 73)

s) With pre-owned vehicles, you get a lot of car for your money. (Langacker 2008: 143)

t) Could you move along a bit? I haven't got much table. (Cruse 2004: 274)

u) You and Angus cannot be in the tub together. That's too much boy. (Reid 1991: 89)

v) I can hear too much piano and not enough violin. (Cruse 2004: 274)

The sentences (a-m) are of the deformation type (Talmy 2000: 52), and (n-v) are of the domain shift type[14] (Dirven & Pörings 2003: 14-15, Radden & Dirven 2007: 73). In the deformation type (a–m), a discrete entity (i.e. a bounded entity) loses its physical integrity and turns into an unindividuated substance (i.e. an unbounded entity). For example, *cat* in (d–g)

[14] The domain shift type of conversion is also called 'metonymical reinterpretation' (Cruse 2011: 274) or 'image-schematic transformation' (Evans and Green 2006: 187).

refers to a substance-like entity, which is indicated by the context in which one cat is all over the driveway. In this context, the cat is expansible, which is expected to allow the noncount use of *cat*. In the domain shift type (n–v), a referent is physically intact, but it is perceived in a domain where its discreteness is irrelevant. For example, in (n–o), the context calls for a noncount interpretation of *book* as a food substance from a termite's point of view. In (p–v), a discrete object (baby, cat, skunk, car, table, boy, piano, violin) is reinterpreted as the smell (p, q, r), the space it occupies (s, t, u) or the sound it emits (v).

With these examples, the linguists try to show that typical count nouns with no established noncount sense can be used as noncount when a referent is unbounded whether in objective reality (i.e. deformation type) or in conceptualization (i.e. domain shift type). However, the C/NC distinction is not as flexible as they argue. Kodera (2016b) conducted a questionnaire survey to test the acceptability of some of the sentences listed above. It was found that semantic coercion (i.e. a context that forces a noncount reading of a count noun) does not guarantee a high acceptability of the noncount use of concrete count nouns. The noncount use is generally not considered 'Perfectly Acceptable' or 'Moderately Acceptable' among the following five response levels: Perfectly Acceptable, Moderately Acceptable, Neither Acceptable nor Unacceptable, Moderately Unacceptable, Totally Unacceptable.

Count-to-noncount conversion under semantic coercion may be possible, but it does not mean that every noun can be used as either count or noncount depending on how the condition of an entity is construed. There are two important points that should be noted here. First, all the examples represent count-to-noncount shifts of concrete nouns. Examples of shifts in the opposite direction are not found (e.g. count use of *furniture*). Second, none of the example sentences has abstract nouns (e.g. count use of *advice*). Somehow, linguists do not present examples of typical noncount nouns such as *furniture* and *lightning* being used as count nouns. *Furniture* and *lightning* should make good examples, since it is possible to count furniture and

lightning as indicated by the expressions such as *two pieces of furniture* and *ten bolts of lightning*. The ungrammatical count use of *lightning* such as **a lightning* and **these lightnings* would be interpreted as *a flash of lightning* and *these flashes of lightning* without much difficulty (Allan 1980: 554). More importantly, none of the example sentences listed above has abstract nouns, although it is necessary to present examples of noncount-to-count shifts of typical abstract noncount nouns (e.g. *advice*, *luck*), and count-to-noncount shifts of typical abstract count nouns (e.g. *piece*, *object*, *thing*) to support their argument. Examples of typical abstract count and noncount nouns are not found in the previous studies that I have checked.[15]

Linguists do not present examples of noncount-to-count shifts of concrete nouns (e.g. *furniture*) or abstract nouns (e.g. *advice*), probably because the grammatical behavior of typical noncount nouns such as *furniture* and *advice* does not support the flexibility of the C/NC distinction. For example, *advice* keeps its noncount status even when it refers to individual pieces of advice as in the following example (2).

2) You've probably heard a lot of **different advice** about guessing on multiple-choice questions on the SAT. Some teachers and guidance counselors tell their students never to guess and to mark an answer only if they're absolutely certain that it's correct. Others tell their students not to guess unless they are able to eliminate two or three of the choices. Both of **these pieces of advice** are incorrect. Even ETS is misleading about guessing. (*Cracking the SAT Premium Editin with 8 Practice Tests*, 2015: 10)

Advice in *a lot of different advice* in (2) clearly refers to at least two individual pieces of advice, and *advice* is construed as being bounded. However, a count use is not available for

[15] Radden & Dirven (2007: 83) state: "Given the appropriate context, however, more or less all abstract things may also be viewed as object-like." They present an example of the noun *strength* used as a count noun, and they state as follows: "For example, the noun *strength* is normally used as a mass noun, but when it is used as a count noun as in *His strengths are mathematics and tennis*, it refers to different kinds of strength." However, *strength* is not a typical noncount noun such as *advice* and *luck*. Its count use is established and listed in dictionaries.

advice in current usage, and the plural form of **advices* is unacceptable. Conceptualization (or construal) does not make unavailable readings available, although diachronically unavailable readings may become available (e.g. *aspirin* used to be noncount, but now it can be used as both count and noncount), and available readings may become unavailable (e.g. *advice* used to be a count noun, but now it is noncount).

The notions of bounding and conceptualization do not explain why some abstract noncount nouns (e.g. *advice*, *luck*) and concrete noncount nouns (e.g. *equipment*, *furniture*) cannot be used as count nouns when they refer to individual entities. Conceptually, there is nothing that should prevent a count use of *advice* and *luck*. In fact, *advice* and *luck* used to be count nouns. *The Oxford English Dictionary* (OED) and *The Corpus of Historical American English* (COHA) show that *advice* used to admit *a/an* and pluralization, referring to a piece of advice or pieces of advice as in (3–6). In the same way, OED has examples of *lucks* in the plural form, which refer to instances of luck as in (7–8).

3) You want **an advice**? (Garson Kanin. 1974. *Dreyfus in Rehearsal*, cited from COHA)
4) My brother told me he had given **advices** to you to go without delay.
(Thomas B Costain. 1957. *Below the Salt*, cited from COHA)
5) These are so **many advices** which it is easy to give, but difficult to follow. (Edward Gibbon. 1796. *The Miscellaneous Works of Edward Gibbon, Esq*., cited from OED)
6) The **advices** of some of the elders.
(*True Latter Day Saints' Herald*. 1 Oct. 1871, cited from OED)
7) **One of the lucks** of war with which they had to contend or to which they had to submit.
(*Solicitor's Journal*. 8 May 1897, cited from OED)
8) He went from mail room to board room in lickety-split time by a combination of charm, insolence, innuendo, instinct, chutzpa, brains, various chicaneries and **good lucks** — in other words, your typical American rise to the top.
(Larry Kramer. 1978. *Faggots*, cited from OED)

The grammatical behavior of *advice* and *luck* in current usage seems to be a historical accident and beyond explanation. At a certain point in history, *advice* and *luck* shifted from count to noncount although they have retained the denotation of an individual opinion and a chance occurrence of a situation respectively. The notions of bounding and conceptualization (or construal) do not explain the noncount syntax of those abstract nouns that have only a noncount use but can refer to individual instances. Grammatical convention seems to take precedence over the notions of bounding and construal with these nouns.

The argument that the C/NC distinction reflects conceptual distinction applies to those abstract nouns that have both a count and a noncount use (i.e. Type III nouns such as *kindness* and *silence*), but not to those nouns with only a noncount or count use (Type I and Type IV nouns respectively). *Kindness* and *silence* are count when a referent is construed as being bounded in time, referring to a kind act and a period of silence respectively, while they are noncount when they refer to the quality of being kind and the state of being silent in general respectively. On the other hand, Type I nouns (e.g. *advice*, *luck*) do not acquire a count reading even when a referent is construed as being bounded.[16] In the same way, concrete noncount nouns such as *furniture* and *lightning* do not acquire a count reading. The C/NC distinction is not a direct reflection of the conceptual distinction (Rothstein 2010: 344).

3.3. Flexibility of C/NC distinction and Type III nouns

The C/NC distinction is flexible with those abstract nouns that have both a count and a noncount use (i.e. Type III nouns), and construal plays an important role in determining whether a noun is to be used as count or noncount. For example, silence that we experience or observe in our daily lives (i.e. in objective reality) is always bounded in time. We never experience the silence that is unbounded in time, i.e. the silence that lasts forever. Then, the noun *silence* should have

[16] *Advice* in the sense of news is used in the plural form: e.g. *the latest advices from Mexico*.

only a count use. However, *silence* can be used as both count and noncount as in the following examples (9–11).

9) Everyone stood in **stunned silence**.
(Calvin C. Clawson. 2009. *Buffalo Man*, via Google Books)

10) Everyone stood in **a stunned silence**.
(Jonathan Smith. 2019. *Electos: Sophomore Year*, via Google Books)

11) Everyone stood in **stunned silences**. (Charles Nickerson and Irene Nickerson. 2015. *The Empress Angelina's Quest*, via Google Books)

Silence in (9) is used as noncount with ø in the singular form (øN), as count in (10) and (11) with *a/an* in the singular form (*a*N) and in the plural form (N*s*). Each NP form of øN, *a*N and N*s* can be interpreted as follows. *Ø stunned silence* in (9) denotes the stunned silence in general, which is unbounded in any space, whether in temporal, physical or type space. *A stunned silence* in (10) may refer to a period of silence that people at the place experience, which is bounded in time, or it may refer to a type of silence, which is bounded in type space. *Stunned silences* in (11) refers to a period of silence that more than one individual at the place lapses into, which is bounded in both temporal and physical spaces.

In the following example (12), *ø absolute silence* and *a silence* refer to the same silence, which continues for a moment and is bounded in time in objective reality. However, the silence is designated by a noncount use (*ø absolute silence*) as well as a count use (*a silence*).

12) There was **absolute silence** for a moment, **a silence** with no time and no feeling. I could hear the world ticking inside my head — *tick, tick, tick* ...
(Kevin Brooks. 2006. *The Road of the Dead*, via Google Books)

Ø absolute silence and *a silence* in (12) can be interpreted as follows. *Ø absolute silence* denotes

the absolute silence in general, which is unbounded in any space. *A silence* is bounded in type space, denoting a particular type of silence that is described as *with no time and no feeling*. *A silence* is not bounded in time since it is *a silence with no time*. These examples (9–12) show that it is not bounding in objective reality but a speaker's construal that determines whether *silence* is to be used as count or noncount.

The following is another example. In (13), *silence* is mentioned twice, *ø silence* and *a silence*. Both silences continue for a few seconds at a particular location, which means that they are bounded in both temporal and physical spaces.

13) "Hi Darren, it's me."

There was **silence** at the other end of the line **for a few seconds**, before I heard his sleepy tones. "I wasn't expecting you to call this early, Cathy ..."

"I know. I'm sorry, I realise you probably wanted a lie-in, but I had to let you know. I've been thinking about it all night, and yes, I will go away with you this weekend."

Again, there was **a silence for a few seconds**, but whereas the first one had been expected, this absence of speech was a bit unnerving. Finally, after what seemed like eons, he responded. "Wow. I wasn't really expecting that, if I'm honest. Don't get me wrong," came the hurried addition, "I think it's great. Look, why don't we talk about it at work tomorrow? (Steve Wilson. 2013. *Spoilt for Choice*, via Google Books)

It can be speculated that the author made a choice between the count use and the noncount use of *silence* to convey different feelings. The author chose a noncount use (*ø silence*) to convey the message that the silence is unbounded in time and lasts indefinitely, which gives a feeling of seriousness, implying a serious, unknown and immeasurable silence. On the other hand, *a silence* is bounded in time, and it denotes a pause on the line.

These examples of *silence* (9–13) show that a speaker can choose a count use or a noncount use depending on what the speaker wants to communicate and that the C/NC distinction is not determined by the distinction in objective reality. With nouns that have both a count and

noncount use (i.e. Type III nouns), the C/NC is flexible, and it reflects conceptual distinction. With the other types of nouns (Type I, II and IV), the C/NC does not necessarily reflect conceptual distinction.

3.4. Domains of instantiation and C/NC distinction

The C/NC distinction of nouns depends on the domain of instantiation in which they are conceptualized. L2 learners face two problems with domains of instantiation: 1) the domain in which a particular noun is expected to be conceptualized; 2) the distinction between instance and type. First, it is important for L2 learners to know the domain in which a particular noun can be construed as being bounded and acquire a count reading. For example, *worry* can be used as count when it refers to a cause (or source) that arouses the feeling of worry as in (14), whereas *silence* does not allow a cause reading (15).

14) His mother's health is a constant worry.
    (= His mother's health is a constant source of worry.)
15) *His mother's health is a constant silence.
    (≠ His mother's health is a constant source of silence.)

Little research has been done to explore the connection between the types of domains and the meanings of abstract nouns. Unlike concrete nouns, abstract nouns acquire count readings in various domains of instantiation. Some nouns, such as *beauty*, may be construed as being bounded in the domain of space (i.e. physical space) as in (16–17), and others, such as *silence*, in the domain of time (18–19), and still others, such as *worry*, in the domain of cause (or source) (20–21).

16) She truly is **a beauty**.

17) Patsy became one of the most famous **beauties** of the age along with actress Lily Langtry.
18) After **an awkward silence**, he said, "I miss you."
19) There had been pauses, **awkward silences** as if neither had known what words to use.
20) Lack of growth in Europe is **a major worry** for U. S. firms, because about $1 of every $6 of exports goes to Europe.
21) For one quarter of respondents, police chases and racism were **major worries**.

Each abstract noun is construed as being bounded in a different domain of instantiation. *Beauty* is a count noun when it is conceptualized in space and construed as being bounded, referring to a person (or thing) that is beautiful (16–17). *Silence* is used as a count noun when it is construed as being bounded in time, referring to a period of silence (18–19). *Worry* is count when it denotes a cause (or a source) that arouses the feeling of worry (20–21). Different nouns are conceptualized in different domains of instantiation, and types of count readings available for a particular noun seem to be restricted. It can be hypothesized that there may be some semantic connection between the domain of instantiation (or the type of count reading) and the meaning of a noun. The connection will be explored in Chapter 9.

The other problem with domains of instantiation is the distinction between instance and type. Reference grammars and dictionaries often mention that abstract nouns can be used as count when they refer to an instance or a type. It is generally agreed that the noncount use of abstract nouns refers to the general phenomenon, while the count use refers to individual instances or types (Biber et al. 1999: 244). Type is defined as an open-ended class of entities that share common traits of a higher-order type and can be further sub-classified. Instance is used in the same sense as token (Radden & Dirven 2007: 64), and instances of a type represent distinct individuals rather than open-ended classes (Langacker 1991b: 61).

Concrete nouns are used as count when a referent is conceptualized in physical space or in type space and construed as being bounded. It is not very difficult to distinguish between

instance interpretation and type interpretation. Nouns that belong to basic-level categories[17] such as *apple* and *cat* usually refer to objects (i.e. individual instances),[18] while nouns that belong to superordinate categories such as *vegetable* and *animal* refer to types (or kinds). For example, *three apples* refers to three individual objects, and it does not matter whether the apples are of the same kind or different kinds. On the other hand, *three vegetables* does not refer to three objects, but to three kinds of vegetables. For example, *three vegetables* may mean *beans, peas and carrots* (Wierzbicka 1988: 549). The domain of instantiation of those nouns that belong to basic-level categories is usually physical space, while that of superordinates is type space. Concrete nouns are used as count when a referent is construed as bounded in physical space, being distinguished from other instances, or in type space, being distinguished from other types.

With abstract nouns, particularly ANNs, it is difficult to distinguish between type and instance. Abstract nouns of Type III, which have an established count use, are not expected to cause much difficulty. For example, *kindness* in the sense of a kind act, which is bounded in time, is count as in (22). *Kindness* in the sense of the quality of being kind, which is unbounded, is noncount as in (23). The problem is that the noncount sense of *kindness* may occur with *a/an* as in (24). *A kindness* in (24) does not refer to a kind act, but to a quality of being kind with an individual, distinctive nature, which can be called a type.

22) Thank you for your many **kindnesses**.
23) Treat your elders with **kindness**.
24) Deep inside of him, there was **a kindness** and a gentleness about him.

[17] Basic-level categories share a variety of properties with one another. For example, the basic level is the first level named and understood by children (e.g. *dog*, *car*, *chair*). Refer to Rosch et al (1976) and Lakoff (1987:46) for more information about basic-level categories.
[18] NPs such as *three different apples* with an adjective *different* may refer to types.

These examples of (22) and (24) are clear cases of an instance interpretation and a type interpretation respectively. However, the distinction is not always clear. For example, it may be difficult to judge whether *a kindness* in the following sentence (25) refers to an instance or a type.

25) But the staff, with **a kindness** way beyond the call of duty, took turns to read him the crossword clues.

With abstract nouns of Type II such as *courage*, which is noncount but may admit *a/an*, it is more difficult to judge if a noun refers to an instance or a type as in the following examples (26–27).

26) We learned of passengers on a doomed plane who died with **a courage** that frightened their killers.
27) He discovered **a courage** he never knew he had.

A courage in (26) and (27) can be interpreted as referring to either an instance or a type. With abstract nouns of Type II, the distinction between a type and an instance is not important. *A/an* is used to communicate that the speaker has a particular referent in mind whether it is an instance or a type, and the speaker wants to emphasize its distinctive nature, i.e., being distinguished from the general quality of being brave. To avoid the difficulty in distinguishing between type and instance, it might be appropriate to consider that a Type II noun with *a/an* refers to a type that has only one instance, since Type II nouns are not expected to be pluralized.

Examples (28) and (29) below show that an ANN (noncount sense of a Type III noun) with *a/an* refers to a type with a distinctive quality.

28) She'd felt it from the first, but she'd never known love before, not this sort of love, **a love** so enmeshed with sexual need, so disguised by possessiveness.
29) He had a kind of honest and natural intelligence, **an intelligence** that I had come to believe many of my colleagues lacked.

A love in (28) refers to *this sort of love*, and *an intelligence* in (29) refers to *a kind of honest and natural intelligence*. It is clear from these contexts that both *a love* in (28) and *an intelligence* in (29) refer to a type. However, if the descriptions, *this sort of love* and *a kind of honest and natural intelligence*, are removed, both *a love* and *an intelligence* can be interpreted as referring to an instance of love and intelligence. In this study, the type interpretation, i.e. a type that has only one instance, is adopted when ANNs (Type II nouns and noncount sense of Type III nouns) are used with *a/an*.

3.5. Summary

One of the major hypotheses of cognitive linguistics is that grammar reflects conceptualization. It is generally agreed that the C/NC distinction reflects the conceptual distinction. Based on this hypothesis, cognitive linguists claim that the C/NC distinction is flexible and that every noun can be used as either count or noncount depending on how the condition of an entity is construed. However, the grammatical distinction does not always reflect the conceptual distinction. The C/NC is flexible only with Type III nouns, which have both a count and noncount use. With the other types of nouns (Type I, II and IV), the C/NC does not necessarily reflect conceptual distinction.

In cognitive linguistics, the notions of conceptualization, bounding and domain are employed to account for the C/NC distinction of nouns. However, these notions fail to account for the grammatical behavior of some abstract nouns. First, the notion of bounding does not explain why Type I nouns (e.g. *advice*, *luck*) are not used as count when a referent is construed

as being bounded. Grammatical convention seems to take precedence over the notion of bounding. Second, the notions of conceptualization and domain do not account for the semantic connection between the domain of instantiation (or the type of count reading) and the meaning of a noun. Different nouns are conceptualized in different domains of instantiation, and types of count readings available for a particular noun seem to be restricted.

Chapter 4

Methodology

4.1. Corpus analysis with Bank of English

This thesis is a corpus-based investigation into the C/NC distinction of abstract nouns. The Bank of English corpus is used to explore the conditions that allow ANNs (i.e. Type II nouns and the noncount use of Type III nouns) to combine with *a/an* and the conditions that allow Type III nouns to acquire count readings. I used the Bank of English corpus (2012 version) for this study because I needed a general-purpose, representative reference corpus, which is comparable in size to the Oxford English corpus (two billion words) or the Longman Corpus Network (390 million words). The Bank of English is a subset of 700 million words in the Collins Corpus (20 billion words), which is used to compile dictionaries and reference grammars in the same way as the Oxford English corpus and the Longman Corpus Network are used. Reference grammars and learner's English dictionaries generally agree that *a/an* is used when ANNs are modified, and I wanted to examine the validity of their claim. Learner's English dictionaries include the *Oxford Advanced Learner's Dictionary* (OALD), the *Longman Dictionary of Contemporary English* (LDOCE) and the *Collins COBUILD Advanced Learner's Dictionary* (COBUILD), and they are based on the information found in their corpora, the Oxford English corpus, the Longman Corpus Network and the Collins Corpus respectively.

I needed a large corpus, much larger than the British National Corpus (about 100 million words). I once used BNC in my pilot study, and I found that many abstract nouns have only a small number of occurrences with *a/an*: e.g. the query [*a/an* + (up to two words) + *courage*] retrieves only sixteen occurrences as opposed to sixty-three in the Bank of English. I also needed a representative reference corpus rather than a specialized one. Text genres in the Bank of English corpus include books, magazines, newspapers, letters, spoken, etc. which are

collected from different periods of time (1960s to 2000s) and from different varieties of English (Australia, Canada, India, New Zealand, South Africa, UK and USA). I chose the University of Birmingham to do my PhD research because the Bank of English is available for post-graduate researchers.

I used CQPweb, which is a web-based corpus analysis system, to collect data to examine the connection between the use of *a/an* (or ø) and the presence or absence of a modifier (pre-modifying adjectives, post-modifying prepositional phrases and relative clauses). For example, when examining the connection between the use of *a/an* (or ø) and pre-modifying adjectives with the noun *anger*, a sequence of words, [*a/an* (or ø) + Adjective + *anger* (in the singular form)] is searched. A query syntax (or a CQL query), [_JJ* *anger*_NN1], which means [general adjectives (including comparative and superlative forms) + *anger* (common noun in the singular form)], is used to search for the occurrences of *anger* in the sequence with an adjective (or more than one adjective: e.g. *in bitter cold anger*) immediately followed by *anger*. This query returns sequences of [adjective + *anger*] modified by various determiners, such as ø *deep anger* (with ø), *a deep anger* (with *a/an*), *the deep anger* (with *the*) and *her deep anger* (with a possessive) as listed below (1-4).

1) There is **deep anger** and concern in Ireland at the decision.
2) One type of work aroused **a deep anger** among the proud people of the Rhondda: domestic service in English homes.
3) … and it represents **the deep anger** and frustration of the players at the moment.
4) Molly acted on **her deep anger** toward Dusty.

When collecting data, not all occurrences of a target noun with a modifier are counted. A KWIC concordance of a particular construction with a target noun (e.g. [adjective + *anger*]) is downloaded into an Excel file. Then, concordance lines that are exactly the same within ten

words on either the right or left side of the key word (i.e. a target noun, NP or construction) are removed assuming that the texts are cited from the same source. Then, unwanted hits, such as *anger* used as an adjective (e.g. *anger management*), proper names, part of book titles and news headlines, etc. are removed one by one. Occurrences in the plural form are not counted when examining the connection between *a/an* and modification to ensure that the occurrences with ø represent the noncount use. Occurrences in the plural form are counted when exploring the circumstances under which abstract nouns acquire count readings, which are designated by the plural form of a noun as well as a noun with *a/an*.

Occurrences with determiners other than *a/an* and ø are removed one by one, since many of the determiners can combine with both count and noncount nouns, and they make it difficult to determine if a noun is used as count or noncount: e.g. *the*, possessives (e.g. *his, her, its, their*), demonstratives (e.g. *this, that*), quantifiers (e.g. *any, no*) and some others (e.g. *what, whatever, which, whichever*). Other determiners such as (*a*) *little, much, more, most, enough*, etc. may help judge if a following noun (in the singular form) is used as count or noncount, but their occurrences with abstract nouns are too few for corpus analysis: mostly less than 1.0% of all the occurrences of each noun with various determiners as shown in Table 5.1 in Chapter 5. The occurrences with these determiners are removed. Below is a list of occurrences of nouns that are removed.

a) Nouns modified by the determiners other than ø and *a/an*.
b) Attributive nouns that modify another noun (e.g. ***education*** *department*).
c) Nouns used as part of proper names (e.g. names of organizations, book titles, book chapters, news headlines, in which determiners are often dropped).
d) Nouns (or NPs) placed between quotation marks (e.g. *what is called "moral courage"*).
e) Nouns in capital letters (e.g. *Courage* in the middle of a sentence, *COURAGE*).

f) Nouns in the [*a/an* + NP + *and*/*or* + NP headed by a target noun] construction: e.g. *You gave me a good upbringing and* ***education****. It was a performance or genuine* ***anger***. In these constructions, it is difficult to determine if *a/an* modifies the target noun (*education, anger*).

In search for the occurrences of a noun with *a/an*, a sequence of words, [*a/an* + (up to two words) + Noun (com, sing.)] is searched by a query syntax, such as [{a} ** *anger*_NN1]. Then, I counted the number of occurrences of the noun with an adjective (or more than one adjective) and with no adjective one by one. In search for the occurrences of a noun with ø (i.e. [ø + (up to two words) + Noun (com, sing]), there is no way to search for a zero determiner (ø). I removed the occurrences of a noun with all types of determiners except *a/an* and ø, and then, I removed the occurrences of the noun with *a/an* to collect the occurrences of a noun with ø.

As mentioned in Section 1.2 in Chapter 1, the following thirty-six abstract nouns are collected from the example sentences presented by twelve reference grammars and eight English learner's dictionaries.

anger	*anxiety*	*aversion*	*awareness*	*coarseness*	*consciousness*
courage	*determination*	*dislike*	*distrust*	*eagerness*	*education*
faith	*familiarity*	*fierceness*	*fondness*	*happiness*	*hatred*
help	*kindness*	*knowledge*	*love*	*peace*	*pride*
quietness	*rationality*	*sadness*	*sensitivity*	*shyness*	*silence*
sincerity	*sleep*	*tranquility*	*understanding*	*unhappiness*	*warmth*

Their occurrences with *a/an* and ø in the following three constructions are searched in the Bank of English: [*a/an* or ø + Adj + Noun (sing.)] with a pre-modifying adjective in Chapter 5, [*a/an* or ø + (Adj) + Noun (sing.) + PP] with a post-modifying PP (with and without an adjective) in Chapter 6 and [*a/an* or ø + (Adj) + Noun (sing.) + Relative Clause] with a relative clause (with and without an adjective) in Chapter 7.

In Chapter 8, the following fifty-one abstract nouns are selected and placed into four

semantic groups (emotion, mental activity, quality, state) to examine if there is any semantic connection between the four types of nouns and three types of adjectives (classifying, qualitative, emphasizing) that motivate the use of *a/an* or ø.

Emotion nouns (i.e. nouns that denote emotions and feelings) (15 nouns):

anger, anxiety, comfort, fear, happiness, hatred, hope, joy, love, pleasure, sadness, sorrow, surprise, sympathy, worry

Mental activity nouns (i.e. nouns that denote mental activities) (6 nouns):

awareness, consciousness, knowledge, perception, recognition, understanding

Quality nouns (i.e. nouns that denote qualities of a person as part of his/her character) (15 nouns)

courage, cruelty, curiosity, determination, generosity, honesty, impatience, intelligence, intolerance, kindness, patience, sensitivity, shyness, sincerity, tolerance

State nouns (i.e. nouns that denote a state of affairs) (15 nouns):

absence, confusion, dependence, freedom, health, illness, independence, marriage, peace, poverty, presence, silence, sleep, unemployment, war

4.2. Statistical analysis

In order to explore if the presence of an adjective (or modifiers in general) causes the use of *a/an*, or the other way around (i.e. the use of *a/an* causes the presence of an adjective), collostructional analysis can be used, which measures the associational strength between constructions and the lexical elements filling certain slots in constructions, in this case, between the [Adj + Noun (com, sing)] construction and *a/an*. Fisher's exact test is often used for collostructional analysis, and its p-values are interpreted as indicating different degrees of collostruction strength; i.e. the smaller the p-value, the higher the strength of the association

between lexeme and construction. However, p-values do not measure the strength of the association; p-values measure the probability with which the null hypothesis (i.e. there is no association) can be rejected (Schmid & Küchenhoff 2013: 539-540). For example, the p-value of Fisher's exact test of *anger* on the connection between the use of *a/an* or ø and the presence or absence of an adjective is 1.26618E-89, and the null hypothesis is rejected. This means that there are non-random associations between the use of *a/an* or ø and the presence or absence of an adjective.

This result does not help explore the connection between the presence of an adjective and the use of *a/an*. It does not answer the question whether *a/an* invites the [Adj + Noun (com, sing)] construction, or the [Adj + Noun (com, sing)] construction invites *a/an*. First, language is essentially non-random, since we speak or write with purposes. The null hypothesis may not be rejected when we do not have enough data, but when there is enough data, the null hypothesis is rejected. "[L]anguage is not random, so the null hypothesis is never true" (Kilgarriff 2005: 264). Descriptive statistics based on the data collected from the Bank of English indicate that there is some correlation between an adjective and *a/an* (see Chapter 8 and Appendix), and it is not necessary to use Fisher's exact test. Also, the data indicate that the use of *a/an* or ø is connected to the combinations of particular types of nouns and adjective (e.g. *a long silence* vs ø *absolute silence*), and descriptive statistics should suffice to show this connection.

Second, Fisher's exact test is a measure of the two-way dependency between a pair of events: i.e. Fisher's exact test computes a bi-directional association measure between a lexeme and a construction. However, "associations are not necessarily reciprocal in strength" and "directional relations therefore need to be separately assessed" (Ellis & Ferreira-Junior 2009: 198). For example, regarding the connection between *a/an* and an adjective in the [*a/an* + Adj + Noun (com, sing)] construction, *anger* occurs with an adjective far more frequently when it combines with *a/an* (76.26%) than it occurs with *a/an* when it combines with an adjective

(9.74%). This indicates that the [*a/an* + (Adj) + Noun] construction attracts an adjective more strongly than the [(*a/an*) + Adj + Noun] construction attracts *a/an*. Fisher's exact test does not assess directional relations separately.

Odds Ratio can also be used to measure the associational strength between constructions and the lexical elements, and it is superior to Fisher Exact in that it yields effect sizes rather than p-values. However, it is also bidirectional, and it does not answer the question whether the [Adjective + Noun] construction attracts *a/an* or the [*a/an* + Noun] construction attracts an adjective, i.e. whether an adjective attracts *a/an* or the other way around. It is necessary to examine if an adjective occurs in the slot of Adj in the [*a/an* + Adj + Noun] construction more frequently or *a/an* occurs in the slot of *a/an* more frequently.

Schmid & Küchenhoff (2013) propose two alternative approaches, Attraction and Reliance and Delta P (ΔP), which are descriptive measures of associations. Schmid & Küchenhoff (2013: 548) define *Attraction* and *Reliance* as follows:

> The measures of *Attraction* and *Reliance* were proposed prior to the advent of collostructional analysis by Schmid (2000: 54–55). The idea of the two measures is to do justice to the directionality issue (see Section 3.5) by separating the proportion with which a grammatical construction is filled by a given lexeme from the proportion with which a lexeme occurs in a given construction. The former proportion is interpreted metaphorically as reflecting the *Attraction* exerted by the construction on the lexeme, the latter as reflecting the *Reliance* of the lexeme on the construction.

The following formulae are used for Attraction and Reliance (A&R) and Delta P (ΔP) (Schmid & Küchenhoff 2013: 550, 552). 'Cell 1' to 'cell 4' in the following formula refer to the cells in Table 4.1: upper-left cell (Cell 1), lower-left cell (Cell 2), upper-right cell (Cell 3), and lower-right cell (Cell 4).

Attraction and Reliance approach

$$\text{Attraction} = \frac{\text{cell 1} \times 100}{\text{cell 1+cell 3}} \qquad \text{Reliance} = \frac{\text{cell 1} \times 100}{\text{cell 1+cell 2}}$$

ΔP approach

$$\Delta\text{P Attraction} = \frac{\text{cell 1}}{\text{cell 1+cell 3}} - \frac{\text{cell 2}}{\text{cell 2+cell 4}} \qquad \Delta\text{P Reliance} = \frac{\text{cell 1}}{\text{cell 1+cell 2}} - \frac{\text{cell 3}}{\text{cell 3+cell 4}}$$

Table 4.1. Contingency table of the target lexeme and construction

1. +Target Lexeme +Target Construction Frequency of L in C [*a/an* + Adj + N]	3. –Target Lexeme +Target Construction Frequency of C with other than L [(without *a/an*) + [Adj + N]
2. +Target Lexeme –Target Construction Frequency of L in all other constructions [*a/an*] (without [Adj + N])	4. –Target Lexeme –Target Construction Frequency of all other constructions with lexemes other than L (without *a/an*) (without [Adj + N])

Table 4.1 is the contingency table with the variable combinations of *a/an* and the [Adjective + Noun] construction. Cell 1 is [*a/an* + Adjective + Noun (com, sing)]. Cell 2 is [*a/an*] without [Adjective + Noun (com, sing)]. Cell 3 is [Adjective + Noun (com, sing)] without *a/an*. Cell 4 is without *a/an* and without [Adjective + Noun (com, sing)]. The occurrences of each noun with the determiners other than *a/an* and ø are removed to examine the connection between the use of *a/an* or ø and the presence or absence of an adjective. Thus, Cell 2 is [*a/an* + Noun] and Cell 3 is [ø + Adj + Noun], since *a/an* and ø require a noun and a pre-modifying adjective (i.e. an attributive adjective) requires a noun as well. Table 4.1 can be presented as in Table 4.2.

Table 4.2. Contingency table of the target lexeme and construction

1. [*a/an* + Adj + N]	3. [ø + Adj + N] (without *a/an*)
2. [*a/an* + N] (without Adj)	4. [ø + N]

Attraction measures the degree to which a certain construction ([Adjective + Noun] in this case) attracts a particular lexeme (*a/an* in this case). It is calculated by dividing the frequency of occurrence of *a/an* in a construction (Cell 1) by the frequency of occurrence of the construction in the whole corpus (Cell 1 + Cell 3). *Reliance* measures the degree to which a particular lexeme (*a/an*) relies (or depends) on a construction ([Adjective + Noun]). It is calculated by dividing the frequency of occurrence of *a/an* in a construction (Cell 1) by the frequency of occurrence of *a/an* in the whole corpus (Cell 1 + Cell 2). The dividend is multiplied by 100 in both divisions to render the scores as percentages. The calculation of ΔP Attraction starts out from the score for Attraction but subtracts from this score the division of cell 2 by the row total of cells 2 and 4. In the same way, the calculation of ΔP Reliance starts out from Reliance but subtracts the division of cell 3 by the column total of cells 3 and 4 (Schmid 2013).

Odds Ratio measures the strength of the association between two factors, i.e. between *a/an* and [Adj + Noun]. The following formula is used for Odds Ratio.

$$\text{Odds Ratio} = \frac{\text{cell 1}}{\text{cell 2}} : \frac{\text{cell 3}}{\text{cell4}}$$

The resulting scores express the chance that any construction which contains *a/an* also contains the [*a/an* + Adjective + Noun] construction. A resulting Odds Ratio score (e.g. 18.14 for *anger*), indicates that a construction with *a/an* is 18 times more likely to also have the [Adj + Noun] construction than a construction not containing *a/an* (i.e. [ø + N]) is likely to have the [Adj + Noun] construction.

Table 4.3 lists the scores of Attraction and Reliance, Delta P and Odds Ratio for the connection between the use of *a/an* or ø and the presence or absence of an adjective. Thirty-six nouns are arranged in descending order of the scores of Reliance.

Table 4.3. *A/an* attracted by [Adj + N] (ranked according to Reliance)

NOUN	Cell 1	Cell 2	Cell 3	Cell 4	Attraction	Reliance	R – A	ΔP Attraction	ΔP Reliance	ΔP R – ΔP A	Odds Ratio
anger	196	61	1816	10251	9.74%	76.26%	66.52	0.09	0.61	0.52	18.14
unhappiness	15	3	137	781	9.87%	68.41%	58.54	0.09	0.68	0.59	28.50
peace	1144	462	2110	30725	35.16%	64.81%	29.65	0.34	0.65	0.31	36.06
silence	2119	651	1972	11864	51.80%	62.25%	10.45	0.47	0.62	0.16	19.58
sleep	680	258	1037	9006	39.60%	62.17%	22.57	0.37	0.62	0.25	22.89
anxiety	191	67	1354	7271	12.36%	58.33%	45.97	0.11	0.58	0.47	15.31
rationality	41	11	267	1003	13.31%	57.82%	44.51	0.12	0.58	0.46	14.00
happiness	60	30	973	6235	5.81%	53.17%	47.36	0.05	0.53	0.48	12.82
sadness	252	124	490	2846	33.96%	52.33%	18.37	0.30	0.52	0.23	11.80
help	1038	516	6075	32433	14.59%	51.02%	36.43	0.13	0.51	0.38	10.74
dislike	275	151	65	406	80.88%	50.75%	-30.13	0.54	0.51	-0.03	11.38
familiarity	133	82	147	1018	47.50%	49.24%	1.74	0.40	0.49	0.09	11.23
consciousness	275	139	1208	5630	18.54%	48.76%	30.22	0.16	0.49	0.33	9.22
warmth	252	141	581	3164	30.25%	48.61%	18.36	0.26	0.49	0.23	9.73
knowledge	1406	539	6234	17712	18.40%	46.25%	27.85	0.15	0.46	0.31	7.41
distrust	145	71	193	725	42.90%	46.11%	3.21	0.34	0.46	0.12	7.67
faith	678	343	3264	12809	17.20%	46.10%	28.90	0.15	0.46	0.32	7.76
understanding	4533	2555	1959	8330	69.82%	44.91%	-24.91	0.46	0.45	-0.01	7.54
sincerity	35	20	180	779	16.28%	44.87%	28.59	0.14	0.45	0.31	7.57
shyness	26	19	60	386	30.23%	44.32%	14.09	0.26	0.44	0.19	8.80
coarseness	4	3	6	40	40.00%	44.10%	4.10	0.33	0.44	0.11	8.89
hatred	252	165	1118	4360	18.39%	40.02%	21.63	0.15	0.40	0.25	5.96
aversion	162	233	21	442	88.52%	36.48%	-52.05	0.54	0.36	-0.18	14.63
pride	282	217	2445	9345	10.34%	35.78%	25.43	0.08	0.36	0.28	4.97
love	1168	1461	4284	44219	21.42%	35.60%	14.17	0.18	0.36	0.17	8.25
sensitivity	226	171	757	2540	22.99%	33.97%	10.98	0.17	0.34	0.17	4.43
awareness	916	765	2039	7750	31.00%	33.66%	2.66	0.22	0.34	0.12	4.55
courage	32	31	1096	5069	2.84%	33.02%	30.18	0.02	0.33	0.31	4.77
education	1955	1943	11992	39504	14.02%	26.87%	12.85	0.09	0.27	0.18	3.31
tranquility	5	7	56	321	8.20%	26.81%	18.62	0.06	0.27	0.21	4.09
fondness	201	332	74	563	73.09%	26.09%	-47.00	0.36	0.26	-0.10	4.61
determination	585	820	836	4153	41.17%	24.88%	-16.29	0.25	0.25	0.00	3.54
quietness	6	12	10	101	37.50%	24.32%	-13.18	0.27	0.24	-0.03	5.05
kindness	45	85	236	1555	16.01%	21.44%	5.42	0.11	0.21	0.11	3.49
eagerness	47	99	51	296	47.96%	17.49%	-30.46	0.23	0.17	-0.05	2.76

fierceness	6	20	6	40	50.00%	10.03%	-39.97	0.17	0.10	-0.07	2.00

In general, the Attraction and Reliance approach and the ΔP approach have very similar results as found by Schmid (2013: 552). The Odds Ratio scores for all the nouns are higher than one, which indicates that there is some connection between *a/an* and the [Adj + Noun] construction. Odds Ratio is more in line with Reliance than with Attraction (Schmid (2013: 557). Most nouns show a higher score of Reliance than Attraction with both the Attraction and Reliance approach and the ΔP approach (highlighted in gray). This means that in general an adjective occurs in the slot of (Adj) in the [*a/an* + (Adj) + Noun (com, sing)] construction more frequently than *a/an* occurs in the slot of (*a/an*) in the [(*a/an*) + Adj + Noun (com, sing)] construction. This can be interpreted as indicating that the combination of [*a/an* + ANN] motivates the presence of an adjective more strongly than the combination of [Adj + ANN] motivates the use of *a/an*. In other words, it is *a/an* that attracts an adjective, not an adjective that attracts *a/an*.

The results in Table 4.3 show that the Attraction and Reliance approach can be used to measure the associational strength between *a/an* and the [Adj + Noun] construction and that between an adjective and the [*a/an* + Noun] construction separately. It is not necessary to use the ΔP approach, since the Attraction and Reliance approach and the ΔP approach have very similar results. In this study, Attraction and Reliance, which are straightforward descriptive measures of associations, are used. The proportion with which an adjective occurs in the [*a/an* + (Adj) + Noun] construction and the proportion with which *a/an* occurs in the [(*a/an*) + Adj + Noun] construction are compared to examine if the presence of an adjective (also a post-modifying prepositional phrase and relative clause) motivates the use of *a/an* with ANN or the use of *a/an* motivates the presence of a modifier.

PART II: EMPRICAL ANALYSIS

Chapter 5

CASE STUDY A: Syntactic Connection between Modification and *a/an*

–Pre-modifying Adjectives and *a/an*–

5.1. Introduction

Reference grammars and learner's dictionaries generally agree that some abstract noncount nouns (ANNs) admit an indefinite article (*a/an*) when they are pre-modified by an adjective (i.e. attributive adjective) and/or post-modified by a phrase or a clause. For example, OALD states in the entry for the indefinite article as follows (second sense of *a*): "[*A/an* is] used before uncountable nouns when these have an adjective in front of them, or phrase following them". Some reference grammars make a strong proposition that it is obligatory to use *a/an* when some ANNs are modified. Swan (1995: 139) states as follows: "With certain uncountable nouns – especially nouns referring to human emotions and mental activity – we have to use *a/an* when we are limiting their meaning in some way." Moore (2007: 6) states: "Don't forget to include *a/an* before an adjective + singular noun combination" and presents some example sentences such as *He clearly has **a good understanding** of the issues*. They seem to assume that there is a correlation between *a/an* and a modifier, in which a modifier causes the use of *a/an*.

This chapter and the following two chapters (Chapters 5–7) examine the usage and interaction between *a/an* and modification with the data collected from the Bank of English. Regarding the distinction between [*a/an* + count use] and [*a/an* + noncount use] (discussed in Chapter 2), it is necessary to remove all the occurrences of [*a/an* + count use], since the count use of nouns can occur with *a/an* whether they are modified or not. However, the distinction is not taken into consideration for the following two reasons: (a) There are only three nouns that have an established count use (*kindness*, *love*, *silence*) among the thirty-six nouns to be

examined; (b) the distinction depends on a context, and there are no clear criteria that distinguish between them. As a result, it may happen that these three nouns occur with *a/an* more frequently than the other nouns whether they are modified or not.

As already mentioned in Chapter 1 (Introduction), this chapter examines the connection between *a/an* and pre-modifying adjectives (i.e. attributive adjectives). Next chapter (Chapter 6) examines the connection between *a/an* and post-modifying prepositional phrases (henceforth referred to as 'PPs'). Chapter 7 examines the connection between *a/an* and relative clauses, and then summarizes the findings in Chapters 5–7.

The nouns to be examined in Chapters 5–7 are collected from the example sentences presented by twelve reference grammars and eight English learner's dictionaries (listed in Table 2.8 in Chapter 2) as the evidence to support their proposition that ANNs admit *a/an* when they are modified. The following thirty-six nouns are selected:

anger	*anxiety*	*aversion*	*awareness*	*coarseness*	*consciousness*
courage	*determination*	*dislike*	*distrust*	*eagerness*	*education*
faith	*familiarity*	*fierceness*	*fondness*	*happiness*	*hatred*
help	*kindness*	*knowledge*	*love*	*peace*	*pride*
quietness	*rationality*	*sadness*	*sensitivity*	*shyness*	*silence*
sincerity	*sleep*	*tranquility*	*understanding*	*unhappiness*	*warmth*

The frequency of occurrence of these nouns with *a/an* and that with ø are compared when they are modified by a pre-modifying adjective (in Chapter 5), a post-modifying PP (in Chapter 6) and a relative clause (in Chapter 7). All the data and the sentences presented in Chapters 5–8 are collected from the Bank of English unless otherwise noted. In the example sentences, boldface is used for emphasis.

Section 5.2 examines the connection between the thirty-six nouns and various determiners. Section 5.3 examines the connection between adjectives and *a/an* as opposed to ø. Section 5.4 explores the connection between *a/an* and five nouns that behave differently from the other thirty-one nouns. Section 5.5 examines the connection between *a/an* and adjectives from two

directions: whether *a/an* frequently occurs when there is an adjective, or adjectives frequently occur when there is *a/an*. To put it simply, whether adjectives attract *a/an*, or *a/an* attracts adjectives.

5.2. Connection between determiners and abstract nouns

This section looks into the connection between the thirty-six nouns and different types of determiners. The Bank of English is searched for the occurrences of the thirty-six nouns in the singular form with various determiners. Determiners include the zero determiner (ø), the indefinite article (*a/an*), possessive determiners (*his*, *her*, *their*, etc.), singular demonstrative determiners (*this*, *that*), quantifiers (*some, any, no, little, a little, lots of, a lot of, much, more, most, less, least* and *enough*), other determiners (*all, such, another, each, every, both, half, either, neither, what, whatever, which, whichever*) and the numeral *one*. These occurrences are divided into two groups, with pre-modifying adjectives and without adjectives, to examine the connection between *a/an* and adjectives later. The frequency of occurrence of a target noun phrase (e.g. *a/an* + Adj + Noun) is the percentage of the occurrences of the NP among all the occurrences of the noun with various determiners.

Table 5.1 shows the numbers and percentages of occurrences of the thirty-six nouns with various determiners when the nouns in the singular form are modified by an adjective (or adjectives) and when they are not modified. The nouns are arranged in alphabetical order.

Table 5.1. Connection between abstract nouns and various determiners

			ARTICLES			POSSESSIVES	DEMONSTRATIVES		QUANTIFIERS									OTHERS & Numeral *one*				
NOUN	DETERMINERS	TOTAL	Ø Zero Determiner	*a/an*	*the*	Possessives	*this*	*that*	*some*	*any*	*no*	*little a little*	*lots of a lot of*	*much*	*more, most*	*less, least*	*enough*	*all*	*such*	*another, each, every, one*	*both, half, either, neither*	*what, whatever, which, whichever*
anger	ALL	18603	10190	257	2236	4915	114	169	73	55	93	18	193	83	72	8	10	5	61	0	45	6
			54.78%	1.38%	12.02%	26.42%	0.61%	0.91%	0.39%	0.30%	0.50%	0.10%	1.04%	0.45%	0.39%	0.04%	0.05%	0.03%	0.33%	0.00%	0.24%	0.03%
	With Adjective	2808	1816	196	415	262	24	21	14	9	13	1	9	5	6	0	3	0	8	0	4	2
			64.67%	6.98%	14.78%	9.33%	0.85%	0.75%	0.50%	0.32%	0.46%	0.04%	0.32%	0.18%	0.21%	0.00%	0.11%	0.00%	0.28%	0.00%	0.14%	0.07%
	Without Adjective	15795	8374	61	1821	4653	90	148	59	46	80	17	184	78	66	8	7	5	53	0	41	4
			53.02%	0.39%	11.53%	29.46%	0.57%	0.94%	0.37%	0.29%	0.51%	0.11%	1.16%	0.49%	0.42%	0.05%	0.04%	0.03%	0.34%	0.00%	0.26%	0.03%
anxiety	ALL	11084	7204	258	1260	1539	104	53	159	54	40	29	94	87	62	33	2	17	34	20	28	7
			64.99%	2.33%	11.37%	13.88%	0.94%	0.48%	1.43%	0.49%	0.36%	0.26%	0.85%	0.78%	0.56%	0.30%	0.02%	0.15%	0.31%	0.18%	0.25%	0.06%
	With Adjective	2066	1354	191	238	179	18	8	23	11	7	1	5	7	2	2	0	3	6	8	3	0
			65.54%	9.24%	11.52%	8.66%	0.87%	0.39%	1.11%	0.53%	0.34%	0.05%	0.24%	0.34%	0.10%	0.10%	0.00%	0.15%	0.29%	0.39%	0.15%	0.00%
	Without Adjective	9018	5850	67	1022	1360	86	45	136	43	33	28	89	80	60	31	2	14	28	12	25	7
			64.87%	0.74%	11.33%	15.08%	0.95%	0.50%	1.51%	0.48%	0.37%	0.31%	0.99%	0.89%	0.67%	0.34%	0.02%	0.16%	0.31%	0.13%	0.28%	0.08%
aversion	ALL	1075	209	395	61	343	24	9	5	7	8	2	0	0	1	1	0	1	3	2	4	0
			19.44%	36.74%	5.67%	31.91%	2.23%	0.84%	0.47%	0.65%	0.74%	0.19%	0.00%	0.00%	0.09%	0.09%	0.00%	0.09%	0.28%	0.19%	0.37%	0.00%
	With Adjective	293	21	162	22	68	5	4	2	3	3	0	0	0	0	0	0	0	1	1	1	0
			7.17%	55.29%	7.51%	23.21%	1.71%	1.37%	0.68%	1.02%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.34%	0.34%	0.34%	0.00%
	Without Adjective	782	188	233	39	275	19	5	3	4	5	2	0	0	1	1	0	1	2	1	3	0
			24.04%	29.80%	4.99%	35.17%	2.43%	0.64%	0.38%	0.51%	0.64%	0.26%	0.00%	0.00%	0.13%	0.13%	0.00%	0.13%	0.26%	0.13%	0.38%	0.00%
awareness	ALL	11508	6985	1681	852	1282	179	79	54	51	62	62	15	19	119	9	10	8	25	2	14	0
			60.70%	14.61%	7.40%	11.14%	1.56%	0.69%	0.47%	0.44%	0.54%	0.54%	0.13%	0.17%	1.03%	0.08%	0.09%	0.07%	0.22%	0.02%	0.12%	0.00%
	With Adjective	3770	2039	916	315	336	67	19	8	11	7	11	2	2	20	0	1	0	5	1	10	0
			54.08%	24.30%	8.36%	8.91%	1.78%	0.50%	0.21%	0.29%	0.19%	0.29%	0.05%	0.05%	0.53%	0.00%	0.03%	0.00%	0.13%	0.03%	0.27%	0.00%
	Without Adjective	7738	4946	765	537	946	112	60	46	40	55	51	13	17	99	9	9	8	20	1	4	0
			63.92%	9.89%	6.94%	12.23%	1.45%	0.78%	0.59%	0.52%	0.71%	0.66%	0.17%	0.22%	1.28%	0.12%	0.12%	0.10%	0.26%	0.01%	0.05%	0.00%
coarseness	ALL	121	37	7	52	17	2	2	0	0	1	0	0	0	2	0	0	0	0	1	0	0
			30.58%	5.79%	42.98%	14.05%	1.65%	1.65%	0.00%	0.00%	0.83%	0.00%	0.00%	0.00%	1.65%	0.00%	0.00%	0.00%	0.00%	0.83%	0.00%	0.00%
	With Adjective	23	6	4	8	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			26.09%	17.39%	34.78%	17.39%	4.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

	Without Adjective	98	31	3	44	13	1	2	0	0	1	0	0	0	2	0	0	0	0	1	0	0
			31.63%	3.06%	44.90%	13.27%	1.02%	2.04%	0.00%	0.00%	1.02%	0.00%	0.00%	0.00%	2.04%	0.00%	0.00%	0.00%	0.00%	1.02%	0.00%	0.00%
consciousness	ALL	8653	5491	414	1187	1397	51	17	5	12	22	4	2	4	8	0	2	9	6	6	16	0
			63.46%	4.78%	13.72%	16.14%	0.59%	0.20%	0.06%	0.14%	0.25%	0.05%	0.02%	0.05%	0.09%	0.00%	0.02%	0.10%	0.07%	0.07%	0.18%	0.00%
	With Adjective	2451	1208	275	670	243	13	9	1	7	5	1	0	2	0	0	0	3	3	1	10	0
			49.29%	11.22%	27.34%	9.91%	0.53%	0.37%	0.04%	0.29%	0.20%	0.04%	0.00%	0.08%	0.00%	0.00%	0.00%	0.12%	0.12%	0.04%	0.41%	0.00%
	Without Adjective	6202	4283	139	517	1154	38	8	4	5	17	3	2	2	8	0	2	6	3	5	6	0
			69.06%	2.24%	8.34%	18.61%	0.61%	0.13%	0.06%	0.08%	0.27%	0.05%	0.03%	0.03%	0.13%	0.00%	0.03%	0.10%	0.05%	0.08%	0.10%	0.00%
courage	ALL	11975	5038	63	4086	2155	19	38	79	12	29	21	138	43	93	5	81	3	47	0	24	1
			42.07%	0.53%	34.12%	18.00%	0.16%	0.32%	0.66%	0.10%	0.24%	0.18%	1.15%	0.36%	0.78%	0.04%	0.68%	0.03%	0.39%	0.00%	0.20%	0.01%
	With Adjective	1643	1096	32	240	218	3	2	21	5	3	1	3	1	0	0	2	2	9	0	5	0
			66.71%	1.95%	14.61%	13.27%	0.18%	0.12%	1.28%	0.30%	0.18%	0.06%	0.18%	0.06%	0.00%	0.00%	0.12%	0.12%	0.55%	0.00%	0.30%	0.00%
	Without Adjective	10332	3942	31	3846	1937	16	36	58	7	26	20	135	42	93	5	79	1	38	0	19	1
			38.15%	0.30%	37.22%	18.75%	0.15%	0.35%	0.56%	0.07%	0.25%	0.19%	1.31%	0.41%	0.90%	0.05%	0.76%	0.01%	0.37%	0.00%	0.18%	0.01%
determination	ALL	11237	3333	1405	1798	4201	87	164	20	34	29	6	36	9	47	2	10	1	46	0	8	1
			29.66%	12.50%	16.00%	37.39%	0.77%	1.46%	0.18%	0.30%	0.26%	0.05%	0.32%	0.08%	0.42%	0.02%	0.09%	0.01%	0.41%	0.00%	0.07%	0.01%
	With Adjective	2255	836	585	283	481	19	13	5	9	9	0	0	1	0	0	1	0	13	0	0	0
			37.07%	25.94%	12.55%	21.33%	0.84%	0.58%	0.22%	0.40%	0.40%	0.00%	0.00%	0.04%	0.00%	0.00%	0.04%	0.00%	0.58%	0.00%	0.00%	0.00%
	Without Adjective	8982	2497	820	1515	3720	68	151	15	25	20	6	36	8	47	2	9	1	33	0	8	1
			27.80%	9.13%	16.87%	41.42%	0.76%	1.68%	0.17%	0.28%	0.22%	0.07%	0.40%	0.09%	0.52%	0.02%	0.10%	0.01%	0.37%	0.00%	0.09%	0.01%
dislike	ALL	1452	255	426	97	620	14	3	4	5	7	1	0	4	0	1	2	1	6	2	3	1
			17.56%	29.34%	6.68%	42.70%	0.96%	0.21%	0.28%	0.34%	0.48%	0.07%	0.00%	0.28%	0.00%	0.07%	0.14%	0.07%	0.41%	0.14%	0.21%	0.07%
	With Adjective	532	65	275	44	131	3	0	1	0	5	0	0	1	0	0	0	1	4	1	1	0
			12.22%	51.69%	8.27%	24.62%	0.56%	0.00%	0.19%	0.00%	0.94%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.19%	0.75%	0.19%	0.19%	0.00%
	Without Adjective	920	190	151	53	489	11	3	3	5	2	1	0	3	0	1	2	0	2	1	2	1
			20.65%	16.41%	5.76%	53.15%	1.20%	0.33%	0.33%	0.54%	0.22%	0.11%	0.00%	0.33%	0.00%	0.11%	0.22%	0.00%	0.22%	0.11%	0.22%	0.11%
distrust	ALL	1359	654	216	185	228	25	14	3	3	2	0	9	5	6	0	0	0	7	1	1	0
			48.12%	15.89%	13.61%	16.78%	1.84%	1.03%	0.22%	0.22%	0.15%	0.00%	0.66%	0.37%	0.44%	0.00%	0.00%	0.00%	0.52%	0.07%	0.07%	0.00%
	With Adjective	477	193	145	72	57	6	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0
			40.46%	30.40%	15.09%	11.95%	1.26%	0.21%	0.00%	0.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%
	Without Adjective	882	461	71	113	171	19	13	3	1	2	0	9	5	6	0	0	0	6	1	1	0
			52.27%	8.05%	12.81%	19.39%	2.15%	1.47%	0.34%	0.11%	0.23%	0.00%	1.02%	0.57%	0.68%	0.00%	0.00%	0.00%	0.68%	0.11%	0.11%	0.00%
eagerness	ALL	1180	197	146	170	594	9	13	4	5	7	5	0	5	4	2	0	11	6	0	1	1
			16.69%	12.37%	14.41%	50.34%	0.76%	1.10%	0.34%	0.42%	0.59%	0.42%	0.00%	0.42%	0.34%	0.17%	0.00%	0.93%	0.51%	0.00%	0.08%	0.08%
	With Adjective	176	51	47	21	48	1	3	0	1	0	0	0	0	0	0	0	1	3	0	0	0
			28.98%	26.70%	11.93%	27.27%	0.57%	1.70%	0.00%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.57%	1.70%	0.00%	0.00%	0.00%
	Without Adjective	1004	146	99	149	546	8	10	4	4	7	5	0	5	4	2	0	10	3	0	1	1
			14.54%	9.86%	14.84%	54.38%	0.80%	1.00%	0.40%	0.40%	0.70%	0.50%	0.00%	0.50%	0.40%	0.20%	0.00%	1.00%	0.30%	0.00%	0.10%	0.10%

education	ALL	49418	37561	3898	2052	4673	59	62	130	71	225	119	38	66	252	50	29	54	20	3	53	3
			76.01%	7.89%	4.15%	9.46%	0.12%	0.13%	0.26%	0.14%	0.46%	0.24%	0.08%	0.13%	0.51%	0.10%	0.06%	0.11%	0.04%	0.01%	0.11%	0.01%
	With Adjective	15562	11992	1955	499	797	24	7	42	37	79	41	5	14	31	1	2	14	3	0	19	0
			77.06%	12.56%	3.21%	5.12%	0.15%	0.04%	0.27%	0.24%	0.51%	0.26%	0.03%	0.09%	0.20%	0.01%	0.01%	0.09%	0.02%	0.00%	0.12%	0.00%
	Without Adjective	33856	25569	1943	1553	3876	35	55	88	34	146	78	33	52	221	49	27	40	17	3	34	3
			75.52%	5.74%	4.59%	11.45%	0.10%	0.16%	0.26%	0.10%	0.43%	0.23%	0.10%	0.15%	0.65%	0.14%	0.08%	0.12%	0.05%	0.01%	0.10%	0.01%
faith	ALL	25636	12466	1021	3317	6823	122	169	78	168	235	230	176	240	162	18	61	57	87	161	14	31
			48.63%	3.98%	12.94%	26.61%	0.48%	0.66%	0.30%	0.66%	0.92%	0.90%	0.69%	0.94%	0.63%	0.07%	0.24%	0.22%	0.34%	0.63%	0.05%	0.12%
	With Adjective	6649	3264	678	1389	1102	41	21	11	46	32	2	0	3	1	0	0	12	19	19	3	6
			49.09%	10.20%	20.89%	16.57%	0.62%	0.32%	0.17%	0.69%	0.48%	0.03%	0.00%	0.05%	0.02%	0.00%	0.00%	0.18%	0.29%	0.29%	0.05%	0.09%
	Without Adjective	18987	9202	343	1928	5721	81	148	67	122	203	228	176	237	161	18	61	45	68	142	11	25
			48.46%	1.81%	10.15%	30.13%	0.43%	0.78%	0.35%	0.64%	1.07%	1.20%	0.93%	1.25%	0.85%	0.09%	0.32%	0.24%	0.36%	0.75%	0.06%	0.13%
familiarity	ALL	1960	936	215	283	349	19	24	39	11	16	9	0	5	10	7	6	2	23	1	3	2
			47.76%	10.97%	14.44%	17.81%	0.97%	1.22%	1.99%	0.56%	0.82%	0.46%	0.00%	0.26%	0.51%	0.36%	0.31%	0.10%	1.17%	0.05%	0.15%	0.10%
	With Adjective	458	147	133	79	69	8	7	3	1	1	0	0	0	0	1	0	0	8	0	0	1
			32.10%	29.04%	17.25%	15.07%	1.75%	1.53%	0.66%	0.22%	0.22%	0.00%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	1.75%	0.00%	0.00%	0.22%
	Without Adjective	1502	789	82	204	280	11	17	36	10	15	9	0	5	10	6	6	2	15	1	3	1
			52.53%	5.46%	13.58%	18.64%	0.73%	1.13%	2.40%	0.67%	1.00%	0.60%	0.00%	0.33%	0.67%	0.40%	0.40%	0.13%	1.00%	0.07%	0.20%	0.07%
fierceness	ALL	111	20	26	40	20	1	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0
			18.02%	23.42%	36.04%	18.02%	0.90%	1.80%	0.90%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.90%	0.00%	0.00%	0.00%
	With Adjective	25	6	6	5	5	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
			24.00%	24.00%	20.00%	20.00%	0.00%	8.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Without Adjective	86	14	20	35	15	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
			16.28%	23.26%	40.70%	17.44%	1.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.16%	0.00%	0.00%	0.00%
fondness	ALL	1443	231	533	71	535	10	3	8	12	18	4	0	5	2	1	0	0	8	0	0	2
			16.01%	36.94%	4.92%	37.08%	0.69%	0.21%	0.55%	0.83%	1.25%	0.28%	0.00%	0.35%	0.14%	0.07%	0.00%	0.00%	0.55%	0.00%	0.00%	0.14%
	With Adjective	394	74	201	29	75	1	1	1	1	8	0	0	0	1	0	0	0	2	0	0	0
			18.78%	51.02%	7.36%	19.04%	0.25%	0.25%	0.25%	0.25%	2.03%	0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.51%	0.00%	0.00%	0.00%
	Without Adjective	1049	157	332	42	460	9	2	7	11	10	4	0	5	1	1	0	0	6	0	0	2
			14.97%	31.65%	4.00%	43.85%	0.86%	0.19%	0.67%	1.05%	0.95%	0.38%	0.00%	0.48%	0.10%	0.10%	0.00%	0.00%	0.57%	0.00%	0.00%	0.19%
happiness	ALL	8895	6205	90	715	1393	31	38	63	18	38	26	34	78	38	7	1	21	42	35	18	4
			69.76%	1.01%	8.04%	15.66%	0.35%	0.43%	0.71%	0.20%	0.43%	0.29%	0.38%	0.88%	0.43%	0.08%	0.01%	0.24%	0.47%	0.39%	0.20%	0.04%
	With Adjective	1409	973	60	118	212	7	9	8	3	0	1	0	3	1	2	0	3	8	0	1	0
			69.06%	4.26%	8.37%	15.05%	0.50%	0.64%	0.57%	0.21%	0.00%	0.07%	0.00%	0.21%	0.07%	0.14%	0.00%	0.21%	0.57%	0.00%	0.07%	0.00%
	Without Adjective	7486	5232	30	597	1181	24	29	55	15	38	25	34	75	37	5	1	18	34	35	17	4
			69.89%	0.40%	7.97%	15.78%	0.32%	0.39%	0.73%	0.20%	0.51%	0.33%	0.45%	1.00%	0.49%	0.07%	0.01%	0.24%	0.45%	0.47%	0.23%	0.05%
hatred	ALL	6500	4195	417	659	889	61	42	3	21	32	3	18	42	29	4	4	5	64	2	9	1
			64.54%	6.42%	10.14%	13.68%	0.94%	0.65%	0.05%	0.32%	0.49%	0.05%	0.28%	0.65%	0.45%	0.06%	0.06%	0.08%	0.98%	0.03%	0.14%	0.02%

	With Adjective	1763	1118	252	190	152	15	6	2	5	3	0	1	0	1	0	0	2	13	2	1	0
			63.41%	14.29%	10.78%	8.62%	0.85%	0.34%	0.11%	0.28%	0.17%	0.00%	0.06%	0.00%	0.06%	0.00%	0.00%	0.11%	0.74%	0.11%	0.06%	0.00%
	Without Adjective	4737	3077	165	469	737	46	36	1	16	29	3	17	42	28	4	4	3	51	0	8	1
			64.96%	3.48%	9.90%	15.56%	0.97%	0.76%	0.02%	0.34%	0.61%	0.06%	0.36%	0.89%	0.59%	0.08%	0.08%	0.06%	1.08%	0.00%	0.17%	0.02%
help	ALL	55782	31917	1554	9804	5884	100	140	1465	979	1044	938	349	461	828	40	65	24	93	18	7	72
			57.22%	2.79%	17.58%	10.55%	0.18%	0.25%	2.63%	1.76%	1.87%	1.68%	0.63%	0.83%	1.48%	0.07%	0.12%	0.04%	0.17%	0.03%	0.01%	0.13%
	With Adjective	8614	6075	1038	550	194	14	7	256	150	105	27	17	13	115	4	9	18	9	4	5	4
			70.52%	12.05%	6.38%	2.25%	0.16%	0.08%	2.97%	1.74%	1.22%	0.31%	0.20%	0.15%	1.34%	0.05%	0.10%	0.21%	0.10%	0.05%	0.06%	0.05%
	Without Adjective	47168	25842	516	9254	5690	86	133	1209	829	939	911	332	448	713	36	56	6	84	14	2	68
			54.79%	1.09%	19.62%	12.06%	0.18%	0.28%	2.56%	1.76%	1.99%	1.93%	0.70%	0.95%	1.51%	0.08%	0.12%	0.01%	0.18%	0.03%	0.00%	0.14%
kindness	ALL	2950	1470	130	501	662	22	21	12	15	18	14	2	18	23	0	2	5	26	5	2	2
			49.83%	4.41%	16.98%	22.44%	0.75%	0.71%	0.41%	0.51%	0.61%	0.47%	0.07%	0.61%	0.78%	0.00%	0.07%	0.17%	0.88%	0.17%	0.07%	0.07%
	With Adjective	435	236	45	61	77	3	1	1	1	3	2	0	0	1	0	0	0	4	0	0	0
			54.25%	10.34%	14.02%	17.70%	0.69%	0.23%	0.23%	1.00%	0.69%	0.46%	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.92%	0.00%	0.00%	0.00%
	Without Adjective	2515	1234	85	440	585	19	20	11	14	15	12	2	18	22	0	2	5	22	5	2	2
			49.07%	3.38%	17.50%	23.26%	0.76%	0.80%	0.44%	0.56%	0.60%	0.48%	0.08%	0.72%	0.87%	0.00%	0.08%	0.20%	0.87%	0.20%	0.08%	0.08%
knowledge	ALL	39671	17173	1945	6869	8747	700	637	380	667	1273	270	94	151	193	16	60	250	181	3	48	14
			43.29%	4.90%	17.31%	22.05%	1.76%	1.61%	0.96%	1.68%	3.21%	0.68%	0.24%	0.38%	0.49%	0.04%	0.15%	0.63%	0.46%	0.01%	0.12%	0.04%
	With Adjective	11239	6234	1406	1264	1415	113	60	117	153	291	37	19	14	8	1	6	40	36	1	21	3
			55.47%	12.51%	11.25%	12.59%	1.01%	0.53%	1.04%	1.36%	2.59%	0.33%	0.17%	0.12%	0.07%	0.01%	0.05%	0.36%	0.32%	0.01%	0.19%	0.03%
	Without Adjective	28432	10939	539	5605	7332	587	577	263	514	982	233	75	137	185	15	54	210	145	2	27	11
			38.47%	1.90%	19.71%	25.79%	2.06%	2.03%	0.93%	1.81%	3.45%	0.82%	0.26%	0.48%	0.65%	0.05%	0.19%	0.74%	0.51%	0.01%	0.09%	0.04%
love	ALL	64273	42758	2629	4497	12003	255	287	107	103	454	146	324	231	123	10	37	68	96	125	14	6
			66.53%	4.09%	7.00%	18.68%	0.40%	0.45%	0.17%	0.16%	0.71%	0.23%	0.50%	0.36%	0.19%	0.02%	0.06%	0.11%	0.15%	0.19%	0.02%	0.01%
	With Adjective	8538	4284	1168	776	1992	56	45	35	30	63	11	0	12	14	0	5	12	17	12	5	1
			50.18%	13.68%	9.09%	23.33%	0.66%	0.53%	0.41%	0.35%	0.74%	0.13%	0.00%	0.14%	0.16%	0.00%	0.06%	0.14%	0.20%	0.14%	0.06%	0.01%
	Without Adjective	55735	38474	1461	3721	10011	199	242	72	73	391	135	324	219	109	10	32	56	79	113	9	5
			69.03%	2.62%	6.68%	17.96%	0.36%	0.43%	0.13%	0.13%	0.70%	0.24%	0.58%	0.39%	0.20%	0.02%	0.06%	0.10%	0.14%	0.20%	0.02%	0.01%
peace	ALL	38100	30263	1606	3964	1073	83	70	265	84	429	66	5	21	61	2	1	24	24	2	49	8
			79.43%	4.22%	10.40%	2.82%	0.22%	0.18%	0.70%	0.22%	1.13%	0.17%	0.01%	0.06%	0.16%	0.01%	0.00%	0.06%	0.06%	0.01%	0.13%	0.02%
	With Adjective	3901	2110	1144	416	111	9	15	21	14	48	2	0	0	0	0	0	1	6	1	3	0
			54.09%	29.33%	10.66%	2.85%	0.23%	0.38%	0.54%	0.36%	1.23%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	0.15%	0.03%	0.08%	0.00%
	Without Adjective	34199	28153	462	3548	962	74	55	244	70	381	64	5	21	61	2	1	23	18	1	46	8
			82.32%	1.35%	10.37%	2.81%	0.22%	0.16%	0.71%	0.20%	1.11%	0.19%	0.01%	0.06%	0.18%	0.01%	0.00%	0.07%	0.05%	0.00%	0.13%	0.02%
pride	ALL	14682	9128	499	1264	2702	32	80	299	34	82	45	222	102	86	6	15	11	57	4	11	3
			62.17%	3.40%	8.61%	18.40%	0.22%	0.54%	2.04%	0.23%	0.56%	0.31%	1.51%	0.69%	0.59%	0.04%	0.10%	0.07%	0.39%	0.03%	0.07%	0.02%
	With Adjective	3421	2445	282	185	421	8	14	26	5	11	1	0	5	2	0	0	2	8	0	4	2
			71.47%	8.24%	5.41%	12.31%	0.23%	0.41%	0.76%	0.15%	0.32%	0.03%	0.00%	0.15%	0.06%	0.00%	0.00%	0.06%	0.23%	0.00%	0.12%	0.06%

	Without Adjective	11261	6683	217	1079	2281	24	66	273	29	71	44	222	97	84	6	15	9	49	4	7	1
			59.35%	1.93%	9.58%	20.26%	0.21%	0.59%	2.42%	0.26%	0.63%	0.39%	1.97%	0.86%	0.75%	0.05%	0.13%	0.08%	0.44%	0.04%	0.06%	0.01%
quietness	ALL	225	89	18	69	40	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			39.56%	8.00%	30.67%	17.78%	0.89%	3.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	With Adjective	30	10	6	6	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			33.33%	20.00%	20.00%	23.33%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Without Adjective	195	79	12	63	33	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			40.51%	6.15%	32.31%	16.92%	1.03%	3.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
rationality	ALL	1325	992	52	150	93	5	7	8	0	2	0	0	1	0	0	1	5	3	0	6	0
			74.87%	3.92%	11.32%	7.02%	0.38%	0.53%	0.60%	0.00%	0.15%	0.00%	0.00%	0.08%	0.00%	0.00%	0.08%	0.38%	0.23%	0.00%	0.45%	0.00%
	With Adjective	377	267	41	44	16	4	0	1	0	0	0	0	0	0	0	0	0	1	0	3	0
			70.82%	10.88%	11.67%	4.24%	1.06%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.27%	0.00%	0.80%	0.00%
	Without Adjective	948	725	11	106	77	1	7	7	0	2	0	0	1	0	0	1	5	2	0	3	0
			76.48%	1.16%	11.18%	8.12%	0.11%	0.74%	0.74%	0.00%	0.21%	0.00%	0.00%	0.11%	0.00%	0.00%	0.11%	0.53%	0.21%	0.00%	0.32%	0.00%
sadness	ALL	4502	2722	376	674	429	33	27	67	7	18	19	26	42	7	0	5	4	22	6	18	0
			60.46%	8.35%	14.97%	9.53%	0.73%	0.60%	1.49%	0.16%	0.40%	0.42%	0.58%	0.93%	0.16%	0.00%	0.11%	0.09%	0.49%	0.13%	0.40%	0.00%
	With Adjective	968	490	252	120	65	12	8	8	0	5	0	0	1	0	0	0	2	3	1	1	0
			50.62%	26.03%	12.40%	6.71%	1.24%	0.83%	0.83%	0.00%	0.52%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.21%	0.31%	0.10%	0.10%	0.00%
	Without Adjective	3534	2232	124	554	364	21	19	59	7	13	19	26	41	7	0	5	2	19	5	17	0
			63.16%	3.51%	15.68%	10.30%	0.59%	0.54%	1.67%	0.20%	0.37%	0.54%	0.74%	1.16%	0.20%	0.00%	0.14%	0.06%	0.54%	0.14%	0.48%	0.00%
sensitivity	ALL	4546	2369	397	787	693	69	28	35	21	17	8	8	19	41	5	5	6	28	0	10	0
			52.11%	8.73%	17.31%	15.24%	1.52%	0.62%	0.77%	0.46%	0.37%	0.18%	0.18%	0.42%	0.90%	0.11%	0.11%	0.13%	0.62%	0.00%	0.22%	0.00%
	With Adjective	1350	757	226	168	141	30	4	4	3	4	0	1	4	2	0	0	2	4	0	0	0
			56.07%	16.74%	12.44%	10.44%	2.22%	0.30%	0.30%	0.22%	0.30%	0.00%	0.07%	0.30%	0.15%	0.00%	0.00%	0.15%	0.30%	0.00%	0.00%	0.00%
	Without Adjective	3196	1612	171	619	552	39	24	31	18	13	8	7	15	39	5	5	4	24	0	10	0
			50.44%	5.35%	19.37%	17.27%	1.22%	0.75%	0.97%	0.56%	0.41%	0.25%	0.22%	0.47%	1.22%	0.16%	0.16%	0.13%	0.75%	0.00%	0.31%	0.00%
shyness	ALL	769	367	45	52	267	5	7	0	5	9	1	0	0	3	0	0	1	3	0	3	1
			47.72%	5.85%	6.76%	34.72%	0.65%	0.91%	0.00%	0.65%	1.17%	0.13%	0.00%	0.00%	0.39%	0.00%	0.00%	0.13%	0.39%	0.00%	0.39%	0.13%
	With Adjective	166	60	26	12	62	0	3	1	0	1	0	0	0	0	0	0	0	1	0	0	0
			36.14%	15.66%	7.23%	37.35%	0.00%	1.81%	0.60%	0.00%	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%
	Without Adjective	603	307	19	40	205	5	4	1	5	8	1	0	0	3	0	0	1	2	0	3	1
			50.91%	3.15%	6.63%	34.00%	0.83%	0.66%	0.17%	0.83%	1.33%	0.17%	0.00%	0.00%	0.50%	0.00%	0.00%	0.17%	0.33%	0.00%	0.50%	0.17%
silence	ALL	20894	11213	2770	3785	2584	132	119	10	15	28	13	8	8	54	0	1	6	24	115	9	0
			53.67%	13.26%	18.12%	12.37%	0.63%	0.57%	0.05%	0.07%	0.13%	0.06%	0.04%	0.04%	0.26%	0.00%	0.00%	0.03%	0.11%	0.55%	0.04%	0.00%
	With Adjective	5513	1972	2119	915	362	41	28	2	4	4	0	0	0	0	0	0	3	9	53	1	0
			35.77%	38.44%	16.60%	6.57%	0.74%	0.51%	0.04%	0.07%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%	0.16%	0.96%	0.02%	0.00%
	Without Adjective	15381	9241	651	2870	2222	91	91	8	11	24	13	8	8	54	0	1	3	15	62	8	0
			60.08%	4.23%	18.66%	14.45%	0.59%	0.59%	0.05%	0.07%	0.16%	0.08%	0.05%	0.05%	0.35%	0.00%	0.01%	0.02%	0.10%	0.40%	0.05%	0.00%

sincerity	ALL	1732	759	55	357	444	8	13	6	4	9	3	0	7	6	1	0	40	17	0	2	1
			43.82%	3.18%	20.61%	25.64%	0.46%	0.75%	0.35%	0.23%	0.52%	0.17%	0.00%	0.40%	0.35%	0.06%	0.00%	2.31%	0.98%	0.00%	0.12%	0.06%
	With Adjective	319	180	35	42	51	0	1	2	1	0	0	0	1	0	0	0	0	6	0	0	0
			56.43%	10.97%	13.17%	15.99%	0.00%	0.31%	0.63%	0.31%	0.00%	0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.00%	1.88%	0.00%	0.00%	0.00%
	Without Adjective	1413	579	20	315	393	8	12	4	3	9	3	0	6	6	1	0	40	11	0	2	1
			40.98%	1.42%	22.29%	27.81%	0.57%	0.85%	0.28%	0.21%	0.64%	0.21%	0.00%	0.42%	0.42%	0.07%	0.00%	2.83%	0.78%	0.00%	0.14%	0.07%
sleep	ALL	15323	8748	938	386	3368	23	30	501	287	173	196	60	237	112	64	169	0	1	16	13	1
			57.09%	6.12%	2.52%	21.98%	0.15%	0.20%	3.27%	1.87%	1.13%	1.28%	0.39%	1.55%	0.73%	0.42%	1.10%	0.00%	0.01%	0.10%	0.08%	0.01%
	With Adjective	2024	1037	680	105	130	9	9	24	4	3	1	4	1	2	6	2	0	0	6	1	0
			51.24%	33.60%	5.19%	6.42%	0.44%	0.44%	1.19%	0.20%	0.15%	0.05%	0.20%	0.05%	0.10%	0.30%	0.10%	0.00%	0.00%	0.30%	0.05%	0.00%
	Without Adjective	13299	7711	258	281	3238	14	21	477	283	170	195	56	236	110	58	167	0	1	10	12	1
			57.98%	1.94%	2.11%	24.35%	0.11%	0.16%	3.59%	2.13%	1.28%	1.47%	0.42%	1.77%	0.83%	0.44%	1.26%	0.00%	0.01%	0.08%	0.09%	0.01%
tranquility	ALL	494	314	12	132	28	5	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
			63.56%	2.43%	26.72%	5.67%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.20%	0.00%	0.00%	0.20%	0.00%
	With Adjective	86	56	5	18	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			65.12%	5.81%	20.93%	6.98%	1.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Without Adjective	408	258	7	114	22	4	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0
			63.24%	1.72%	27.94%	5.39%	0.98%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.25%	0.00%	0.00%	0.25%	0.00%
understanding	ALL	22709	5775	7088	2425	5522	325	193	262	182	305	208	5	31	226	27	11	35	46	27	11	5
			25.43%	31.21%	10.68%	24.32%	1.43%	0.85%	1.15%	0.80%	1.34%	0.92%	0.02%	0.14%	1.00%	0.12%	0.05%	0.15%	0.20%	0.12%	0.05%	0.02%
	With Adjective	8058	1959	4533	650	553	84	31	44	66	81	9	0	5	3	1	1	7	12	13	5	1
			24.31%	56.25%	8.07%	6.86%	1.04%	0.38%	0.55%	0.82%	1.01%	0.11%	0.00%	0.06%	0.04%	0.01%	0.01%	0.09%	0.15%	0.16%	0.06%	0.01%
	Without Adjective	14651	3816	2555	1775	4969	241	162	218	116	224	199	5	26	223	26	10	28	34	14	6	4
			26.05%	17.44%	12.12%	33.92%	1.64%	1.11%	1.49%	0.79%	1.53%	1.36%	0.03%	0.18%	1.52%	0.18%	0.07%	0.19%	0.23%	0.10%	0.04%	0.03%
unhappiness	ALL	1589	778	18	130	519	13	7	18	19	6	0	22	24	17	0	1	3	11	0	2	1
			48.96%	1.13%	8.18%	32.66%	0.82%	0.44%	1.13%	1.20%	0.38%	0.00%	1.38%	1.51%	1.07%	0.00%	0.06%	0.19%	0.69%	0.00%	0.13%	0.06%
	With Adjective	260	137	15	22	67	0	0	2	5	3	0	0	3	1	0	0	0	4	0	1	0
			52.69%	5.77%	8.46%	25.77%	0.00%	0.00%	0.77%	1.92%	1.15%	0.00%	0.00%	1.15%	0.38%	0.00%	0.00%	0.00%	1.54%	0.00%	0.38%	0.00%
	Without Adjective	1329	641	3	108	452	13	7	16	14	3	0	22	21	16	0	1	3	7	0	1	1
			48.23%	0.23%	8.13%	34.01%	0.98%	0.53%	1.20%	1.05%	0.23%	0.00%	1.66%	1.58%	1.20%	0.00%	0.08%	0.23%	0.53%	0.00%	0.08%	0.08%
warmth	ALL	7116	3023	393	2411	805	32	29	78	36	85	51	0	47	48	5	18	13	29	1	11	1
			42.48%	5.52%	33.88%	11.31%	0.45%	0.41%	1.10%	0.51%	1.19%	0.72%	0.00%	0.66%	0.67%	0.07%	0.25%	0.18%	0.41%	0.01%	0.15%	0.01%
	With Adjective	1501	581	252	453	138	15	14	8	13	13	0	0	8	0	0	0	3	2	1	0	0
			38.71%	16.79%	30.18%	9.19%	1.00%	0.93%	0.53%	0.87%	0.87%	0.00%	0.00%	0.53%	0.00%	0.00%	0.00%	0.20%	0.13%	0.07%	0.00%	0.00%
	Without Adjective	5615	2442	141	1958	667	17	15	70	23	72	51	0	39	48	5	18	10	27	0	11	1
			43.49%	2.51%	34.87%	11.88%	0.30%	0.27%	1.25%	0.41%	1.28%	0.91%	0.00%	0.69%	0.85%	0.09%	0.32%	0.18%	0.48%	0.00%	0.20%	0.02%

For example, *ange*r in the top row has a total of 18,603 occurrences. Among them, 10,190 occurrences are modified by ø, which is 54.78 percent of all the occurrences with various determiners. 257 occurrences are modified by *a/an* (1.38%), 2,236 occurrences modified by a definite article (12.02%), 4,915 occurrences modified by a possessive (26.42%), etc. This result shows that *anger* occurs with ø more frequently than any other determiners. The following are some examples of *anger* with ø, *a/an*, *the* and a possessive (*his*).

1) Anti-abortion activists expressed **anger** at the decision yesterday.
2) His eyes blazed with **an anger** I had witnessed before but never felt turned against me.
3) Much of **the anger** is well founded.
4) In spite of **his anger** against Brismand, the old man seemed resigned.

Twenty-eight nouns out of the thirty-six (77.78%) occur with ø more frequently than any other determiners. Four nouns occur with possessives more frequently than any other determiners (*determination*, *dislike*, *eagerness*, *fondness*). Two nouns occur with a definite article more frequently than any other determiners (*coarseness*, *fierceness*). Two nouns occur with *a/an* more frequently than any other determiners (*aversion*, *understanding*). These results indicate that abstract nouns generally occur with ø more frequently than with other determiners. There may be some connection between *a/an* and *aversion* and *understanding*, which is to be discussed in Section 5.4. The data in Table 5.1 will be used to examine the connection between *a/an* and adjectives in the following sections.

5.3. Connection between *a/an* and adjectives

This section examines the connection between adjectives and *a/an* (as opposed to ø). In the discussion on the C/NC distinction of abstract nouns, the focus is on the use of *a/an* as opposed

to ø. The presence or absence of other determiners (definite article, quantifiers, possessives, demonstratives, etc.) are not taken into consideration, since we cannot judge if a noun is used as count or noncount when it is modified by the definite article, possessives, demonstratives or some quantifiers (*any* and *no*). As mentioned in Chapter 4 (Section 4.1), some determiners, such as *some*, *little*, *much*, *more*, *less*, *enough*, *all* and *every*, may help judge if a following noun (in the singular form) is used as count or noncount, but their occurrences with abstract nouns are too few for corpus analysis (mostly less than 1.0% of all the occurrences of each noun with various determiners as shown in Table 5.1).

Swan (2016: 120.4), for example, contrasts the proper use of *a/an* with the improper use of ø as follows (the boldface is in the original):

> With certain uncountable nouns — especially nouns referring to human emotions and mental activity — we often use *a/an* when we are limiting their meaning in some way.
>
> *We need a secretary with **a first-class knowledge** of German.*
>
> (NOT . . . ~~*with first-class knowledge of German.*~~)
>
> *My parents wanted me to have **a good education**.*
>
> (NOT . . . ~~*to have good education*~~.)

According to Swan, *first-class knowledge of German* combines with *a/an* because it is modified an adjective, *first-class* (or by a prepositional phrase headed by *of*, or both), and ø *first-class knowledge* (with a zero determiner) is ungrammatical. In the same way, *good education* combines with *a/an* because it is modified by the adjective, *good*, and ø *good education* is ungrammatical. As these examples show, the focus is on the contrast between the use of *a/an* and ø. Thus, in the following sections, only the occurrences with *a/an* and those with ø are compared, and occurrences with the other determiners are not discussed.

Table 5.2 below is a rearranged version of Table 5.1. Table 5.2 focuses on the occurrences with *a/an* and ø, and the occurrences with all the other determiners are removed. The numbers

of occurrences of *a/an* and ø are the same as those in Table 5.1, but the percentages of their occurrences are different, since the total number of occurrences of each noun is limited to the occurrences with *a/an* and ø. Table 5.2 shows the numbers and the percentages of the occurrences of the thirty-six nouns with *a/an* as opposed to ø under two conditions: when the nouns are modified by an adjective (right side) and when they are unmodified (left side). The nouns are arranged in alphabetical order. Highlighted in gray are the nouns that occur with *a/an* more frequently than with ø. Note that the presence or the absence of post-modifiers is not taken into consideration, and that nouns pre-modified by an adjective may also be post-modified by a PP, a relative clause, a *to*-infinitive clause, etc.

Table 5.2. Presence and absence of an adjective and the use of *a/an* and ø

	ALL					Without Adj					With Adj				
NOUN	TOTAL	Ø	*a/an*	Ø %	*a/an* %	Total	Ø	*a/an*	Ø %	*a/an* %	Total	Ø	*a/an*	Ø %	*a/an* %
anger	10447	10190	257	97.54%	2.46%	8435	8374	61	99.28%	0.72%	2012	1816	196	90.26%	9.74%
anxiety	7462	7204	258	96.54%	3.46%	5917	5850	67	98.87%	1.13%	1545	1354	191	87.64%	12.36%
aversion	604	209	395	34.60%	65.40%	421	188	233	44.66%	55.34%	183	21	162	11.48%	88.52%
awareness	8666	6985	1681	80.60%	19.40%	5711	4946	765	86.60%	13.40%	2955	2039	916	69.00%	31.00%
coarseness	44	37	7	84.09%	15.91%	34	31	3	91.18%	8.82%	10	6	4	60.00%	40.00%
consciousness	5905	5491	414	92.99%	7.01%	4422	4283	139	96.86%	3.14%	1483	1208	275	81.46%	18.54%
courage	5101	5038	63	98.76%	1.24%	3973	3942	31	99.22%	0.78%	1128	1096	32	97.16%	2.84%
determination	4738	3333	1405	70.35%	29.65%	3317	2497	820	75.28%	24.72%	1421	836	585	58.83%	41.17%
dislike	681	255	426	37.44%	62.56%	341	190	151	55.72%	44.28%	340	65	275	19.12%	80.88%
distrust	870	654	216	75.17%	24.83%	532	461	71	86.65%	13.35%	338	193	145	57.10%	42.90%
eagerness	343	197	146	57.43%	42.57%	245	146	99	59.59%	40.41%	98	51	47	52.04%	47.96%
education	41459	37561	3898	90.60%	9.40%	27512	25569	1943	92.94%	7.06%	13947	11992	1955	85.98%	14.02%
faith	13487	12466	1021	92.43%	7.57%	9545	9202	343	96.41%	3.59%	3942	3264	678	82.80%	17.20%
familiarity	1151	936	215	81.32%	18.68%	871	789	82	90.59%	9.41%	280	147	133	52.50%	47.50%
fierceness	46	20	26	43.48%	56.52%	34	14	20	41.18%	58.82%	12	6	6	50.00%	50.00%
fondness	764	231	533	30.24%	69.76%	489	157	332	32.11%	67.89%	275	74	201	26.91%	73.09%
happiness	6295	6205	90	98.57%	1.43%	5262	5232	30	99.43%	0.57%	1033	973	60	94.19%	5.81%

hatred	4612	4195	417	90.96%	9.04%	3242	3077	165	94.91%	5.09%	1370	1118	252	81.61%	18.39%
help	33471	31917	1554	95.36%	4.64%	26358	25842	516	98.04%	1.96%	7113	6075	1038	85.41%	14.59%
kindness	1600	1470	130	91.88%	8.13%	1319	1234	85	93.56%	6.44%	281	236	45	83.99%	16.01%
knowledge	19118	17173	1945	89.83%	10.17%	11478	10939	539	95.30%	4.70%	7640	6234	1406	81.60%	18.40%
love	45387	42758	2629	94.21%	5.79%	39935	38474	1461	96.34%	3.66%	5452	4284	1168	78.58%	21.42%
peace	31869	30263	1606	94.96%	5.04%	28615	28153	462	98.39%	1.61%	3254	2110	1144	64.84%	35.16%
pride	9627	9128	499	94.82%	5.18%	6900	6683	217	96.86%	3.14%	2727	2445	282	89.66%	10.34%
quietness	107	89	18	83.18%	16.82%	91	79	12	86.81%	13.19%	16	10	6	62.50%	37.50%
rationality	1044	992	52	95.02%	4.98%	736	725	11	98.51%	1.49%	308	267	41	86.69%	13.31%
sadness	3098	2722	376	87.86%	12.14%	2356	2232	124	94.74%	5.26%	742	490	252	66.04%	33.96%
sensitivity	2766	2369	397	85.65%	14.35%	1783	1612	171	90.41%	9.59%	983	757	226	77.01%	22.99%
shyness	412	367	45	89.08%	10.92%	326	307	19	94.17%	5.83%	86	60	26	69.77%	30.23%
silence	13983	11213	2770	80.19%	19.81%	9892	9241	651	93.42%	6.58%	4091	1972	2119	48.20%	51.80%
sincerity	814	759	55	93.24%	6.76%	599	579	20	96.66%	3.34%	215	180	35	83.72%	16.28%
sleep	9686	8748	938	90.32%	9.68%	7969	7711	258	96.76%	3.24%	1717	1037	680	60.40%	39.60%
tranquility	326	314	12	96.32%	3.68%	265	258	7	97.36%	2.64%	61	56	5	91.80%	8.20%
understanding	12863	5775	7088	44.90%	55.10%	6371	3816	2555	59.90%	40.10%	6492	1959	4533	30.18%	69.82%
unhappiness	796	778	18	97.74%	2.26%	644	641	3	99.53%	0.47%	152	137	15	90.13%	9.87%
warmth	3416	3023	393	88.50%	11.50%	2583	2442	141	94.54%	5.46%	833	581	252	69.75%	30.25%

Anger in the top row, for example, has a total of 10,447 occurrences with ø and *a/an* combined. Among them, there are 10,190 occurrences with ø (97.54%) and 257 occurrences with *a/an* (2.46%). *Anger* has 8,435 occurrences without an adjective, among which there are 8,374 occurrences with ø (99.28%) and 61 occurrences with *a/an* (0.72%). In the same way, *anger* has 2,012 occurrences with an adjective, among which there are 1,816 occurrences with ø (90.26%) and 196 with *a/an* (9.74%). *Anger* occurs with ø far more frequently than with *a/an* whether it is modified by an adjective or not.

When unmodified by an adjective, all the nouns except three (*aversion, fierceness, fondness*) occur with ø more frequently than with *a/an* (highlighted in gray). Note that the occurrence of unmodified nouns with *a/an* may well turn out to be less frequent if the occurrences with post-modifiers (e.g. PPs, relative clauses) are removed. When modified by an adjective, all the nouns except six (*aversion, dislike, fierceness, fondness, silence*, *understanding*) occur with ø more frequently. Figures 5.1 and 5.2 display the data of Table 5.2 in the bar graphs. Figure 5.1 below compares the percentages of *a/an* (bars in black, in ascending order of frequency) and ø (bars in gray, in descending order or frequency) when the nouns are unmodified by an adjective.

Figure 5.1. *A/an* and ø when unmodified by an adjective

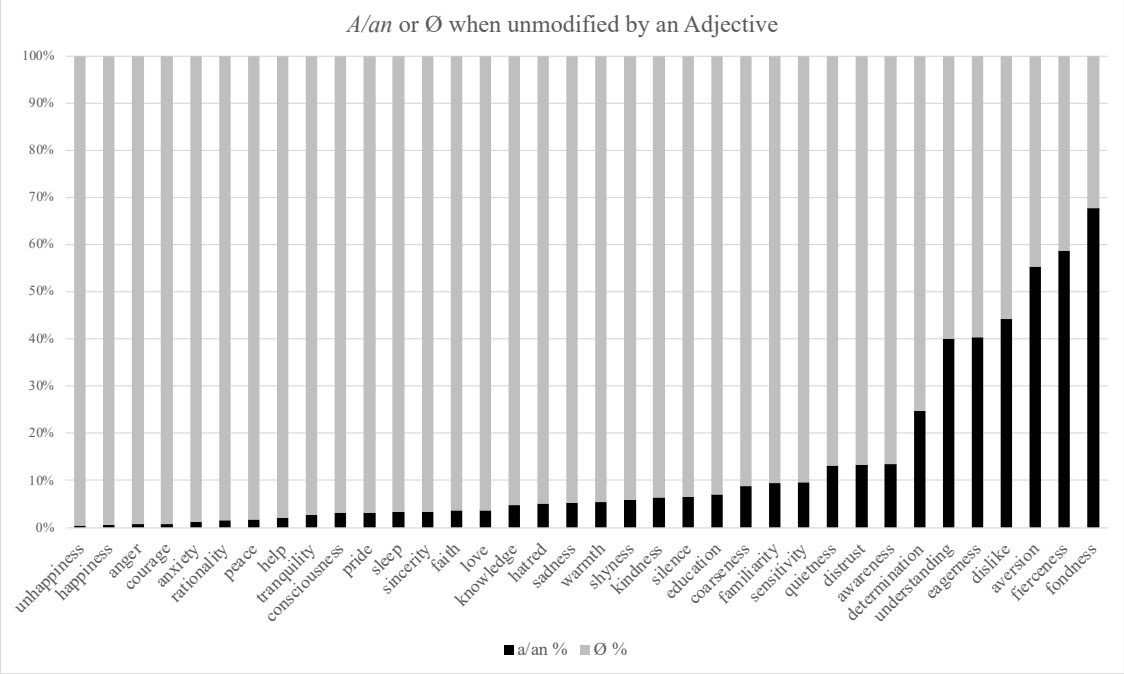


Figure 5.1 shows that all the nouns except three nouns (*aversion*, *fierceness*, *fondness*) occur with ø more frequently than with *a/an* when unmodified by adjectives. Figure 5.2 below compares the percentages of the occurrences of the nouns with *a/an* (bars in black) and those with ø (bars in gray) when the nouns are modified by an adjective.

Figure 5.2. *A/an* and ø when modified by an adjective

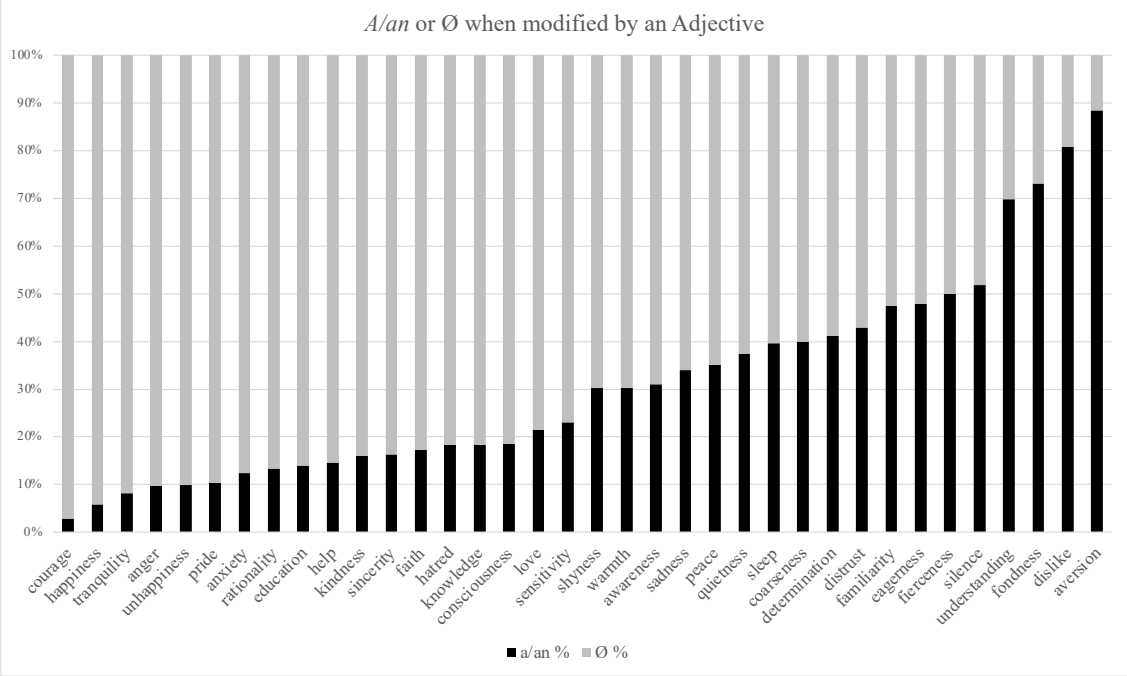


Figure 5.2 shows that all the nouns except six nouns (*aversion, dislike*, *fierceness*, *fondness*, *silence*, *understanding*) occur with ø more frequently than with *a/an* when modified by adjectives.

Figures 5.1 and 5.2 show that thirty nouns out of the thirty-six (83.3%) occur with ø more frequently than with *a/an* whether they are modified or not. This result does not support the claim that ANNs admit *a/an* when they are modified. There are six nouns that behave differently from the other nouns: *aversion, dislike, fierceness*, *fondness, silence, understanding* (highlighted in gray in Table 5.2). Three nouns occur more frequently with *a/an* when they are unmodified (*aversion, fierceness*, *fondness*), and five nouns occur more frequently with *a/an* when they are modified (*aversion, dislike*, *fondness, silence, understanding*). Two nouns, *aversion* and *fondness*, occur more frequently with *a/an* whether they are modified or not. These six nouns except *silence* may have some connection with *a/an*. *Silence*, unlike the other five nouns, has only a little difference between the frequency of occurrence with *a/an* (51.80%) and

that with ø (48.20%), and there seems to be no correlation with *a/an*. Section 5.4 explores the connection between these five nouns (excluding *silence*) and *a/an*.

5.4. The use of *a/an* with *aversion*, *dislike*, *fierceness*, *fondness* and *understanding*

This section examines the connection between the use of *a/an* and the five nouns, which behave differently from the other nouns: *aversion, dislike, fierceness*, *fondness* and *understanding*. These five nouns except *fierceness* occur with a post-modifying PP very frequently. Table 5.3 shows the total number of occurrences of each noun with ø and *a/an* combined, and the number of occurrences of each noun with a PP headed by a particular preposition (*for*, *of* or *to*).

Table 5.3. Post-modifying PPs and *aversion, dislike*, *fondness*, *understanding*

	Total (ø & *a/an*)	PP		
aversion	604	*aversion to*	376	62.3%
dislike	681	*dislike of/for/to*	450	66.1%
fondness	764	*fondness for*	544	71.2%
understanding	12863	*understanding of*	6294	48.9%

Aversion in the top row, for example, has a total of 604 occurrences with ø and *a/an* combined. Among them, there are 376 occurrences with a post-modifying PP headed by *to*, which is 62.3 percent. In the same way, the percentage of the occurrences of *dislike of/for/to* is 66.1%, *fondness for* is 71.2%, and *understanding of* is 48.9%. Considering the high frequency of occurrence of these nouns with a PP (or PPs), it is necessary to examine the connection between the use of *a/an* and post-modifying PPs.

As for *fierceness*, it frequently occurs with a relative clause (e.g. *She said with a fierceness that surprised Nancy*), and the connection between the use of *a/an* and a relative clause is examined. Table 5.4 shows the connection between *fierceness* and two types of modifiers,

adjectives and relative clauses.

Table 5.4. *A/an* and ø in [(Adj) + *fierceness* + (Relative Clause)]

fierceness										
	without Adj					with Adj				
TOTAL	Total	Ø	%	*a/an*	%	Total	Ø	%	*a/an*	%
46	34	14	41.2%	20	58.8%	12	6	50.0%	6	50.0%
With Relative Clause										
15	13	2	15.4%	11	84.6%	2	0	0.0%	2	100.0%
Without Relative Clause										
31	21	12	57.1%	9	42.9%	10	6	60.0%	4	40.0%

The top row shows that there are a total of forty-six occurrences of *fierceness* with *a/an* and ø combined, among which thirty-four occurrences are not modified by an adjective and twelve occurrences are modified. Among the thirty-four occurrences without an adjective, there are fourteen occurrences with ø (41.2%) as opposed to twenty occurrences with *a/an* (58.8%). Among the twelve occurrences with an adjective, there are six occurrences with ø (50.0%) as opposed to six with *a/an* (50.0%). *Fierceness* occurs with *a/an* more frequently than with ø when it is not modified by an adjective.

The middle row shows the numbers of occurrences of *fierceness* modified by a relative clause. When modified by a relative clause, *fierceness* occurs with *a/an* highly frequently whether modified by an adjective or not (100.0% and 84.6% respectively). The bottom row shows the numbers of occurrences of *fierceness* without a relative clause. When the occurrences with a relative clause are removed, the frequency of occurrence with *a/an* (without an adjective) decreases from 58.8 percent (top row) to 42.9 percent (bottom row), and (with an adjective) from 50.00 percent (top row) to 40.0 percent (bottom row). *Fierceness* occurs more frequently

with ø whether or not it is modified by an adjective. These findings indicate that a high frequency of *a/an* is more strongly connected to relative clauses than to adjectives.

As for the other four nouns (*aversion, dislike, fondness*, *understanding*), their high frequency of occurrence with *a/an* is connected to post-modifying PPs more strongly than to pre-modifying adjectives. *Aversion* frequently occurs with a post-modifying PP headed by *to* (e.g. *Liz has an aversion to computers*). Table 5.5 shows the connection between *aversion* and two types of modifiers, adjectives and a PP headed by *to*.

Table 5.5. *A/an* and ø in [(Adj) *aversion* (*to*)]

aversion										
	without Adj					with Adj				
TOTAL	Total	Ø	%	*a/an*	%	Total	Ø	%	*a/an*	%
604	421	188	44.7%	233	55.3%	183	21	11.5%	162	88.5%
aversion to										
376	227	26	11.5%	201	88.5%	149	7	4.7%	142	95.3%
aversion (without PP headed by *to*)										
228	194	162	83.5%	32	16.5%	34	14	41.2%	20	58.8%

The top row shows the numbers of occurrences of *aversion* with *a/an* and ø when modified by an adjective and when unmodified. There are a total of 604 occurrences of *aversion* with *a/an* and ø combined, among which 421 occurrences are not modified by an adjective and 183 occurrences are modified. *Aversion* occurs more frequently with *a/an* than with ø whether or not it is modified by an adjective (55.3% without an adjective and 88.5% with an adjective).

The middle row shows the numbers of occurrences of *aversion* modified by a PP headed by *to*. When modified by a PP headed by *to*, *aversion* occurs with *a/an* highly frequently (over 88.0%) whether modified by an adjective or not (88.5% without an adjective and 95.3% with

an adjective). The bottom row shows the numbers of occurrences of *aversion* without a PP headed by *to*. When the occurrences with a PP headed by *to* are removed, the frequency of occurrence with *a/an* (without an adjective) decreases from 55.3 percent (top row) to 16.5 percent (bottom row), and (with an adjective) from 88.5 percent (top row) to 58.8 percent (bottom row). These findings indicate that a high frequency of *a/an* is more strongly connected to a PP headed by *to* than to adjectives.

Fondness frequently occurs with *a/an* when it is post-modified by a PP headed by *for* (e.g. *The English have a peculiar fondness for cats*). Table 5.6 shows the connection between *fondness* and two types of modifiers, adjectives and a PP headed by *for*.

Table 5.6. *A/an* and ø in [(Adj) *fondness* (*for*)]

fondness										
	without Adj					with Adj				
TOTAL	Total	Ø	%	*a/an*	%	Total	Ø	%	*a/an*	%
764	489	157	32.1%	332	67.9%	275	74	26.9%	201	73.1%
fondness for										
544	342	25	7.3%	317	92.7%	202	20	9.9%	182	90.1%
fondness (without PP headed by *for*)										
220	147	132	89.8%	15	10.2%	73	54	74.0%	19	26.0%

The top row shows the numbers of occurrences of *fondness* with *a/an* and ø when modified by an adjective and when unmodified. There are a total of 764 occurrences of *fondness* with *a/an* and ø combined, among which 489 occurrences are not modified by an adjective and 275 occurrences are modified. *Fondness* occurs more frequently with *a/an* whether or not it is modified by an adjective (67.9% without an adjective and 73.1% with an adjective).

The middle row shows the numbers of occurrences of *fondness* modified by a PP headed

by *for*. When modified by a PP headed by *for*, *fondness* occurs with *a/an* highly frequently whether modified by an adjective or not (92.7% without an adjective and 90.1% with an adjective). The bottom row shows the numbers of occurrences of *fondness* without a PP headed by *for*. When the occurrences with a PP headed by *for* are removed, the frequency of occurrence with *a/an* (without an adjective) decreases from 67.9 percent (top row) to 10.2 percent (bottom row), and (with an adjective) from 73.1 percent (top row) to 26.0 percent (bottom row). Without a PP headed by *for*, *fondness* occurs more frequently with ø whether or not it is modified by an adjective (89.8% without an adjective and 74.0% with an adjective). These findings indicate that a high frequency of *a/an* is more strongly connected to a PP headed by *for* than to adjectives.

Understanding frequently occurs with *a/an* when it is post-modified by a PP headed by *of* (e.g. *Physicians do not have a full understanding of cancer genesis and promotion*). Table 5.7 shows the connection between *understanding* and two types of modifiers, adjectives and a PP headed by *of*.

Table 5.7. *A/an* and ø in [(Adj) *understanding* (*of*)]

understanding										
	without Adj					with Adj				
TOTAL	Total	Ø	%	*a/an*	%	Total	Ø	%	*a/an*	%
12863	6371	3816	59.9%	2555	40.1%	6492	1959	30.2%	4533	69.8%
understanding of										
6294	2183	566	25.9%	1617	74.1%	4111	467	11.4%	3644	88.6%
understanding (without PP headed by *of*)										
6569	4188	3250	77.6%	938	22.4%	2381	1492	62.7%	889	37.3%

The top row shows the numbers of occurrences of *understanding* with *a/an* and ø when modified by an adjective and when unmodified. There are a total of 12,863 occurrences of

understanding with *a/an* and ø combined, among which 6,371 occurrences are not modified by an adjective and 6,492 occurrences are modified. *Understanding* occurs more frequently with *a/an* when it is modified by an adjective (69.8%).

The middle row shows the numbers of occurrences of *understanding* modified by a PP headed by *of*. When modified by a PP headed by *of*, *understanding* occurs with *a/an* highly frequently whether modified by an adjective or not (74.1% without an adjective and 88.6% with an adjective). The bottom row shows the numbers of occurrences of *understanding* without a PP headed by *of*. When the occurrences with a PP headed by *of* are removed, the frequency of occurrence with *a/an* (without an adjective) decreases from 40.1 (top row) percent to 22.4 percent (bottom row), and (with an adjective) from 69.8 percent (top row) to 37.3 percent (bottom row). *Understanding* occurs more frequently with ø whether or not it is modified by an adjective (77.6% without an adjective and 62.7% with an adjective). These findings indicate that a high frequency of *a/an* is more strongly connected to a PP headed by *of* than to adjectives.

Dislike frequently occurs with *a/an* when it is post-modified by PPs headed by *of*, *for* and *to* as in the following examples (5–7).

5) Tess had an irrational dislike of men who wore wedding rings.
6) Victoria had a well-known dislike for small children.
7) I took an instant dislike to him.

Table 5.8 shows the connection between *dislike* and two types of modifiers, adjectives and three PPs headed by *of, for* and *to*.

Table 5.8. *A/an* and ø in [(Adj) *dislike* (*of/for*/*to*)]

dislike										
	without Adj					with Adj				
TOTAL	Total	Ø	%	*a/an*	%	Total	Ø	%	*a/an*	%
681	341	190	55.7%	151	44.3%	340	65	19.1%	275	80.9%
dislike of										
215	109	52	47.7%	57	52.3%	106	6	5.7%	100	94.3%
dislike for										
118	47	7	14.9%	40	85.1%	71	3	4.2%	68	95.8%
dislike to										
117	49	1	2.0%	48	98.0%	68	0	0.0%	68	100.0%
TOTAL *of/for/to*										
450	205	60	29.3%	145	70.7%	245	9	3.7%	236	96.3%
dislike without PPs headed by *of/for/to*										
231	136	130	95.6%	6	4.4%	95	56	58.9%	39	41.1%

The top row shows the numbers of occurrences of *dislike* with *a/an* and ø when modified by an adjective and when unmodified. There are a total of 681 occurrences of *dislike* with *a/an* and ø combined, among which 341 occurrences are not modified by an adjective and 340 occurrences are modified. *Dislike* occurs more frequently with *a/an* when it is modified by an adjective (80.9%).

The second, third and fourth rows show the numbers of occurrences of *dislike* modified by PPs headed by *of, for* and *to* respectively. The fifth row (the second row from the bottom) shows the numbers of occurrences of *dislike* modified by the three PPs headed by *of, for* and *to* combined. When modified by the three PPs headed by *of*, *for* and *to*, *dislike* occurs with *a/an* very frequently whether modified by an adjective or not (70.7% without an adjective and 96.3% with an adjective).

The bottom row shows the numbers of occurrences of *dislike* without PPs headed by *of, for*

and *to*. When the occurrences with the three PPs headed by *of*, *for* and *to* are removed, the frequency of occurrence with *a/an* (without an adjective) decreases from 44.3 percent (top row) to 4.4 percent (bottom row), and (with an adjective) from 80.9 percent (top row) to 41.1 percent (bottom row). Without the three PPs, *dislike* occurs more frequently with ø whether or not it is modified by an adjective (95.6% without an adjective and 58.9% with an adjective). These findings indicate that a high frequency of *a/an* is more strongly connected to PPs headed by *of*, *for* and *to* than to adjectives.

All these findings indicate that a high frequency of *a/an* is more strongly connected to post-modifiers than to adjectives. When modified by a post-modifier (a relative clause or a PP), the five nouns (*aversion, dislike, fierceness*, *fondness*, *understanding*) occur with *a/an* highly frequently (over 70.0 percent) whether modified by an adjective or not. When the occurrences with post-modifiers are removed, the four nouns (excluding *aversion*) occur with ø more frequently than with *a/an* whether or not they are modified by an adjective. Considering these findings on the connection between *a/an* and postmodifiers with the five nouns, it is clear that the presence of an adjective per se is not correlated with a high frequency of *a/an*.

5.5. Directional relations between an adjective and *a/an*

The previous section 5.4 examined the connection between adjectives and *a/an*, and it was found that the presence of an adjective per se is not correlated with a high frequency of *a/an*. It is likely that the presence of an adjective does not directly motivates the use of *a/an*. This section looks into the connection from the opposite direction to explore the possibility that adjectives occur frequently when there is *a/an*. Reference grammars generally agree that ANNs admit *a/an* when they are pre-modified by an adjective and/or post-modified by a phrase or a clause. This implies that there is a causal relationship between *a/an* and a modifier, in which a modifier causes the use of *a/an*. However, the corpus data show that the presence of an adjective

per se is not correlated with a high frequency of *a/an*. In the previous section, the frequency of occurrence with *a/an* and that with ø are compared when the nouns are modified by adjectives. To put it more simply, the frequency of occurrence of the following two constructions are compared: [*a/an* + Adj + Noun] and [ø + Adj + Noun]. This comparison examines if the combination [Adj + Noun] occurs more frequently with *a/an* or with ø. However, regarding the connection between the use of *a/an* and modification, directional relations need to be separately assessed (Ellis & Ferreira 2009: 198, Schmid & Küchenhoff 2013: 545). If there is any connection between the presence of an adjective and the use of *a/an*, it is necessary to examine if the presence of an adjective motivates the use of *a/an*, or the use of *a/an* motivates the presence of an adjective. In other words, it is necessary to examine if *a/an* occurs in the slot of (*a/an*) in the [(*a/an*) + Adj + Noun] construction more frequently than an adjective occurs in the slot of (Adj) in the [*a/an* + (Adj) + Noun] construction, or the other way around.

5.5.1. Connection between an adjective and *a/an*

The presence of an adjective per se is not correlated with a high frequency of *a/an*, but it does not mean that there is no connection between *a/an* and adjectives. Figures 5.1 and 5.2 (cited from Section 5.3) show that there is some connection between *a/an* and adjectives.

Figure 5.1. *A/an* and ø when unmodified by an adjective

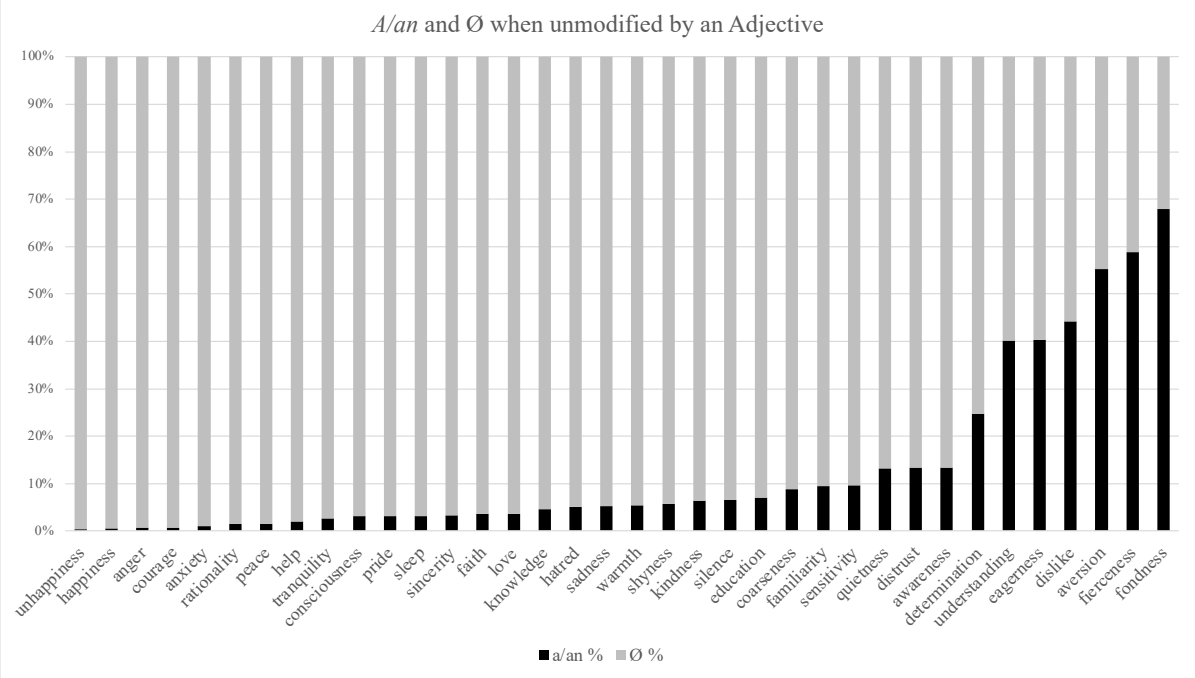
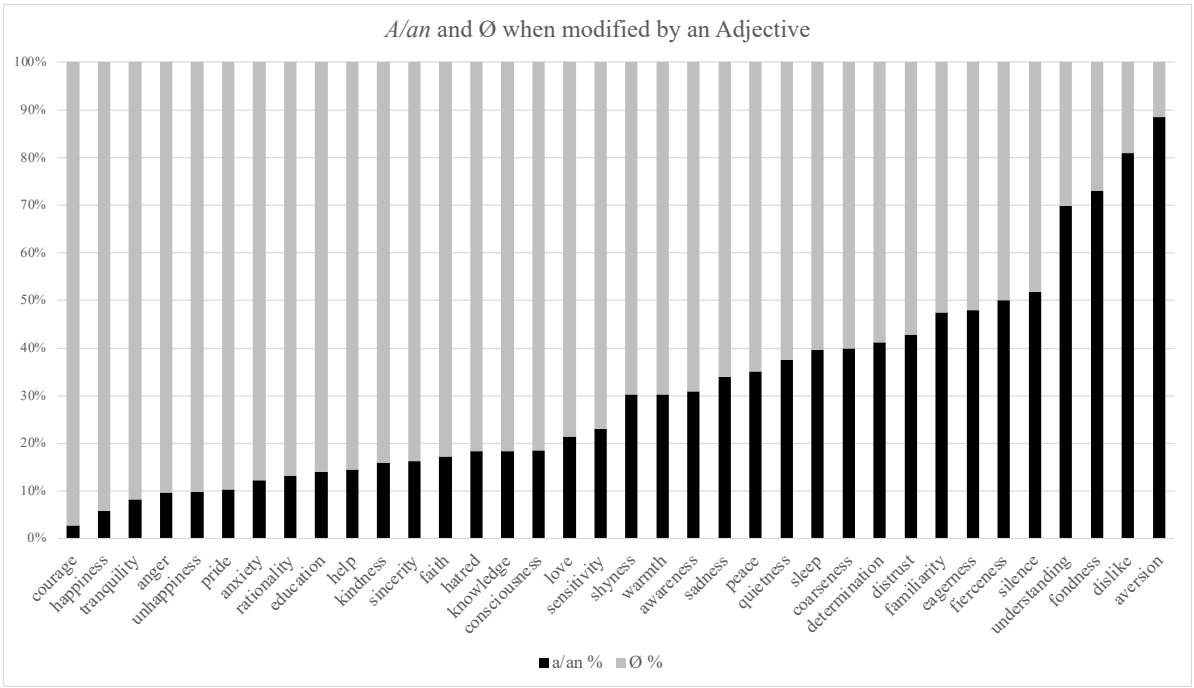


Figure 5.2. *A/an* and ø when modified by an adjective



Figures 5.1 and 5.2 show that the thirty-six nouns generally occur with ø more frequently than

with *a/an* whether they are modified (Figure 5.2) or not (Figure 5.1). However, when these two figures are compared, they show that the frequency of occurrence of the nouns with *a/an* is generally higher when the nouns are modified by adjectives than when they are unmodified. Figure 5.3 below compares the frequency of occurrence of the nouns with *a/an* when the nouns are modified by an adjective ([*a/an* + Adj + N]) (bars in black, in ascending order of frequency) and when they are unmodified by an adjective ([*a/an* + N]) (bars in gray).

Figure 5.3. *A/an* when modified by an adjective vs *a/an* unmodified by an adjective

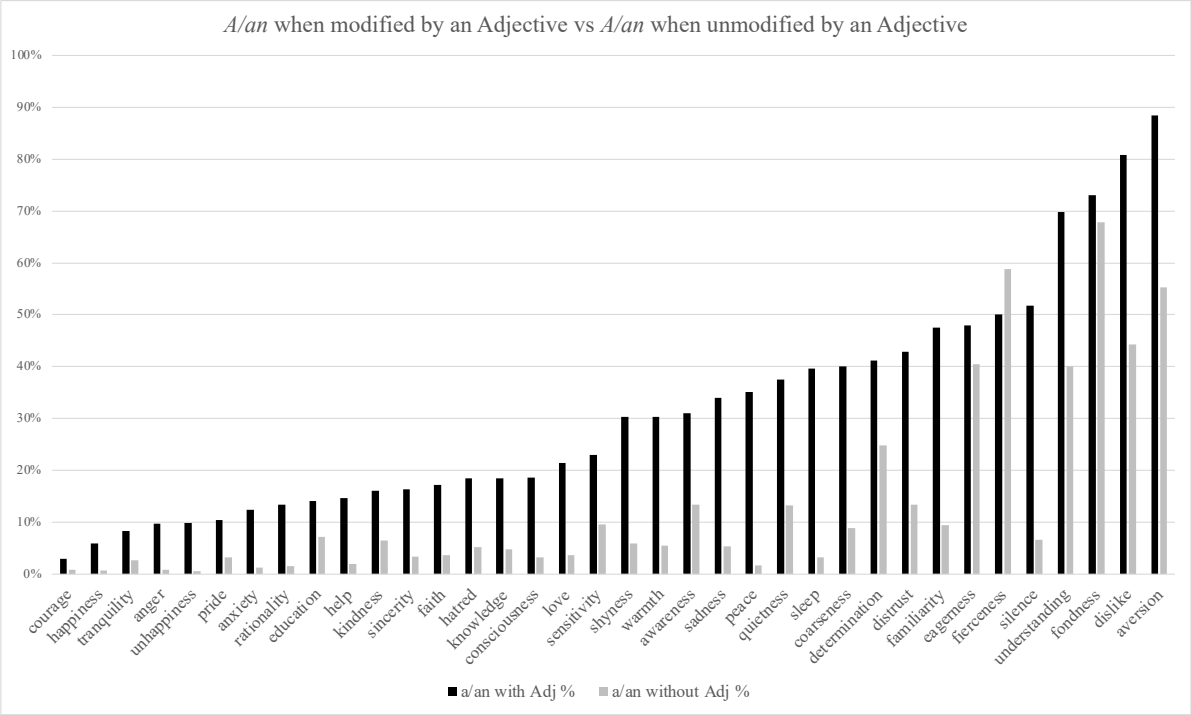


Figure 5.3 shows that all the nouns except *fierceness* occur with *a/an* more frequently when they are modified by an adjective than when they are unmodified. This indicates that there may be some connection between the use of *a/an* and the presence of an adjective. The following section 5.5.2 explores the possibility that that adjectives occur frequently when there is *a/an*.

5.5.2. Connection between an adjective and *a/an* from the opposite direction

This section examines the possibility that adjectives occur frequently when there is *a/an*. Table 5.9 below is a rearranged version of Table 5.2. It shows the frequency of occurrence of the thirty-six nouns in the following four constructions: [ø + Adj + Noun] and [ø + Noun] with ø, and [*a/an* + Adj + Noun] and [*a/an* + Noun] with *a/an*. The nouns are arranged in alphabetical order. Highlighted in gray are the nouns that occur without an adjective more frequently than with an adjective when they combine with *a/an*.

Table 5.9. The use of ø and *a/an* and occurrence with an adjective

	ALL					Ø					*a/an*				
NOUN	Total	Ø	*a/an*	Ø %	*a/an* %	Total	Without Adj	With Adj	Without Adj %	With Adj %	Total	Without Adj	With Adj	Without Adj %	With Adj %
anger	10447	10190	257	97.54%	2.46%	10190	8374	1816	82.18%	17.82%	257	61	196	23.74%	76.26%
anxiety	7462	7204	258	96.54%	3.46%	7204	5850	1354	81.20%	18.80%	258	67	191	25.97%	74.03%
aversion	604	209	395	34.60%	65.40%	209	188	21	89.95%	10.05%	395	233	162	58.99%	41.01%
awareness	8666	6985	1681	80.60%	19.40%	6985	4946	2039	70.81%	29.19%	1681	765	916	45.51%	54.49%
coarseness	44	37	7	84.09%	15.91%	37	31	6	83.78%	16.22%	7	3	4	42.86%	57.14%
consciousness	5905	5491	414	92.99%	7.01%	5491	4283	1208	78.00%	22.00%	414	139	275	33.57%	66.43%
courage	5101	5038	63	98.76%	1.24%	5038	3942	1096	78.25%	21.75%	63	31	32	49.21%	50.79%
determination	4738	3333	1405	70.35%	29.65%	3333	2497	836	74.92%	25.08%	1405	820	585	58.36%	41.64%
dislike	681	255	426	37.44%	62.56%	255	190	65	74.51%	25.49%	426	151	275	35.45%	64.55%
distrust	870	654	216	75.17%	24.83%	654	461	193	70.49%	29.51%	216	71	145	32.87%	67.13%
eagerness	343	197	146	57.43%	42.57%	197	146	51	74.11%	25.89%	146	99	47	67.81%	32.19%
education	41459	37561	3898	90.60%	9.40%	37561	25569	11992	68.07%	31.93%	3898	1943	1955	49.85%	50.15%
faith	13487	12466	1021	92.43%	7.57%	12466	9202	3264	73.82%	26.18%	1021	343	678	33.59%	66.41%
familiarity	1151	936	215	81.32%	18.68%	936	789	147	84.29%	15.71%	215	82	133	38.14%	61.86%
fierceness	46	20	26	43.48%	56.52%	20	14	6	70.00%	30.00%	26	20	6	76.92%	23.08%
fondness	764	231	533	30.24%	69.76%	231	157	74	67.97%	32.03%	533	332	201	62.29%	37.71%
happiness	6295	6205	90	98.57%	1.43%	6205	5232	973	84.32%	15.68%	90	30	60	33.33%	66.67%

hatred	4612	4195	417	90.96%	9.04%	4195	3077	1118	73.35%	26.65%	417	165	252	39.57%	60.43%
help	33471	31917	1554	95.36%	4.64%	31917	25842	6075	80.97%	19.03%	1554	516	1038	33.20%	66.80%
kindness	1600	1470	130	91.88%	8.13%	1470	1234	236	83.95%	16.05%	130	85	45	65.38%	34.62%
knowledge	19118	17173	1945	89.83%	10.17%	17173	10939	6234	63.70%	36.30%	1945	539	1406	27.71%	72.29%
love	45387	42758	2629	94.21%	5.79%	42758	38474	4284	89.98%	10.02%	2629	1461	1168	55.57%	44.43%
peace	31869	30263	1606	94.96%	5.04%	30263	28153	2110	93.03%	6.97%	1606	462	1144	28.77%	71.23%
pride	9627	9128	499	94.82%	5.18%	9128	6683	2445	73.21%	26.79%	499	217	282	43.49%	56.51%
quietness	107	89	18	83.18%	16.82%	89	79	10	88.76%	11.24%	18	12	6	66.67%	33.33%
rationality	1044	992	52	95.02%	4.98%	992	725	267	73.08%	26.92%	52	11	41	21.15%	78.85%
sadness	3098	2722	376	87.86%	12.14%	2722	2232	490	82.00%	18.00%	376	124	252	32.98%	67.02%
sensitivity	2766	2369	397	85.65%	14.35%	2369	1612	757	68.05%	31.95%	397	171	226	43.07%	56.93%
shyness	412	367	45	89.08%	10.92%	367	307	60	83.65%	16.35%	45	19	26	42.22%	57.78%
silence	13983	11213	2770	80.19%	19.81%	11213	9241	1972	82.41%	17.59%	2770	651	2119	23.50%	76.50%
sincerity	814	759	55	93.24%	6.76%	759	579	180	76.28%	23.72%	55	20	35	36.36%	63.64%
sleep	9686	8748	938	90.32%	9.68%	8748	7711	1037	88.15%	11.85%	938	258	680	27.51%	72.49%
tranquility	326	314	12	96.32%	3.68%	314	258	56	82.17%	17.83%	12	7	5	58.33%	41.67%
understanding	12863	5775	7088	44.90%	55.10%	5775	3816	1959	66.08%	33.92%	7088	2555	4533	36.05%	63.95%
unhappiness	796	778	18	97.74%	2.26%	778	641	137	82.39%	17.61%	18	3	15	16.67%	83.33%
warmth	3416	3023	393	88.50%	11.50%	3023	2442	581	80.78%	19.22%	393	141	252	35.88%	64.12%

Anger in the top row, for example, has a total of 10,190 occurrences with ø, among which there are 8,374 occurrences without an adjective (82.18%) and 1,816 occurrences with an adjective (17.82%). In the same way, *anger* has a total of 257 occurrences with *a/an*, among which there are 61 occurrences without an adjective (23.74%) and 196 with an adjective (76.26%). When *anger* combines with ø, it occurs without an adjective more frequently than with an adjective. When *anger* combines with *a/an*, it occurs with an adjective more frequently than without an adjective.

Figures 5.4 and 5.5 below display the data in the bar graphs. Figure 5.4 compares the frequency of occurrence of [ø + Adj + Noun] (bars in black, in ascending order of frequency) and [ø + Noun] (bars in gray, in descending order of frequency). In the same way, Figure 5.5 compares the frequency of occurrence of [*a/an* + Adj + Noun] (bars in black) and [*a/an* + Noun] (bars in gray).

Figure 5.4. Ø with and without an adjective

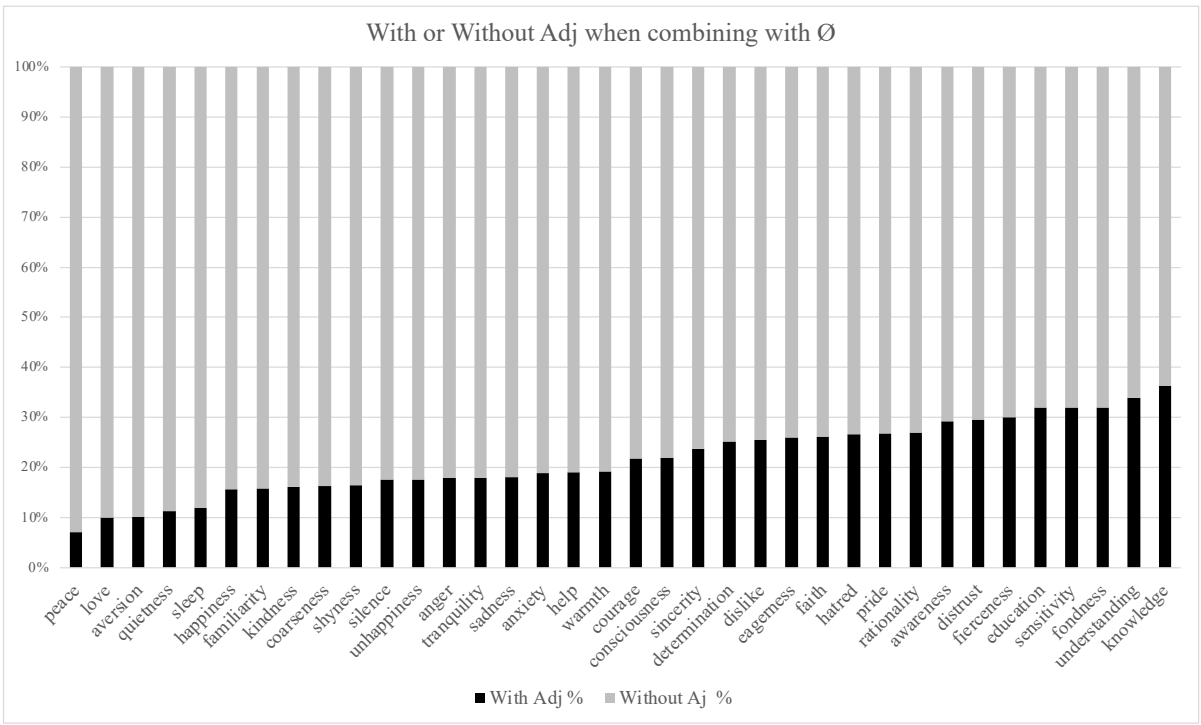
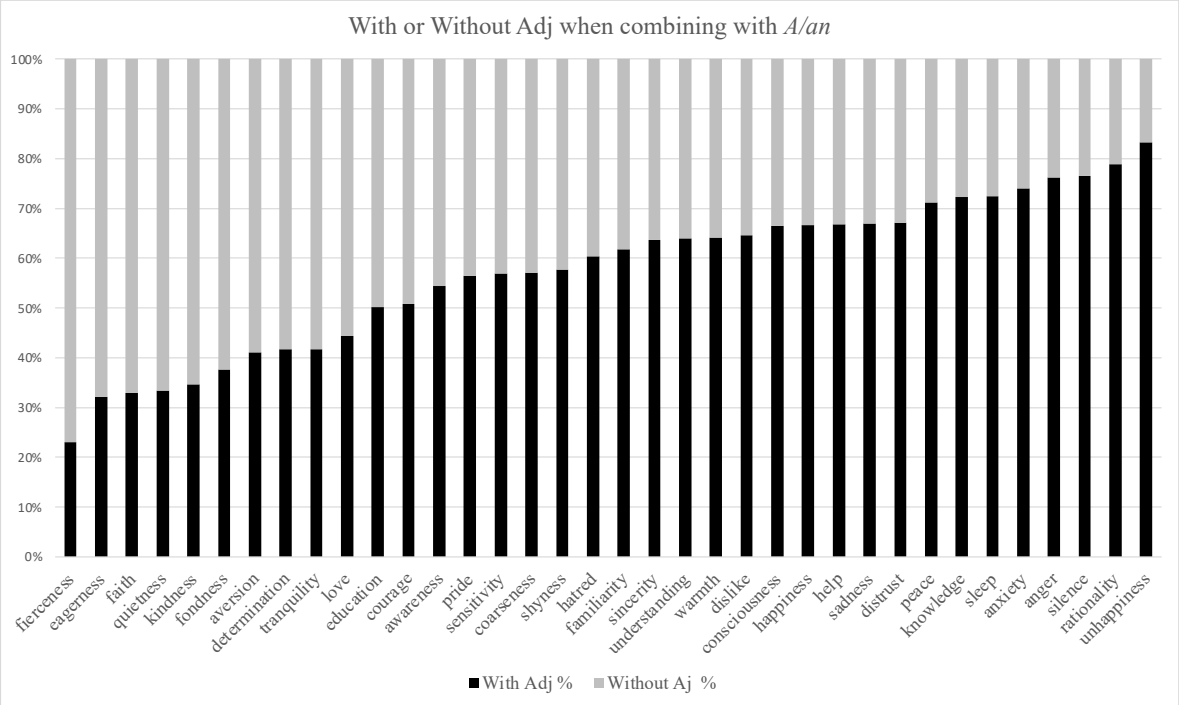


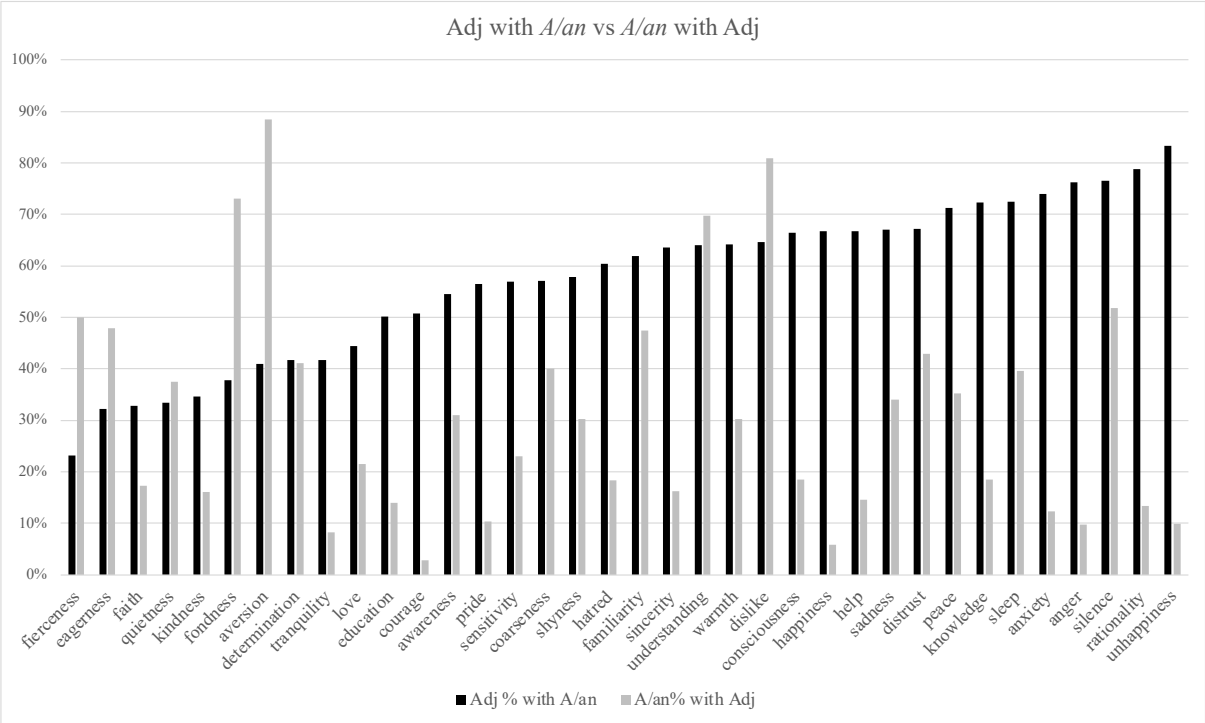
Figure 5.5. *A/an* with and without an adjective



When the nouns combine with ø (Figure 5.4), all of the thirty-six nouns occur in [ø + Noun] (without an adjective) more frequently than in [ø + Adj + Noun] (with an adjective), from 63.70% (*knowledge*) to 93.03% (*peace*). When the nouns combine with *a/an* (Figure 5.5), twenty-six nouns out of 36 (72.22%) occur in [*a/an* + Adj + Noun] (with an adjective) more frequently than in [*a/an* + Noun] (without an adjective). These two figures show that there is some connection between *a/an* and an adjective.

Figure 5.6 below compares the frequency of occurrence of the thirty-six nous in [*a/an* + Adj + Noun] among the occurrences in [*a/an* + (Adj) + Noun] (with or without an adjective) (bars in black, in ascending order of frequency) and the frequency of occurrence of the nouns in [*a/an* + Adj + Noun] among the occurrences in [(*a/an*) + Adj + Noun] (with or without *a/an*) (bars in gray).

Figure 5.6. Adjective when combining with *a/an* vs *A/an* when modified by adjective



With twenty-nine nouns out of 36 (80.6%), the frequency of [*a/an* + Adj + Noun] among [*a/an* + (Adj) + Noun] is higher than the frequency of [*a/an* + Adj + Noun] among [(*a/an*) + Adj + Noun]. An adjective comes into the slot of (Adj) in [*a/an* + (Adj) + Noun] more frequently than *a/an* comes into the slot of (*a/an*) in [(*a/an*) + Adj + Noun]. It is likely that *a/an* attracts an adjective more strongly than an adjective attracts *a/an*.[19]

The other seven nouns (*aversion, dislike, eagerness, fierceness, fondness, quietness, understanding*) have the opposite result. They behave differently from the other twenty-nine nouns, and the connection with post-modification needs to be taken into consideration. Among the seven nouns, four nouns (*aversion, dislike, fondness, understanding*) occur with a PP very frequently, and the connection between *a/an* and a PP is stronger than that between *a/an* and an

[19] The term '*to attract*' is borrowed from Schmid & Küchenhoff (2013: 548). I use the term '*to attract*' somewhat differently from the way Schmid & Küchenhoff use it. According to them, attraction measures the degree to which a certain lexico-grammatical construction attracts a particular lexeme, and reliance measures the degree to which a particular lexeme relies (or depends) on a lexico-grammatical construction.

adjective as discussed in Section 5.4. It is necessary to remove the occurrences with a PP (or PPs) to eliminate the influence of a PP on the use of *a/an*. Table 5.10 shows the results after removing the occurrences with a PP.

Table 5.10. *A/an* with adjective vs Adjective with *a/an* (without PP)

	a/an	*a/an* + Adj	% *a/an* + Adj	Adj	*a/an* + Adj	% *a/an* + Adj
aversion (without PP headed by *to*)	44	20	45.5%	32	20	62.5%
dislike (without PPs headed by *of/for/to*)	40	31	77.5%	85	31	36.5%
fondness (without PP headed by *for*)	27	21	77.8%	75	21	28.0%
understanding (without PP headed by *of*)	1641	881	53.7%	2323	881	37.9%

Aversion in the top row, for example, has 44 occurrences with *a/an* (without a PP headed by *to*). Among them, there are 20 occurrences with an adjective, which is 45.5 percent of the occurrences with *a/an*. In the same way, *aversion* has 32 occurrences with an adjective (without a PP headed by *to*). Among them, there are 20 occurrences with *a/an*, which is 62.5 percent of the occurrences with an adjective. The frequency of *a/an* when *aversion* is modified by an adjective (right side) is higher than the frequency of an adjective when *aversion* combines with *a/an* (left side). To put it simply, an adjective attracts *a/an* more strongly than *a/an* attracts an adjective. With the other three nouns (*dislike, fondness, understanding*), the association goes in the opposite direction: *a/an* attracts an adjective more strongly than an adjective attracts *a/an*. With these three nouns in addition to the twenty-nine nouns examined above, a total of thirty-two nouns out of the thirty-six nouns (88.89%), adjectives frequently occur when there is *a/an*.

As for *eagerness*, *fierceness* and *quietness*, it is not known why they occur with *a/an* more frequently than with ø when they are modified by an adjective. With *fierceness* and *quietness*, it is difficult to examine the connection between *a/an* and an adjective because they have only a small number of occurrences with *a/an*: *fierceness* has twenty-six occurrences with *a/an*, and

quietness has eighteen. With *eagerness*, it is often post-modified by a *to*-infinitive clause (642 occurrences out of 1180), but the connection between a *to*-infinitive clause and *a/an* is not as strong as that between a PP and *a/an*. Out of 122 occurrences of *eagerness* with *a/an* and ø combined followed by a *to*-infinitive clause, there are eighty occurrences with *a/an* (65.6%), while forty-two occurrences with ø. There seems to be no strong connection between *a/an* and a *to*-infinitive clause.

With four nouns (*aversion*, *eagerness*, *fierceness*, *quietness*), *a/an* frequently occurs when there is an adjective. With the other thirty-two nouns (out of thirty-six), adjectives frequently occur when there is *a/an*. From these results, it can be hypothesized that it is *a/an* that attracts an adjective rather than an adjective that attracts *a/an*.

5.6. Summary of the findings and discussion

The following are the findings on the connection between *a/an* and a pre-modifying adjective.

1) Thirty nouns out of thirty-six (83.3%) occur more frequently with ø than with *a/an* whether or not they are modified by an adjective (Figures 5.1, 5.2). Six nouns occur with *a/an* more frequently than with ø: *aversion*, *dislike*, *fierceness*, *fondness*, *silence*, *understanding*. With five nouns (excluding *silence*), a high frequency of *a/an* seems to be more strongly connected to post-modifiers than to adjectives. These results indicate that the presence of an adjective per se is not correlated with a high frequency of *a/an*.

2) With twenty-nine nouns out of thirty-six (80.6%), the frequency of [*a/an* + Adj + Noun] among [*a/an* + (Adj) + Noun] is higher than that of [*a/an* + Adj + Noun] among [(*a/an*) + Adj + Noun] (Figure 5.6). Three other nouns (*dislike, fondness, understanding*) behave in the same way when post-modifying PPs are removed. With a total of thirty-two nouns out of thirty-six (88.89%), adjectives frequently occur when there is *a/an*. From these results, it can be hypothesized that it is *a/an* that attracts an adjective rather than an adjective that attracts *a/an*.

This hypothesis is further examined in Chapter 7. In the next chapter, the connection between *a/an* and post-modifying prepositional phrases (PPs) is examined.

Chapter 6

Syntactic Connection between Modification and *a/an*

–Post-modifying Prepositional Phrases and *a/an*–

6.1. Introduction

Regarding the connection between *a/an* and modification, all the reference grammars and dictionaries (listed in Table 2.8 in Chapter 2) present prepositional phrases (PPs) as examples of a post-modifier: e.g. *a good knowledge of French* (OALD), *a strange dislike of mathematics* (Quirk et al 1985: 287), *a deep distrust of strangers* (Swan 2016: 120.4), *a general anxiety about the prospects for the world economy* (Francis et al 1998: 4), etc. This chapter examines the connection between a post-modifying PP and *a/an* as opposed to ø. Section 6.2 presents the PPs to be examined. Section 6.3 examines if the presence of a PP is connected to a high frequency of *a/an*. Section 6.4 discusses the findings.

6.2. Methodology: PPs to be examined

In Chapter 5, the connection between pre-modifying adjectives and *a/an* is examined by comparing the frequency of *a/an* in the presence of adjectives and that in the absence of adjectives. The comparison between the presence and the absence of pre-modification is simple because there is only one type of premodification, i.e. adjectives (including adjectival nouns). The number of occurrences of nouns without adjectives (i.e. the absence of pre-modification) is gained by simply removing the occurrences with adjectives.

On the other hand, post-modification has at least four types: prepositional phrases (PPs), relative clauses, *to*-infinitive clauses and adverbs. Removing one type of post-modification does not lead to the absence of post-modification. The use of *a/an* in the absence of one type of post-modification may be connected to other types of post-modifiers. It is necessary to remove

the occurrences with all post-modifiers to compare the presence and the absence of post-modification. However, it is very difficult to remove all types of post-modifiers because it is necessary to determine if a particular phrase or clause functions as a modifier to limit the meaning of a noun. For example, PPs are headed by various prepositions, and the same noun may occur with various PPs (e.g. *love of*, *love for*, *love in*, *love with*). The PP in '*He had a special love of writing for children*' limits the meaning of *love*, while the PP in '*I fell in love in Los Angeles*' modifies the verb phrase '*fell in love*'. In the same way, the PP in '*She is in love with a pilot*' modifies the verb phrase '*is in love*', and the PP does not limit the meaning of *love*. With these difficulties in judging if a phrase or a clause functions as a post-modifier, it is practically impossible to remove all the post-modifiers that limit the meaning of a preceding noun and leave the post-modifiers that do not. In this chapter, particular types of PPs are chosen to examine the connection between *a/an* and PPs.

Nouns occur with various PPs. For example, *anger* occurs with *against* (e.g. *anger against the government*), *at* (e.g. *anger at his father*), *in* (e.g. *anger in London*), *of* (e.g. *anger of bushfire victim*s), *on* (e.g. *anger on the issue*), *over* (e.g. *anger over high petrol prices*), etc. It is necessary to choose a PP to be examined since some PPs do not limit the meaning of a noun (e.g. *I fell in love in Los Angeles*), and it is beyond the scope of this study to examine all the PPs that occur with a particular noun. The question is which preposition is to be chosen to examine the connection between *a/an* and a PP. None of the reference grammars or the dictionaries mentions the types of PPs that are connected to the use of *a/an*. The following are a few examples of post-modifying PPs without a pre-modifying adjective.[20]

1) There was a fierceness in her voice. (CALD)

[20] Most of the examples of nouns with a PP presented by the reference grammars and dictionaries are also pre-modified by an adjective (e.g. *a good knowledge of French, a strange dislike of mathematics, a deep distrust of strangers*).

2) a coarseness in his manner. (LAAD)

3) I've always had a fondness for chocolate. (MALED)

In the above examples, a PP is the only modifier that is expected to motivate the use of *a/an*. These examples, however, do not give a clue to identify the types of PPs that are connected to the use of *a/an*, except the [*to have* + *fondness* + *for*] construction in (3) (refer to Section 6.3.3–Section 6.3.5 about nouns that denote liking and disliking). In this section, the PPs to be examined are selected on the basis of their hit numbers in the Bank of English (i.e. the largest number of occurrences).

Choosing one particular preposition may cause some problems, since it is necessary to consider the influence of other PPs on the use of *a/an*. Regarding the influence of the other two types of modifiers, adjectives and relative clauses, they are not expected to cause serious problems. In the previous chapter, it was found that the presence of an adjective is not correlated with a high frequency of *a/an*. Regarding the influence of relative clauses, the number of occurrences with relative clauses is very small compared to the occurrences with adjectives and those with PPs (see Table 7.1 in Chapter 7). The number of occurrences with both a PP and a relative clause is expected to be even smaller.

If it is found that a combination of a noun and a particular PP, for example *anger at*, occurs with *a/an* more frequently than with ø, it can be tentatively concluded that a PP has some connection with *a/an*. If it is found that a noun without a PP occurs with *a/an* more frequently than with ø, it is necessary to consider the possibility of the influence of other PPs or other types of post-modifiers such as a relative clause and a *to*-infinitive clause.

Table 6.1 is a list of the thirty-six nouns (the same nouns examined in Chapter 5) and six prepositions that most frequently co-occur with each noun. The table shows the hit numbers of a noun with each preposition and the percentages of their occurrences among all the prepositions, which include the prepositions not listed in Table 6.1. Highlighted in gray are the

prepositions to be selected. Also highlighted are the percentages of the occurrences of the nouns with a preposition that account for over fifty percent of the occurrences with all the prepositions (17 nouns among 36).

Table 6.1. Hit numbers of the 36 nouns followed by various PPs

	Noun + PP	Hit No.	%
1	*anger at*	1842	28.6
2	*anger over*	768	11.9
3	*anger in*	753	11.7
4	*anger of*	529	8.2
5	*anger on*	268	4.2
6	*anger among*	258	4.0

	Noun + PP	Hit No.	%
1	*faith in*	7866	72.5
2	*faith of*	706	6.5
3	*faith with*	618	5.7
4	*faith by*	261	2.4
5	*faith on*	198	1.8
6	*faith for*	189	1.7

	Noun + PP	Hit No.	%
1	*quietness of*	36	58.1
2	*quietness in*	7	11.3
3	*quietness about*	3	4.8
4	*quietness after*	2	3.2
5	*quietness at*	2	3.2
6	*quietness by*	2	3.2

	Noun + PP	Hit No.	%
1	*anxiety about*	857	30.1
2	*anxiety in*	414	14.6
3	*anxiety over*	299	10.5
4	*anxiety of*	288	10.1
5	*anxiety for*	172	6.1
6	*anxiety at*	116	4.1

	Noun + PP	Hit No.	%
1	*familiarity with*	796	71.5
2	*familiarity of*	183	16.4
3	*familiarity to*	28	2.5
4	*familiarity about*	25	2.3
5	*familiarity in*	25	2.3
6	*familiarity between*	16	1.4

	Noun + PP	Hit No.	%
1	*rationality of*	115	42.6
2	*rationality in*	63	23.3
3	*rationality with*	18	6.7
4	*rationality to*	16	5.9
5	*rationality for*	10	3.7
6	*rationality on*	7	2.6

	Noun + PP	Hit No.	%
1	*aversion to*	718	90.2
2	*aversion for*	17	2.1
3	*aversion in*	14	1.8
4	*aversion of*	9	1.1
5	*aversion because*	7	0.9
6	*aversion at*	4	0.5

	Noun + PP	Hit No.	%
1	*fierceness of*	34	69.4
2	*fierceness in*	7	14.3
3	*fierceness to*	2	4.1
4	*fierceness about*	1	2.0
5	*fierceness as*	1	2.0
6	*fierceness at*	1	2.0

	Noun + PP	Hit No.	%
1	*sadness of*	223	20.7
2	*sadness in*	214	19.9
3	*sadness at*	162	15.0
4	*sadness for*	125	11.6
5	*sadness about*	64	5.9
6	*sadness to*	60	5.6

	Noun + PP	Hit No.	%
1	*awareness of*	4881	72.7
2	*awareness about*	512	7.6
3	*awareness in*	266	4.0
4	*awareness among*	221	3.3
5	*awareness for*	169	2.5
6	*awareness on*	130	1.9

	Noun + PP	Hit No.	%
1	*fondness for*	1177	93.8
2	*fondness of*	37	3.0
3	*fondness by*	7	0.6
4	*fondness with*	6	0.5
5	*fondness in*	5	0.4
6	*fondness about*	4	0.3

	Noun + PP	Hit No.	%
1	*sensitivity to*	961	45.4
2	*sensitivity of*	593	28.0
3	*sensitivity in*	163	7.7
4	*sensitivity about*	63	3.0
5	*sensitivity for*	61	2.9
6	*sensitivity on*	55	2.6

	Noun + PP	Hit No.	%
1	*coarseness of*	39	76.5
2	*coarseness in*	7	13.7
3	*coarseness as*	1	2.0

	Noun + PP	Hit No.	%
1	*happiness in*	419	23.9
2	*happiness of*	381	21.8
3	*happiness with*	152	8.7

	Noun + PP	Hit No.	%
1	*shyness in*	22	20.0
2	*shyness of*	16	14.6
3	*shyness about*	14	12.7

4	*coarseness from*	1	2.0	*happiness for*	151	8.6	*shyness with*	12	10.9
5	*coarseness on*	1	2.0	*happiness to*	141	8.1	*shyness as*	9	8.2
6	*coarseness to*	1	2.0	*happiness at*	90	5.1	*shyness at*	7	6.4

1	*consciousness of*	754	40.3	*hatred of*	1285	48.8	*silence of*	1137	21.4
2	*consciousness in*	258	13.8	*hatred for*	468	17.8	*silence for*	740	13.9
3	*consciousness for*	77	4.1	*hatred in*	205	7.8	*silence in*	632	11.9
4	*consciousness as*	68	3.6	*hatred against*	185	7.0	*silence on*	579	10.9
5	*consciousness to*	67	3.6	*hatred between*	69	2.6	*silence at*	312	5.9
6	*consciousness with*	65	3.5	*hatred towards*	62	2.4	*silence from*	276	5.2

1	*courage of*	750	35.7	*help of*	8083	31.3	*sincerity of*	311	59.8
2	*courage in*	535	25.5	*help from*	6219	24.1	*sincerity in*	72	13.9
3	*courage to*	165	7.9	*help in*	3746	14.5	*sincerity about*	25	4.8
4	*courage for*	140	6.7	*help for*	1981	7.7	*sincerity to*	22	4.2
5	*courage by*	78	3.7	*help with*	1739	6.7	*sincerity by*	18	3.5
6	*courage under*	77	3.7	*help to*	1708	6.6	*sincerity on*	12	2.3

1	*determination of*	1205	55.1	*kindness of*	349	42.6	*sleep in*	490	18.0
2	*determination in*	244	11.2	*kindness to*	149	18.2	*sleep at*	308	11.3
3	*determination on*	136	6.2	*kindness in*	92	11.2	*sleep over*	287	10.6
4	*determination by*	97	4.4	*kindness by*	37	4.5	*sleep for*	245	9.0
5	*determination to*	86	3.9	*kindness from*	34	4.2	*sleep on*	234	8.6
6	*determination for*	64	2.9	*kindness for*	22	2.7	*sleep of*	198	7.3

1	*dislike of*	765	56.0	*knowledge of*	12772	74.5	*tranquility of*	88	51.5
2	*dislike for*	278	20.3	*knowledge about*	1105	6.4	*tranquility in*	36	21.1
3	*dislike to*	137	10.0	*knowledge in*	731	4.3	*tranquility to*	10	5.9
4	*dislike about*	114	8.3	*knowledge to*	441	2.6	*tranquility for*	5	2.9
5	*dislike in*	18	1.3	*knowledge by*	374	2.2	*Tranquility on*	5	2.9
6	*dislike between*	15	1.1	*knowledge on*	297	1.7	*tranquility before*	4	2.3

1	*distrust of*	660	71.7	*love with*	9419	33.0	*understanding of*	12530	89.1
2	*distrust between*	102	11.1	*love of*	8307	29.1	*understanding with*	294	2.1
3	*distrust in*	36	3.9	*love for*	4452	15.6	*understanding between*	268	1.9
4	*distrust for*	19	2.1	*love to*[21]	1808	6.3	*understanding about*	144	1.0
5	*distrust among*	18	2.0	*love in*	1529	5.4	*understanding in*	126	0.9
6	*distrust on*	13	1.4	*love on*	555	1.9	*understanding for*	121	0.9

[21] '*To*' of the *to*-infinitive in the [*love to do* something] construction is often mis-tagged as a preposition.

1	*eagerness of*	89	37.2
2	*eagerness for*	52	21.8
3	*eagerness to*	25	10.5
4	*eagerness in*	23	9.6
5	*eagerness with*	21	8.8
6	*eagerness on*	9	3.8

peace in	3830	30.1
peace with	2447	19.2
peace of	2070	16.3
peace to	1016	8.0
peace between	624	4.9
peace for	455	3.6

unhappiness with	185	31.1
unhappiness in	88	14.8
unhappiness at	66	11.1
unhappiness of	44	7.4
unhappiness about	34	5.7
unhappiness among	31	5.2

1	*education in*	2845	27.6
2	*education for*	1601	15.5
3	*education of*	1325	12.9
4	*education at*	1212	11.8
5	*education to*	558	5.4
6	*education on*	341	3.3

pride in	3227	50.5
pride of	1821	28.5
pride at	228	3.6
pride for	225	3.5
pride to	182	2.9
pride on	112	1.8

warmth of	1464	57.8
warmth in	282	11.1
warmth to	157	6.2
warmth for	82	3.2
warmth from	82	3.2
warmth with	55	2.2

As mentioned above, no reference grammars or dictionaries mention the types of PPs that are expected to motivate the use of *a/an*. The only criterion that might be used to choose a preposition is whether a PP limits the meaning of a noun, which is mentioned in some reference grammars and dictionaries. However, a PP headed by the same preposition may or may not limit the meaning of the preceding noun as in *Mr. Clinton expressed anger at the media's behavior* vs. *Why do you feel the need to express anger at this time? At the media's behavior* in the first sentence limits the meaning of *anger*, while *at this time* in the second sentence does not. It is also difficult to judge if a PP limits the meaning of a noun. There is no particular preposition that always limit the meaning of a preceding noun, and the prepositions are selected on the basis of the frequency of occurrence with the nouns, except *love*. The preposition that occurs with a particular noun most frequently is selected. For example, *at* is selected for *anger*, and *about* is selected for *anxiety*. It is not taken into consideration whether a PP headed by the selected preposition limits the meaning of a noun or not, and all the occurrences of a noun with the selected preposition are counted.

Love is the only exception, and the preposition is not selected on the basis of the frequency of occurrence with love. *Love* occurs most frequently with a preposition *with*. However, most of the occurrences are in the [(*to be/fall*) *in love with*] construction (8,669 occurrences out of

9,419: 92.04%), and it is clear that a PP headed by *with* modifies VPs (e.g. *to be in love* or *to fall in love*) in this construction, but not the noun *love*. Thus, the preposition *of*, which occurs most frequently with *love* after *with* is chosen.

6.3. Presence or absence of a PP and the use of *a/an*

This section examines if the thirty-six nouns occur more frequently with *a/an* than with ø when they are post-modified by a PP selected in Section 6.2. Table 6.2 below shows the numbers and percentages of the occurrences of the thirty-six nouns with ø and *a/an* under two conditions: when they are modified by a PP (right side) and when they are not (left side). The nouns are arranged in alphabetical order.

Table 6.2. Presence and absence of a PP and the use of *a/an* and ø

	TOTAL			Without a PP					With a PP						*a/an* with a PP vs *a/an* Total
NOUN	Total	Ø	*a/an*	total	Ø	*a/an*	Ø %	*a/an* %	NOUN + PP	total	Ø	*a/an*	Ø %	*a/an* %	
anger	10447	10190	257	9739	9500	239	97.55%	2.45%	*anger at*	708	690	18	97.46%	2.54%	7.00%
anxiety	7462	7204	258	6931	6725	206	97.03%	2.97%	*anxiety about*	531	479	52	90.21%	9.79%	20.16%
aversion	604	209	395	228	176	52	77.19%	22.81%	*aversion to*	376	33	343	8.78%	91.22%	86.84%
awareness	8666	6985	1681	5520	4920	600	89.13%	10.87%	*awareness of*	3146	2065	1081	65.64%	34.36%	64.31%
coarseness	44	37	7	41	35	6	85.37%	14.63%	*coarseness of*	3	2	1	66.67%	33.33%	14.29%
consciousness	5905	5491	414	5741	5412	329	94.27%	5.73%	*consciousness of*	164	79	85	48.17%	51.83%	20.53%
courage	5101	5038	63	5090	5027	63	98.76%	1.24%	*courage of*	11	11	0	100.00%	0.00%	0.00%
determination	4738	3333	1405	4514	3207	1,307	71.05%	28.95%	*determination of*	224	126	98	56.25%	43.75%	6.98%
dislike	681	255	426	466	197	269	42.27%	57.73%	*dislike of*	215	58	157	26.98%	73.02%	36.85%
distrust	870	654	216	514	474	40	92.22%	7.78%	*distrust of*	356	180	176	50.56%	49.44%	81.48%
eagerness	343	197	146	256	195	146	76.17%	57.03%	*eagerness of*	2	2	0	100.0%	0.00%	0.00%
education	41459	37561	3898	39369	35687	3,682	90.65%	9.35%	*education in*	2090	1874	216	89.67%	10.33%	5.54%
faith	13487	12466	1021	9943	9211	732	92.64%	7.36%	*faith in*	3544	3255	289	91.85%	8.15%	28.31%
familiarity	1151	936	215	756	658	98	87.04%	12.96%	*familiarity with*	395	278	117	70.38%	29.62%	54.42%
fierceness	46	20	26	43	20	23	46.51%	53.49%	*fierceness of*	3	0	3	0.00%	100.00%	11.54%
fondness	764	231	533	222	187	35	84.23%	15.77%	*fondness for*	542	44	498	8.12%	91.88%	93.43%
happiness	6295	6205	90	5999	5909	90	98.50%	1.50%	*happiness in*	296	296	0	100.00%	0.00%	0.00%
hatred	4612	4195	417	4022	3815	207	94.85%	5.15%	*hatred of*	590	380	210	64.41%	35.59%	50.36%

help	33471	31917	1554	33372	31819	1,553	95.35%	4.65%	*help of*	99	98	1	98.99%	1.01%	0.06%
kindness	1600	1470	130	1594	1464	130	91.84%	8.16%	*kindness of*	6	6	0	100.00%	0.00%	0.00%
knowledge	19118	17173	1945	14072	13731	341	97.58%	2.42%	*knowledge of*	5046	3442	1604	68.21%	31.79%	82.47%
love	45387	42758	2629	43529	42199	1,330	96.94%	3.06%	*love of*	1858	559	1299	30.09%	69.91%	49.41%
peace	31869	30263	1606	29067	27611	1,456	94.99%	5.01%	*peace in*	2802	2652	150	94.65%	5.35%	9.34%
pride	9627	9128	499	7366	7109	257	96.51%	3.49%	*pride in*	2261	2019	242	89.30%	10.70%	48.50%
quietness	107	89	18	106	88	18	83.02%	16.98%	*quietness of*	1	1	0	100.00%	0.00%	0.00%
rationality	1044	992	52	1038	986	52	94.99%	5.01%	*rationality of*	6	6	0	100.00%	0.00%	0.00%
sadness	3098	2722	376	3086	2714	372	87.95%	12.05%	*sadness of*	12	8	4	66.67%	33.33%	1.06%
sensitivity	2766	2369	397	2229	2050	179	91.97%	8.03%	*sensitivity to*	537	319	218	59.40%	40.60%	54.91%
shyness	412	367	45	399	356	43	89.22%	10.78%	*shyness in*	13	11	2	84.62%	15.38%	4.44%
silence	13983	11213	2770	13946	11197	2,749	80.29%	19.71%	*silence of*	37	16	21	43.24%	56.76%	0.76%
sincerity	814	759	55	803	748	55	93.15%	6.85%	*sincerity of*	11	11	0	100.00%	0.00%	0.00%
sleep	9686	8748	938	9516	8622	894	90.61%	9.39%	*sleep in*	170	126	44	74.12%	25.88%	4.69%
tranquility	326	314	12	320	310	10	96.88%	3.13%	*tranquility of*	6	4	2	66.67%	33.33%	16.67%
understanding	12863	5775	7088	6569	4742	1,827	72.19%	27.81%	*understanding of*	6294	1033	5261	16.41%	83.59%	74.22%
unhappiness	796	778	18	725	711	14	98.07%	1.93%	*unhappiness with*	71	67	4	94.37%	5.63%	22.22%
warmth	3416	3023	393	3375	2995	380	88.74%	11.26%	*warmth of*	41	28	13	68.29%	31.71%	3.31%

Anger in the top row, for example, has a total of 10,447 occurrences with ø and *a/an* combined, among which there are 10,190 occurrences with ø and 257 with *a/an*. There are a total of 9,739 occurrences without the PP (*anger at*), among which there are 9,500 occurrences with ø (97.55%) and 239 with *a/an* (2.45%). In the same way, *anger* has 708 occurrences with the PP (*anger at*), among which there are 690 occurrences with ø (97.46%) and 18 with *a/an* (2.54%). *Anger* occurs with ø far more frequently than with *a/an* whether or not it is post-modified by a PP headed by *at*.

The column 'without a PP' in Table 6.2 does not mean 'with no prepositional phrases.' It means that the noun is not post-modified by a particular PP (i.e. a PP headed by a particular preposition), and the noun may well be modified by other PPs as well as other modifiers (e.g. adjectives, relative clauses, etc.). The right-most column '*a/an* with a PP vs *a/an* Total' shows the percentage of the occurrence of an NP (a noun modified by a PP) with *a/an* among the total number of the occurrences of the noun with *a/an*. For example, *anger* has a total of 257 occurrences with *a/an*, among which there are eighteen occurrences of *anger at*, which is 7.00%.

There are some nouns that have very few occurrences with *a/an* and ø combined when they are post-modified by a PP. The following eleven nouns have less than twenty occurrences with *a/an* and ø combined, and they are excluded in the following sections: *coarseness of, courage of, eagerness, fierceness of, kindness of, quietness of, rationality of, sadness of, shyness of, sincerity of, tranquility of*. Thus, the connection between *a/an* and a PP is examined with the following twenty-five nouns:

anger	*anxiety*	*aversion*	*awareness*	*consciousness*
determination	*dislike*	*distrust*	*education*	*faith*
familiarity	*fondness*	*happiness*	*hatred*	*help*

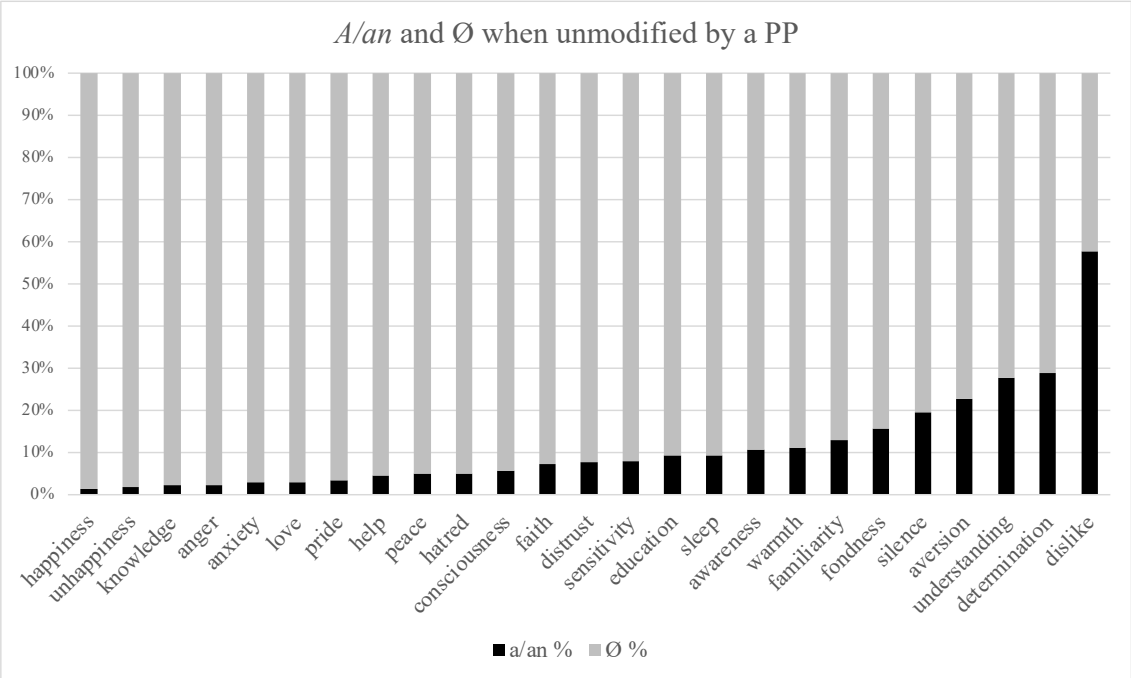
knowledge	*love*	*peace*	*pride*	*sensitivity*
silence	*sleep*	*understanding*	*unhappiness*	*warmth*

Among the twenty-five combinations of nouns and prepositions, twelve combinations account for over fifty percent of the occurrences of all the prepositions that follow each noun: *aversion, awareness, determination, dislike, distrust, faith, familiarity, fondness, knowledge, pride, understanding, warmth*.

6.3.1. The use of *a/an* and ø in the absence of a PP

This section examines the connection between *a/an* (as opposed to ø) and the absence of a PP. Figure 6.1 displays the data in Table 6.2 in the bar graph to compare the frequency of occurrence of the twenty-five nouns in two constructions: [*a/an* + N + (without a PP)] (black bars, in ascending order of frequency) and [ø + N + (without a PP)] (gray bars, in descending order of frequency).

Figure 6.1. *A/an* and ø when unmodified by a PP



All of the twenty-five nouns except *dislike* occur with ø more frequently than with *a/an* when they are unmodified by a particular PP: from 98.50% (*happiness*) to 71.05% (*determination*). Note that these occurrences may well be modified by adjectives, relative clauses or other PPs. Nevertheless, twenty-four nouns still occur with ø more frequently than with *a/an*. Below are examples of *determination* and *happiness* with ø.

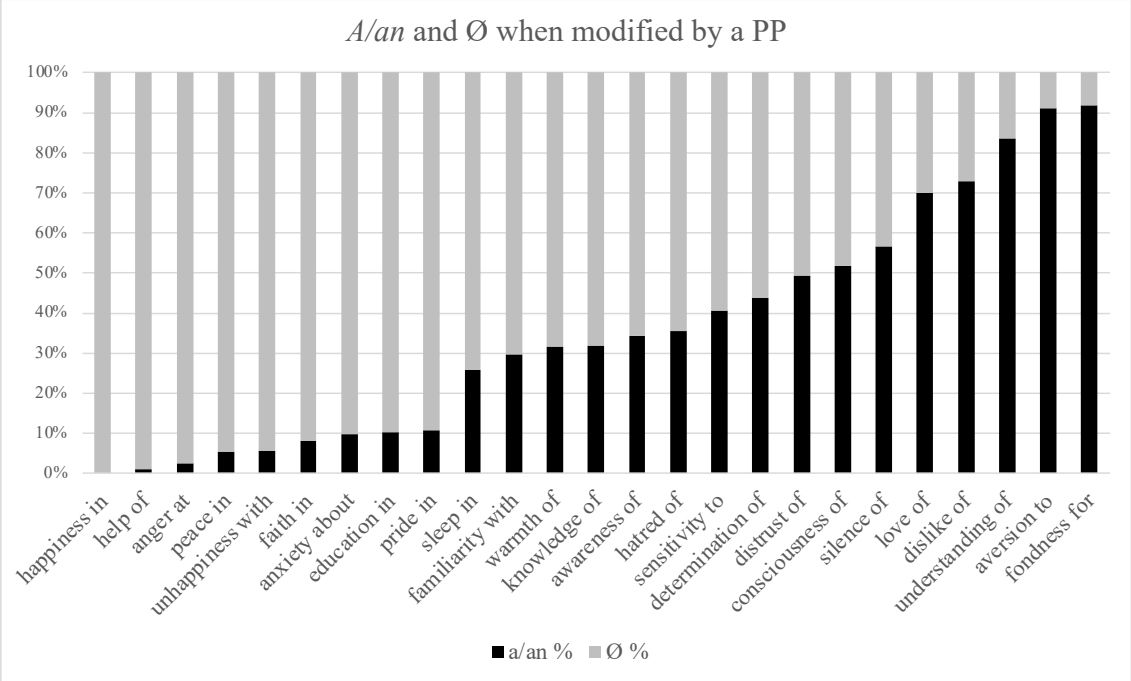
4) At the very least, **final determination of** the status of the NHS under the General Agreement on Trade in Services rules will be dependent on a disputes settlement panel of the World Trade Organisation.
5) A major obstacle to **happiness in** marriage, we have suggested, is simply the demands of daily life: dirty laundry, children's needs, the enormous pressures on time in contemporary society.

Dislike is the only noun that occurs more frequently with *a/an* than with ø when it is not modified by a PP headed by *of*. The high frequency of *a/an* results from the PP selection, i.e. other PPs are not counted as post-modifying PPs in Table 6.2. *Dislike* is modified by other PPs, among which two PPs headed by *to* and *for* frequently occur with *a/an*. As will be shown in Table 6.3 in Section 6.3.3, *dislike* has a total of 426 occurrences with *a/an*, among which 157 occurrences are modified by a PP headed by *of*, 108 modified by a PP headed by *for* and 116 modified by a PP headed by *to*. The PPs headed by both *for* and *to* combined have 224 occurrences with *a/an*, which is 52.6% of all the occurrences with *a/an*. This is the reason that *dislike* occurs frequently with *a/an* when it is unmodified by a PP headed by *of*. This applies to the other nouns as well. The occurrence of *a/an* may well turn out to be less frequent if all the PPs are removed, and also if the occurrences with all the modifiers (e.g. adjectives, relative clauses, etc.) are removed.

6.3.2. The use of *a/an* and ø in the presence of a PP

This section examines the connection between *a/an* (as opposed to ø) and the presence of a PP. Figure 6.2 displays the data in Table 6.2 in the bar graph to compare the frequency of occurrence of the nouns in two constructions: [*a/an* + Noun + PP] (black bars, in ascending order of frequency) and [ø + Noun + PP] (gray bars).

Figure 6.2. *A/an* and ø when modified by a PP



Eighteen nouns out of twenty-five (72.0%) occur with ø more frequently than with *a/an* when they are modified by a particular PP. Figure 6.1 and Figure 6.2 indicate that a high frequency of *a/an* is not correlated with a PP. The frequency of *a/an* varies from noun to noun. *Happiness in* has no occurrence with *a/an* as opposed to 296 with ø, and *help of* has only one occurrence with *a/an* as opposed to 98 with ø. On the other hand, *fondness for* has 498 occurrences with *a/an* as opposed to 44 with ø. Below are examples of *help of* with ø and *fondness for* with *a/an*.

6) Democrats, with **help of** media, have waged an all-out war on Bush.
7) He had **a fondness for** jazz.

Seven nouns occur with *a/an* more frequently than with ø when they are post-modified by a PP: *aversion to, consciousness of, dislike of, fondness for, love of, silence of,*

understanding of. Among the seven nouns, *consciousness* and *silence* have only a little difference between the frequency of *a/an* and that of ø. The frequency of *consciousness of* with ø is 48.17% (ø), and that with *a/an* is 51.83% (*a/an*). The frequency of *silence of* with ø is 43.24% (ø), and that with *a/an* is 56.76% (*a/an*).

Among the other five nouns (*aversion*, *dislike*, *fondness*, *love*, *understanding*), four nouns denote liking and disliking (*aversion*, *dislike*, *fondness*, *love*). It can be hypothesized that nouns that denote feelings of liking and disliking are likely to occur with *a/an*. This hypothesis is examined in the following three sections, 6.3.3–6.3.5.

6.3.3. Nouns denoting liking and disliking: *dislike*

Dislike frequently occurs with *a/an* in the [(*to have/take*) + (Adj) *dislike* (*of/for*/*to*)] construction with a verb *to have* or *to take* and with a post-modifying PP headed by *of*, *for* or *to* as in the following examples (8–10).

8) Tess had **an irrational dislike of** men who wore wedding rings.
9) Victoria had **a well-known dislike for** small children.
10) I took **an instant dislike to** him.

First, the connection between a PP and *a/an* (as opposed to ø) is examined. Then, the connection between a verb and *a/an* is examined. Table 6.3 shows the numbers of occurrences of *dislike* with *a/an* and ø when it is post-modified by three PPs (*of*, *for, to*), each with and without an adjective.

Table 6.3. *A/an* and ø in [(Adj) *dislike of/for/to*]

TOTAL		(Adj) *dislike of*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	215	58	52	6	157	57	100
TOTAL		(Adj) *dislike for*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	118	10	7	3	108	40	68
TOTAL		(Adj) *dislike to*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	117	1	1	0	116	48	68
		TOTAL (*of, for, to*)						
255	426	450	69	60	9	381	145	236

Dislike has a total of 255 occurrences with ø and 426 occurrences with *a/an*. The top row shows that there are 215 occurrences of *dislike* with a PP headed by *of* in the [(Adj) *dislike of*] construction. Among them, *dislike* has 157 occurrences with *a/an* (73.0%) as opposed to 58 occurrences with ø. The second row shows that there are 118 occurrences of *dislike* with a PP headed by *for* in the [(Adj) *dislike for*] construction. Among them, *dislike* has 108 occurrences with *a/an* (91.5%) as opposed to 10 occurrences with ø. The third row shows that there are 117 occurrences of *dislike* with a PP headed by *to* in the [(Adj) *dislike to*] construction. Among them, *dislike* has 116 occurrences with *a/an* (99.1%) as opposed to one occurrence with ø. Altogether, there are 450 occurrences with the three PPs (bottom row). Among them, there are 381 occurrences with *a/an* (84.7%) as opposed to 69 occurrences with ø.

These findings indicate that PPs have some connection with *a/an*. Next, the connection between a verb and *a/an* is examined. Table 6.4 shows the numbers of

occurrences of *dislike* with *a/an* and ø in the following five constructions: [*to have* + (Adj) *dislike*], [*to have* + (Adj) *dislike of*], [*to have* + (Adj) *dislike for*], [*to take* + (Adj) *dislike*] and [*to take* + (Adj) *dislike to*], each with and without an adjective.

Table 6.4. *A/an* and ø in [(*to have/take*) + (Adj) *dislike* (*of/for/to*)]

TOTAL		[*to have* + (Adj) *dislike*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	69	0	0	0	69	9	60
TOTAL		[*to have* + (Adj) *dislike of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	35	0	0	0	35	4	31
TOTAL		[*to have* + (Adj) *dislike for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	30	0	0	0	30	5	25
TOTAL		[*to take* + (Adj) *dislike*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	113	0	0	0	113	46	67
TOTAL		[*to take* + (Adj) *dislike to*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
255	426	105	0	0	0	105	44	61

The top row shows that there are 69 occurrences of *dislike* with a verb '*to have*' in the [*to have* + (Adj) *dislike*] construction, and all of them occur with *a/an*. As a result, all of the 35 occurrences of *dislike* in the [*to have* + (Adj) *dislike of*] construction (second row) and all of the 30 occurrences of *dislike* in the [*to have* + (Adj) *dislike for*] construction

(third row) occur with *a/an*. Together, there are 65 occurrences with PPs headed by *of* and *for*, which is 94.2 percent of the 69 occurrences with a verb '*to have*'. The verb '*to have*' and the PPs headed by *of* and *for* are closely connected when *dislike* combines with *a/an*.

The fourth row shows that there are 113 occurrences of *dislike* with a verb '*to take*' in the [*to take* + (Adj) *dislike*] construction, and all of them occur with *a/an*. The bottom row shows that there are 105 occurrences with a verb '*to take*' and a PP headed by *to* in the [*to take* + (Adj) *dislike to*] construction, which is 92.9 percent of the 113 occurrences of *dislike* with a verb '*to take*'. The verb '*to take*' and a PP headed by *to* are closely connected when *dislike* combines with *a/an*. These findings in Table 6.3 and Table 6.4 indicate that it is not a PP per se but a verb (*to have* or *to take*) or the combination of a verb (*to have* or *to take*) and a PP (headed by *of*, *for* or *to*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have* or *to take*) and the PP (headed by *of*, *for* or *to*). As shown in Table 6.4 (2nd, 3rd and 5th rows), all of the occurrences of *dislike* in the [*to have* + (Adj) *dislike of/for*] construction and the [*to take* + (Adj) *dislike to*] construction combine with *a/an* whether *dislike* is modified by an adjective or not. On the other hand, among 340 occurrences of *dislike* with an adjective, 275 occurrences combine with *a/an* (80.9%) (see Table 5.2 in Chapter 5).

6.3.4. *Aversion, fondness* and *love*

This section examines the connection between *a/an* and a verb with the other three nouns: *aversion, fondness* and *love*. These three nouns frequently occur in the [*to have* + (Adj) Noun + PP] construction. *Aversion* frequently occurs with *a/an* when it is post-modified

by a PP headed by *to*. Also, '*aversion to*' frequently occurs with a verb '*to have*' (e.g. *The Bush administration has an aversion to international justice*). Table 6.5 shows the numbers of occurrences of *aversion* with *a/an* and ø in the following three constructions: [(Adj) *aversion to*], [*to have* + (Adj) *aversion*] and [*to have* + (Adj) *aversion to*], each with and without an adjective.

Table 6.5. *A/an* and ø in [(*to have*) + (Adj) *aversion* (*to*)]

TOTAL		(Adj) *aversion to*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
209	395	376	33	7	26	343	201	142
TOTAL		[*to have* + (Adj) *aversion*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
209	395	139	1	0	1	138	82	56
TOTAL		[*to have* + (Adj) *aversion to*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
209	395	130	0	0	0	130	79	51

Aversion has a total of 209 occurrences with ø and 395 occurrences with *a/an*. The top row shows that there are 376 occurrences of *aversion* with a PP headed by *to* in the [(Adj) *aversion to*] construction. Among them, *aversion* has 343 occurrences with *a/an* (91.2%) as opposed to 33 occurrences with ø. The second row shows that there are 139 occurrences of *aversion* with a verb '*to have*' in the [*to have* + (Adj) *aversion*] construction. Among them, there are 138 occurrences with *a/an* (99.3%) as opposed to one occurrence with ø. The bottom row shows that there are 130 occurrences of *aversion* with a verb '*to have*' and a PP headed by *to* in the [*to have* + (Adj) *aversion to*]

construction. All of them occur with *a/an*. The second row and the bottom row show that the verb '*to have*' and the PP headed by *to* are closely connected when *aversion* combines with *a/an*. 130 occurrences among the 138 occurrences with a verb '*to have*' (94.2%) are modified by a PP headed by *to*. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *to*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *to*). As shown in Table 6.5 (bottom row), all the occurrences of *aversion* in the [*to have* + (Adj) *aversion to*] construction combine with *a/an* whether *aversion* is modified by an adjective or not. On the other hand, among 183 occurrences of *aversion* with an adjective, 162 occurrences combine with *a/an* (88.5%) (see Table 5.2 in Chapter 5).

Fondness frequently occurs with *a/an* when it is post-modified by a PP headed by *for* (e.g. *The English have a peculiar fondness for cats*). Table 6.6 shows the numbers of occurrences of *fondness* with *a/an* and ø in the following three constructions: [(Adj) *fondness for*], [*to have* + (Adj) *fondness*] and [*to have* + (Adj) *fondness for*], each with and without an adjective.

Table 6.6. *A/an* and ø in [(*to have*) + (Adj) *fondness* (*for*)]

TOTAL		[(Adj) *fondness for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
231	533	544	45	25	20	499	317	182
TOTAL		[*to have* + (Adj) *fondness*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
231	533	175	4	0	4	171	96	75
TOTAL		[*to have* + (Adj) *fondness for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
231	533	173	3	0	3	170	94	75

Fondness has a total of 231 occurrences with ø and 533 occurrences with *a/an*. The top row shows that there are 544 occurrences of *fondness* with a PP headed by *for* in the [(Adj) *fondness for*] construction. Among them, *fondness* has 499 occurrences with *a/an* (91.7%) as opposed to 45 occurrences with ø. The second row shows that there are 175 occurrences of *fondness* with a verb '*to have*' in the [*to have* + (Adj) *fondness*] construction. Among them, there are 171 occurrences with *a/an* (97.7%) as opposed to four occurrences with ø. The bottom row shows that there are 173 occurrences of *fondness* with a verb '*to have*' and a PP headed by *for* in the [*to have* + (Adj) *fondness for*] construction. Among them, there are 170 occurrences with *a/an* (98.3%) as opposed to three occurrences with ø. The second row and the bottom row show that the verb '*to have*' and the PP headed by *for* are closely connected when *fondness* combines with *a/an*. 170 occurrences among the 171 occurrences with a verb '*to have*' (99.4%) are modified by a PP headed by *for*. These findings indicate that it is not a PP per se but the combination of

the verb (*to have*) and the PP (headed by *for*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *for*). As shown in Table 6.6 (bottom row), 98.3 percent (170 out of 173) of the occurrences of *fondness* in the [*to have* + (Adj) *fondness for*] construction combine with *a/an* whether *fondness* is modified by an adjective or not. On the other hand, among 275 occurrences of *fondness* with an adjective, 201 occurrences combine with *a/an* (73.1%) (see Table 5.2 in Chapter 5).

Love frequently occurs with *a/an* when it is post-modified by PPs headed by *of* and *for* (e.g. *You have a love of birds*. *She still has a love for skating*.). Table 6.7 shows the numbers of occurrences of *love* with *a/an* and ø in the following five constructions: [(Adj) *love of*], [(Adj) *love for*], [*to have* + (Adj) *love*], [*to have* + (Adj) *love of*] and [*to have* + (Adj) *love for*], each with and without an adjective.

Table 6.7. *A/an* and ø in [(*to have*) + (Adj) *love* (*of/for*)]

TOTAL		[(Adj) *love of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
42758	2629	1754	456	386	70	1298	870	428
TOTAL		[(Adj) *love for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
42758	2629	1324	835	718	117	489	260	229
TOTAL		[*to have* + (Adj) *love*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
42758	2629	439	114	81	33	325	113	212
TOTAL		[*to have* + (Adj) *love of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
42758	2629	155	3	2	1	152	64	88
TOTAL		[*to have* + (Adj) *love for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
42758	2629	137	18	10	8	119	38	81

Love has a total of 42,758 occurrences with ø and 2,629 occurrences with *a/an*. The top row shows that there are 1,754 occurrences of *love* with a PP headed by *of* in the [(Adj) *love of*] construction. Among them, *love* has 1,298 occurrences with *a/an* (74.0%) as opposed to 456 occurrences with ø. The second row shows that there are 1,324 occurrences of *love* with a PP headed by *for* in the [(Adj) *love for*] construction. Among them, *love* has 489 occurrences with *a/an* (36.9%) as opposed to 835 occurrences with ø.

Love of occurs with *a/an* more frequently than with ø, while *love for* occurs with ø more frequently. This indicates that the presence of a PP per se is not correlated with a high frequency of *a/an*.

The third row shows that there are 439 occurrences of *love* with a verb '*to have*' in the [*to have* + (Adj) *love*] construction. Among them, there are 325 occurrences with *a/an* (74.0%) as opposed to 114 occurrences with ø. The fourth row shows that there are 155 occurrences of *love* with a verb '*to have*' and a PP headed by *of* in the [*to have* + (Adj) *love of*] construction. Among them, there are 152 occurrences with *a/an* (98.1%) as opposed to three occurrences with ø. The bottom row shows that there are 137 occurrences of *love* with a verb '*to have*' and a PP headed by *for* in the [*to have* + (Adj) *love for*] construction. Among them, there are 119 occurrences with *a/an* (86.9%) as opposed to 18 occurrences with ø. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *of* or *for*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *of* and *for*). As shown in Table 6.7 (4th and 5th rows), 98.1 percent (152 out of 155) of the occurrences of *love* in the [*to have* + (Adj) *love of*] construction and 86.9 percent (119 out of 137) of the occurrences of *love* in the [*to have* + (Adj) *love for*] construction combine with *a/an* whether *love* is modified by an adjective or not. On the other hand, among 5,452 occurrences of *love* with an adjective, 1,168 occurrences combine with *a/an* (21.4%) (see Table 5.2 in Chapter 5).

With the four nouns examined in this section (*aversion*, *dislike*, *fondness*, *love*), they all occur with *a/an* more frequently than with ø when they combine with a verb '*to have*'

or '*to take*'. When they combine with both a verb ('*to have*' or '*to take*') and a PP, they occur with *a/an* far more frequently than with ø. From these results, the hypothesis that nouns that denote feelings of liking and disliking are likely to occur with *a/an* is revised as follows: Abstract nouns that denote feelings of liking and disliking are highly likely to combine with *a/an* when they occur in the [*to have* (*to take*) + (Adj) Noun + PP] construction. The next section examines if this hypothesis applies to the following four nouns that denote a feeling similar to liking and disliking: *affection*, *distrust*, *fear* and *hatred*.

6.3.5. *Affection*, *distrust*, *fear* and *hatred*

This section examines if the hypothesis applies to *affection*, *distrust*, *fear* and *hatred*. Table 6.8 shows the numbers of occurrences of *affection* with *a/an* and ø in the following three constructions: [(Adj) *affection for*], [*to have* + (Adj) *affection*] and [*to have* + (Adj) *affection for*] (e.g. *He had a great affection for Glasgow*), each with and without an adjective.

Table 6.8. *A/an* and ø in [(*to have*) + (Adj) *affection for*]

TOTAL		[(Adj) *affection for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
3544	415	644	326	220	106	318	74	244
TOTAL		[*to have* + (Adj) *affection*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
3544	415	187	53	16	37	134	19	115
TOTAL		[*to have* + (Adj) *affection for*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
3544	415	159	39	12	27	120	19	101

Affection has a total of 3,544 occurrences with ø and 415 occurrences with *a/an*. The top row shows that there are 644 occurrences of *affection* with a PP headed by *for* in the [(Adj) *affection for*] construction. Among them, *affection* has 318 occurrences with *a/an* (49.4%) as opposed to 326 occurrences with ø. The second row shows that there are 187 occurrences of *affection* with a verb '*to have*' in the [*to have* + (Adj) *affection*] construction. Among them, there are 134 occurrences with *a/an* (71.7%) as opposed to 53 occurrences with ø. The bottom row shows that there are 159 occurrences of *affection* with a verb '*to have*' and a PP headed by *for* in the [*to have* + (Adj) *affection for*] construction. Among them, there are 120 occurrences with *a/an* (75.5%) as opposed to 39 occurrences with ø. The second row and the bottom row show that the verb '*to have*' and the PP headed by *for* are closely connected when *affection* combines with *a/an*. 120

occurrences among the 134 occurrences with a verb '*to have*' (89.6%) are modified by a PP headed by *for*. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *for*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *for*). As shown in Table 6.8 (bottom row), 75.5 percent (120 out of 159) of the occurrences of *affection* in the [*to have* + (Adj) *affection for*] construction combine with *a/an* whether *affection* is pre-modified by an adjective or not. On the other hand, among 1,150 occurrences of *affection* with an adjective, 336 occurrences combine with *a/an* (29.2%).

Table 6.9 shows the numbers of occurrences of *distrust* with *a/an* and ø in the following three constructions: [(Adj) *distrust of*], [*to have* + (Adj) *distrust*] and [*to have* + (Adj) *distrust of*] (e.g. *He has a distrust of critics*), each with and without an adjective.

Table 6.9. *A/an* and ø in [(*to have*) + (Adj) *distrust* (*of*)]

TOTAL		[(Adj) *distrust of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
654	216	354	178	108	70	176	55	121
TOTAL		[*to have* + (Adj) *distrust*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
654	216	38	2	1	1	36	4	32
TOTAL		[*to have* + (Adj) *distrust of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
654	216	31	0	0	0	31	3	28

Distrust has a total of 654 occurrences with ø and 216 occurrences with *a/an*. The top row shows that there are 354 occurrences of *distrust* with a PP headed by *of* in the [(Adj) *distrust of*] construction. Among them, *distrust* has 176 occurrences with *a/an* (49.7%) as opposed to 178 occurrences with ø. The second row shows that there are 38 occurrences of *distrust* with a verb '*to have*' in the [*to have* + (Adj) *distrust*] construction. Among them, there are 36 occurrences with *a/an* (94.7%) as opposed to two occurrences with ø. The bottom row shows that there are 31 occurrences of *distrust* with a verb '*to have*' and a PP headed by *of* in the [*to have* + (Adj) *distrust of*] construction. All of them occur with *a/an*. The second row and the bottom row show that the verb '*to have*' and the PP headed by *of* are closely connected when *distrust* combines with *a/an*. 31 occurrences among the 36 occurrences with a verb '*to have*' (86.1%) are modified by a PP headed by *of*. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *of*) that is connected to a high frequency of *a/an*

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *of*). As shown in Table 6.9 (bottom row), all the occurrences of *distrust* in the [*to have* + (Adj) *distrust of*] construction combine with *a/an* whether *distrust* is modified by an adjective or not. On the other hand, among 338 occurrences of *distrust* with an adjective, 145 occurrences combine with *a/an* (42.9%) (see Table 5.2 in Chapter 5).

Table 6.10 shows the numbers of occurrences of *fear* with *a/an* and ø in the following three constructions: [(Adj) *fear of*], [*to have* + (Adj) *fear*] and [*to have* + (Adj) *fear of*] (e.g. *One in five people has a fear of flying*), each with and without an adjective.

Table 6.10. *A/an* and ø in [(*to have*) + (Adj) *fear* (*of*)]

TOTAL		(Adj) *fear of*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
23973	2736	8454	7117	6905	212	1337	948	389
TOTAL		*to have* + (Adj) *fear*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
23973	2736	416	71	61	10	345	155	190
TOTAL		*to have* + (Adj) *fear of*						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
23973	2736	272	18	18	0	254	119	135

Fear has a total of 23,973 occurrences with ø and 2,736 occurrences with *a/an*. The top row shows that there are 8,454 occurrences of *fear* with a PP headed by *of* in the [(Adj) *fear of*] construction. Among them, *fear* has 1,337 occurrences with *a/an* (15.8%) as opposed to 7,117 occurrences with ø. The second row shows that there are 416 occurrences of *fear* with a verb '*to have*' in the [*to have* + (Adj) *fear*] construction. Among them, there are 345 occurrences with *a/an* (82.9%) as opposed to 71 occurrences with ø. The bottom row shows that there are 272 occurrences of *fear* with a verb '*to have*' and a PP headed by *of* in the [*to have* + (Adj) *fear of*] construction. Among them, there are 254 occurrences with *a/an* (93.4%) as opposed to 18 occurrences with ø. The second row and the bottom row show that the verb '*to have*' and the PP headed by *of* are connected when *fear* combines with *a/an*. 254 occurrences among the 345 occurrences with a verb '*to have*' (73.6%) are modified by a PP headed by *of*. These findings indicate that it is not a

PP per se but the combination of the verb (*to have*) and the PP (headed by *of*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *of*). As shown in Table 6.10 (bottom row), 93.4 percent (254 out of 272) of the occurrences of *fear* in the [*to have* + (Adj) *fear of*] construction combine with *a/an* whether *fear* is pre-modified by an adjective or not. On the other hand, among 2,651 occurrences of *fear* with an adjective, 1,226 occurrences combine with *a/an* (46.2%).

Table 6.11 shows the numbers of occurrences of *hatred* with *a/an* and ø in the following three constructions: [(Adj) *hatred of*], [*to have* + (Adj) *hatred*] and [*to have* + (Adj) *hatred of*] (e.g. *He has a hatred of injustice*), each with and without an adjective.

Table 6.11. *A/an* and ø in [(*to have*) + (Adj) *hatred* (*of*)]

TOTAL		[(Adj) *hatred of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
4195	417	590	380	317	63	210	94	116
TOTAL		[*to have* + (Adj) *hatred*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
4195	417	58	12	8	4	46	11	35
TOTAL		[*to have* + (Adj) *hatred of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
4195	417	26	0	0	0	26	7	19

Hatred has a total of 4,195 occurrences with ø and 417 occurrences with *a/an*. The

top row shows that there are 590 occurrences of *hatred* with a PP headed by *of* in the [(Adj) *hatred of*] construction. Among them, *hatred* has 210 occurrences with *a/an* (35.6%) as opposed to 380 occurrences with ø. The second row shows that there are 58 occurrences of *hatred* with a verb '*to have*' in the [*to have* + (Adj) *hatred*] construction. Among them, there are 46 occurrences with *a/an* (79.3%) as opposed to 12 occurrences with ø. The bottom row shows that there are 26 occurrences of *hatred* with a verb '*to have*' and a PP headed by *of* in the [*to have* + (Adj) *hatred of*] construction. All of them occur with *a/an*. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *of*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *of*). As shown in Table 6.11 (bottom row), all the occurrences of *hatred* in the [*to have* + (Adj) *hatred of*] construction combine with *a/an* whether *hatred* is pre-modified by an adjective or not. On the other hand, among 1,370 occurrences of *hatred* with an adjective, 252 occurrences combine with *a/an* (18.4%) (see Table 5.2 in Chapter 5).

The findings in this section support the hypothesis that abstract nouns that denote feelings of liking and disliking are highly likely to combine with *a/an* when they occur in the [*to have* (*to take*) + (Adj) Noun + PP] construction. The question is how far this applies. The next section examines if this applies to *understanding*, which is among the five nouns (*aversion*, *dislike*, *fondness*, *love*, *understanding*) that occur with *a/an* more frequently than with ø when they are post-modified by a PP (see Section 6.3.2).

6.3.6. *Understanding* in [*to have* + (Adj) Noun + PP]

Understanding does not denote a feeling of liking and disliking, but it frequently occurs

with *a/an* when it is post-modified by a PP headed by *of* (e.g. *Physicians do not have a full understanding of cancer genesis and promotion*). Table 6.12 shows the numbers of occurrences of *understanding* with *a/an* and ø in the following three constructions: [(Adj) *understanding of*], [*to have* + (Adj) *understanding*] and [*to have* + (Adj) *understanding of*], each with and without an adjective.

Table 6.12. *A/an* and ø in [(*to have*) + (Adj) *understanding* (*of*)]

TOTAL		[(Adj) *understanding of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
5775	7088	6294	1033	566	467	5261	1617	3644
TOTAL		[*to have* + (Adj) *understanding*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
5775	7088	1292	74	30	44	1218	295	923
TOTAL		[*to have* + (Adj) *understanding of*]						
Ø	*a/an*	TOTAL	Ø			*a/an*		
			Total	ø without Adj	ø with Adj	Total	*a/a* without Adj	*a/an* with Adj
5775	7088	1001	32	5	27	969	177	792

Understanding has a total of 5,775 occurrences with ø and 7,088 occurrences with *a/an*. The top row shows that there are 6,294 occurrences of *understanding* with a PP headed by *of* in the [(Adj) *understanding of*] construction. Among them, *understanding* has 5,261 occurrences with *a/an* (83.6%) as opposed to 1,033 occurrences with ø. The second row shows that there are 1,292 occurrences of *understanding* with a verb '*to have*' in the [*to have* + (Adj) *understanding*] construction. Among them, there are 1,218 occurrences with *a/an* (94.3%) as opposed to 74 occurrences with ø. The bottom row

shows that there are 1,001 occurrences of *understanding* with a verb '*to have*' and a PP headed by *of* in the [*to have* + (Adj) *understanding of*] construction. Among them, there are 969 occurrences with *a/an* (96.8%) as opposed to 32 occurrences with ø. The second row and the bottom row show that the verb '*to have*' and the PP headed by *of* are closely connected when *understanding* combines with *a/an*. 969 occurrences among the 1,218 occurrences with a verb '*to have*' (79.6%) are modified by a PP headed by *of*. These findings indicate that it is not a PP per se but the combination of the verb (*to have*) and the PP (headed by *of*) that is connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and adjectives, it is not as strong as the connection between *a/an* and the combination of the verb (*to have*) and the PP (headed by *of*). As shown in Table 6.12 (bottom row), 96.8 percent (969 out of 1,001)) of the occurrences of *understanding* in the [*to have* + (Adj) *understanding of*] construction combine with *a/an* whether *understanding* is pre-modified by an adjective or not. On the other hand, among 6,492 occurrences of *understanding* with an adjective, 4,533 occurrences combine with *a/an* (69.8%) (see Table 5.2 in Chapter 5).

These findings show that the strong connection between *a/an* and the [*to have* + Noun + PP] construction applies to *understanding*, which suggests that it may apply to other types of nouns. It is beyond the scope of this study to examine if the connection between *a/an* and the [*to have* + Noun + PP] construction applies to other types of nouns, and it needs to be investigated further in the future.

6.4. Results and discussion

The collected corpus data show that a high frequency of *a/an* is not correlated with the presence of a PP per se. Eighteen nouns out of the twenty-five (72.0%) occur with ø more

frequently than with *a/an* when they are modified by a PP. The other seven nouns occur with *a/an* more frequently: *aversion to, consciousness of, dislike of, fondness for, love of, silence of, understanding of*. Among these seven nouns, five nouns (excluding *consciousness* and *silence*) occur with *a/an* far more frequently than with ø in the [*to have* (*to take*) + (Adj) Noun + PP] construction. With these five nouns (*aversion, dislike, fondness, love, understanding*), it is not a PP per se, but the combination of a verb and a PP that is connected to a high frequency of *a/an*.

Among the five nouns, four nouns (*aversion, dislike, fondness, love*) denote a feeling of liking and disliking. It can be hypothesized that abstract nouns that denote a feeling of liking and disliking are very likely to combine with *a/an* when they occur in the [*to have* (*to take*) + (Adj) Noun + PP] construction. To test this hypothesis, the grammatical behavior of four other nouns that denote a feeling of liking and disliking was examined (*affection, distrust, fear, hatred*). It was found that the hypothesis applies to these four nouns as well. They occur with *a/an* far more frequently than with ø in the [*to have* + (Adj) Noun + PP] construction. It was also found that the hypothesis applies to *understanding*. The strong connection between *a/an* and the [*to have* + (Adj) Noun + PP] construction may apply to other types of nouns. It is worth exploring this possibility, but it is beyond the scope of this study. In the next chapter, the connection between *a/an* and relative clauses is examined.

Chapter 7

Syntactic Connection between Modification and *a/an*

–Relative Clauses and *a/an*–

7.1. Introduction

Regarding the connection between *a/an* and modification, some reference grammars present relative clauses as examples: *a sensitivity that delighted the critics* (Quirk et al 1985: 287), *a silence which could be felt* (Jespersen 1949: 436), etc. This chapter examines the connection between *a/an* and relative clauses (henceforth referred to as 'RCs'). In Section 7.2, nouns and types of RCs to be examined are selected. In 7.3, the connection between *a/an* and RCs is examined by comparing the frequency of occurrence of the selected twenty-two nouns with *a/an* and that with ø when they are post-modified by an RC. Section 7.4 explores what motivates the use of *a/an* when the nouns are modified by an RC. Section 7.5 summarizes the findings in Chapters 5–7 on the connection between *a/an* and three types of modification (pre-modifying adjectives, post-modifying PPs and RCs), and presents a hypothesis that an ANN combines with *a/an* when the distinctive quality of a referent is emphasized.

7.2. Methodology: Nouns and types of relative clauses to be examined

Occurrences with RCs are far fewer than occurrences with adjectives or PPs. To gain more than a certain number of occurrences with RCs for each noun, the nouns with fewer than 2,000 hits in the Bank of English are excluded[22], which reduces the number of the

[22] The hit number may need to be set higher, since there are still some nouns that have less than twenty occurrences with RCs (see Table 7.1). However, if the hit number is set higher, the number of the nouns to be examined may well be reduced to less than twenty.

nouns to be examined in this chapter to twenty-two. The twenty-two nouns are as follows:

anger	*anxiety*	*awareness*	*consciousness*	*courage*	*determination*
education	*faith*	*happiness*	*hatred*	*help*	*kindness*
knowledge	*love*	*peace*	*pride*	*sadness*	*sensitivity*
silence	*sleep*	*understanding*	*warmth*		

RCs occur in various constructions, and the following three constructions are examined in this chapter:

a) RCs with the relative pronoun *that* followed by a verb or a modal

(Query syntax: [_NN1 (singular common noun) + *that* + _V*** (verbs & modals)]

e.g. *an anger that may be tamed but just won't die*.

b) RCs with the relative pronoun *which* (including those preceded by a preposition)

(Query syntax: [_NN1 + *which*] and [_NN1 + _I* + *which*])

e.g. *anger with which we associate intense physical feelings*.

c) Reduced RCs with an antecedent followed directly by the past participle form of a verb (Query syntax: [_NN1 + _VVN])

e.g. *anger aroused by the battles.*

RCs occur in other constructions, such as those starting with the relative pronoun *that* followed by a subject and a verb (e.g. *using knowledge that he acquired through family members*), or those with an antecedent followed directly by the present participle form of a verb (e.g. *knowledge lacking in the absolute certainty*) or an adjective phrase (e.g. *a silence full of secrets*). These types of RCs are not included here, since it is sometimes difficult to judge if a clause or a phrase modifies the preceding noun. For example, it is sometimes difficult to judge if *that* is a relative pronoun or a conjunction that precedes a content clause. '*That*' in '*knowledge that he had to beat Flutie*' may be a relative pronoun

modified by the clause '*he had*', or it may be a conjunction that precedes the content clause '*he had to beat Flutie*'. It is also difficult to judge if a present participle denotes the progressive aspect or a reduced RC. For example, *people laughing at you behind your back* may be part of the following two sentences: *I saw people laughing at you behind your back* (progressive) or *I do not like people laughing at you behind your back* (RC). With these reasons, the types of RCs to be examined in this chapter are limited to the three constructions listed above.

Choosing only three types of RCs and excluding other types is not expected to cause a serious problem in examining the connection between *a/an* and RCs, since the number of occurrences with other types of RCs is expected to be limited. For example, *anger* has ninety occurrences with the three types of relative clauses (listed above). On the other hand, *anger* has three occurrences with a post-modifying adjective phrase (e.g. *expressing anger appropriate to a particular situation*), three occurrences in the [*anger* + *that* + Subject (personal pronoun or proper noun) + Verb] construction (e.g. *He felt a wild anger that he could not show*), excluding the occurrences of [*that* + content clause] (e.g. *expressed anger that they were still on waiting lists for available tickets*). Together, there are six occurrences[23] as opposed to ninety occurrences with the three types of RCs.

7.3. Connection between RCs and *a/an*

This section examines the connection between RCs and *a/an* as opposed to ø. The occurrences with *a/an* in the absence of RCs will not be examined, since there are far more occurrences without RCs than with RCs (see Table 7.1 below). This makes it

[23] Occurrences with post-modifying present participle phrases are not counted since it is often very difficult to judge if a phrase functions as an RC or not (e.g. *anger boiling inside him*).

difficult to identify what is connected to the frequent occurrence of *a/an* when it is found that some nouns occur with *a/an* more frequently than with ø when they are not modified by RCs.

Table 7.1 shows the numbers and the percentages of occurrence of the twenty-two nouns with *a/an* and ø when they are modified by RCs. The frequency of occurrence of the nouns in [*a/an* + Noun + RC] and that in [ø + Noun + RC] are compared to examine if a noun occurs more frequently with *a/an* or ø when it is modified by an RC. The twenty-two nouns are arranged in alphabetical order.

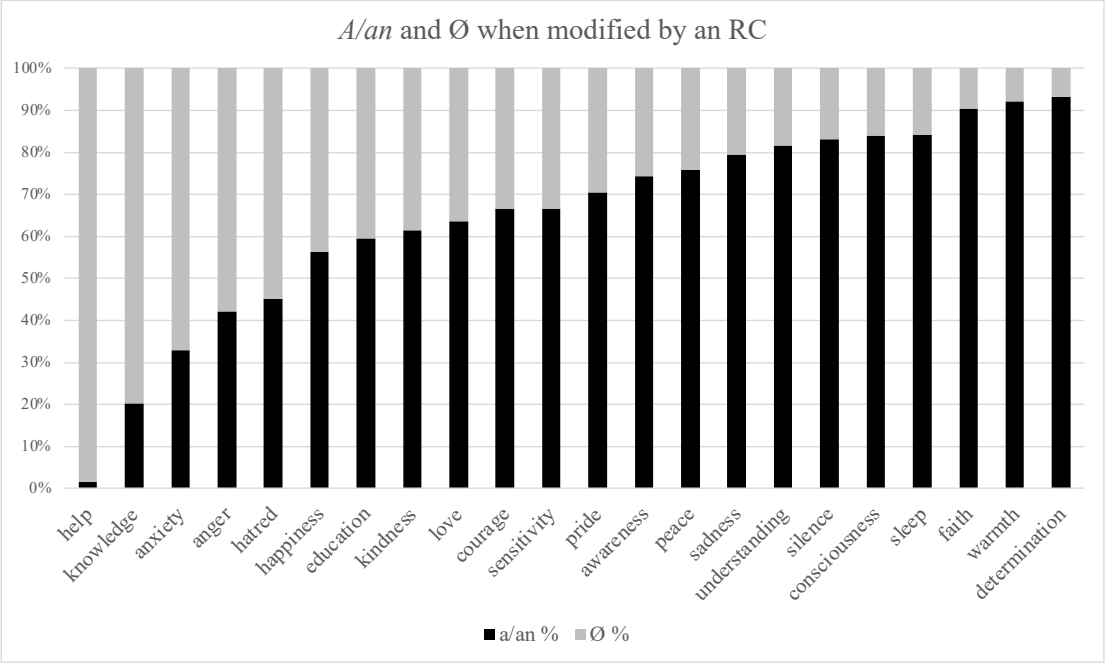
Table 7.1. Presence of an RC and the use of *a/an* and ø

	TOTAL			With RC				
NOUN	Total	Ø	*a/an*	Total	Ø	*a/an*	Ø %	*a/an* %
anger	10447	10190	257	90	52	38	57.78%	42.22%
anxiety	7462	7204	258	73	49	24	67.12%	32.88%
awareness	8666	6985	1681	43	11	32	25.58%	74.42%
consciousness	5905	5491	414	50	8	42	16.00%	84.00%
courage	5101	5038	63	18	6	12	33.33%	66.67%
determination	4738	3333	1405	60	4	56	6.67%	93.33%
education	41459	37561	3898	215	87	128	40.47%	59.53%
faith	13487	12466	1021	137	13	124	9.49%	90.51%
happiness	6295	6205	90	16	7	9	43.75%	56.25%
hatred	4612	4195	417	42	23	19	54.76%	45.24%
help	33471	31917	1554	66	65	1	98.48%	1.52%
kindness	1600	1470	130	13	5	8	38.46%	61.54%
knowledge	19118	17173	1945	301	240	61	79.73%	20.27%
love	45387	42758	2629	244	89	155	36.48%	63.52%
peace	31869	30263	1606	87	21	66	24.14%	75.86%
pride	9627	9128	499	34	10	24	29.41%	70.59%
sadness	3098	2722	376	39	8	31	20.51%	79.49%
sensitivity	2766	2369	397	24	8	16	33.33%	66.67%
silence	13983	11213	2770	154	26	128	16.88%	83.12%
sleep	9686	8748	938	51	8	43	15.69%	84.31%
understanding	12863	5775	7088	87	16	71	18.39%	81.61%
warmth	3416	3023	393	51	4	47	7.84%	92.16%

Anger in the top row, for example, has a total of 10,447 occurrences with ø and *a/an* combined, among which there are 10,190 occurrences with ø and 257 with *a/an*. When *anger* is modified by RCs, there are a total of 90 occurrences with ø and *a/an* combined, among which there are 52 occurrences with ø (57.78%) and 38 occurrences with *a/an* (42.22%). Figure 7.1 displays the data in the bar graph to compare the frequency of [*a/an* + Noun + RC] (black bars, in ascending order of frequency) and that of [ø + Noun + RC]

(gray bars).

Figure 7.1. *A/an* and ø when modified by an RC



Seventeen nouns out of the twenty-two (77.3%) occur with *a/an* more frequently than with ø when they are modified by an RC, while five nouns (*anger*, *anxiety*, *hatred*, *help*, *knowledge*) occur with ø more frequently. This finding is quite different from the finding on the connection between *a/an* and an adjective (Figure 5.2, cited from Section 5.3 in Chapter 5) and that between *a/an* and a PP (Figure 6.2, cited from Section 6.3.2 in Chapter 6). When modified by adjectives and PPs, the nouns generally occur with ø more frequently than with *a/an*.

Figure 5.2. *A/an* and ø when modified by an Adjective

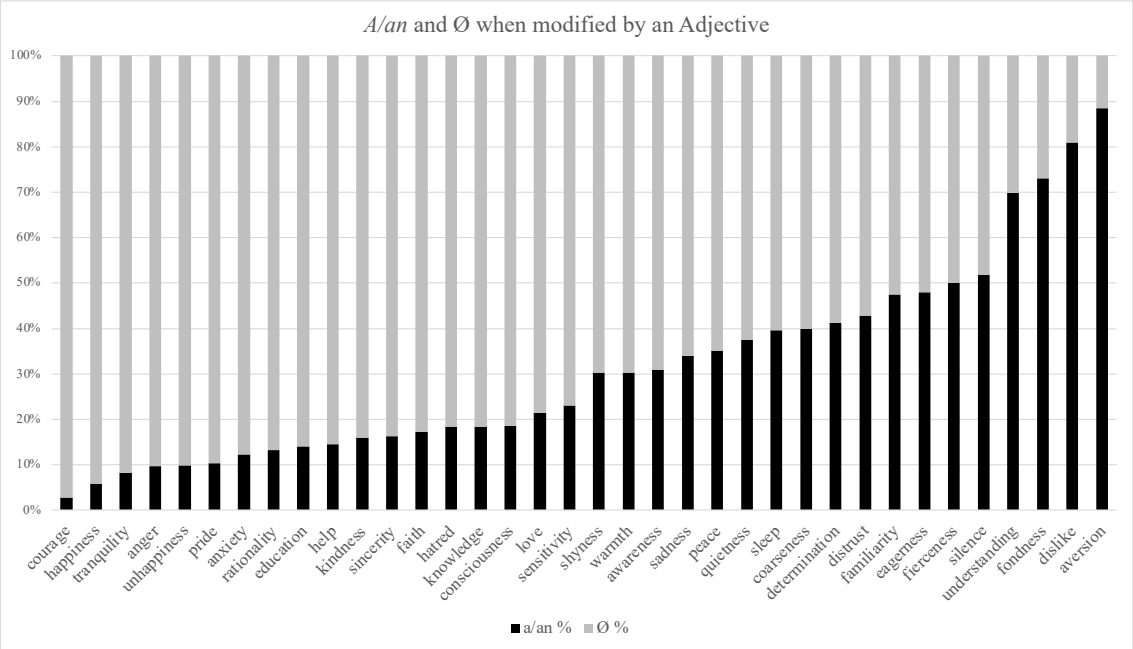
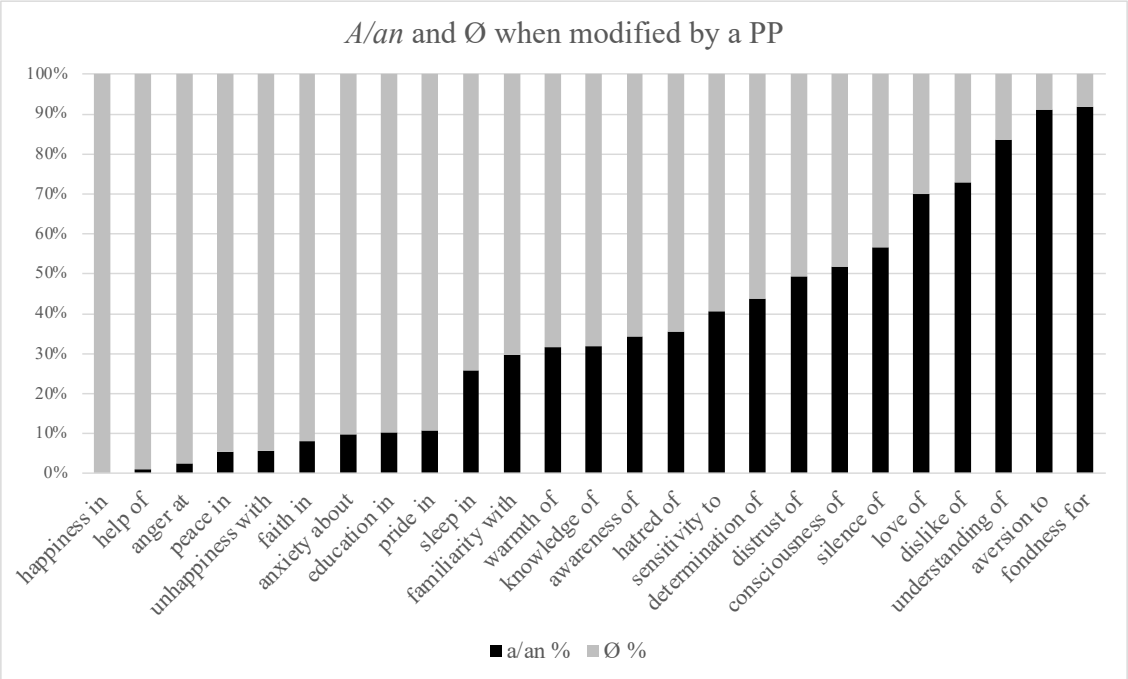


Figure 6.2. *A/an* and Ø when modified by a PP



When modified by an adjective, 30 nouns out of the 36 (83.3%) occur with ø more

frequently than with *a/an*. When modified by a PP, 18 nouns out of the 25 (72.0%) occur with ø more frequently. On the other hand, when modified by an RC, 17 nouns out of the 22 (77.3%) occur with *a/an* more frequently. This finding indicates that there is some connection between *a/an* and RCs. However, there are five nouns that occur with ø more frequently when modified by an RC (*anger*, *anxiety*, *hatred*, *help*, *knowledge*). This indicates that the presence of an RC per se is not correlated with a high frequency of *a/an*.

Among the twenty-two nouns, *help* occurs with *a/an* far less frequently than the other nouns (1.52%). This is partly caused by the fact that *help* has an established singular use. *Help* combines with *a/an* when it refers to a source of aid, i.e. someone or something that helps you, and it does not require modification to refer to an individual instance as in the following examples (1–2).

1) The extra spoons are **a help** – thanks.
2) These friendly meetings are **a help** to Bush because they help to counteract all the criticism that he hasn't sought international co-operation on many issues.

There is only one occurrence of *help* with *a/an* that is modified by an RC, and it refers to a source of aid as shown in (3). All the other occurrences of *help* with an RC are used in the sense of the action of helping as in (4).

3) I'd got **a home help** that came in.
4) We do not want **help** which we have not asked for.

Help in the sense of the action of helping is noncount, and there are no occurrences of *help* with *a/an* in this sense whether it is modified by an RC or not. This indicates that a

noun used in a noncount sense does not combine with *a/an* whether it is modified or not. However, some ANNs, which have no established count use, such as *warmth* and *courage*, frequently occur with *a/an* when it is modified by an RC. For example, *warmth* has 47 occurrences with *a/an* as opposed to 4 occurrences with ø when it is modified by an RC as shown in Table 7.1. The following (5–6) are some examples.

5) It has a woodiness and **a warmth** that reminds me of this house.
6) And — it happens once a week, perhaps, or twice, sometimes three — not long after sleep comes, I feel an odd warmth behind my forehead, **a warmth** that grows and grows and grows until I think my brain must be on fire.

The above examples of *warmth* indicate that an ANN may combine with *a/an* when it is modified by an RC. Regarding the co-occurrence with *a/an*, *help* and *warmth* behave quite differently when they are modified by an RC. This indicates that the *a/an* is not directly connected to an RC, although there is some connection between them.

7.4. RCs and the use of *a/an* with ANNs

In the previous section, it was found that there is some connection between *a/an* and RCs. This section explores what motivate the use of *a/an* when nouns are modified by an RC. Among the twenty-two nouns, there are some nouns that have no established count use or singular use based on the grammar labeling of the seven learner's dictionaries (listed in reference section): *anger, courage, happiness, warmth*. None of the seven learner's dictionaries labels any of these four nouns as "singular", which means that these nouns do not combine with *a/an*. However, as shown in Table 7.1, they may combine with *a/an* when they are modified by an RC. Three of them, *courage*, *happiness* and *warmth* occur

with *a/an* more frequently than with ø (66.67%, 56.25% and 92.16% respectively), and *anger* occurs with *a/an* and ø with almost equal frequency (42.22% and 57.78% respectively). These four nouns can combine with both ø and *a/an* when they are modified by an RC as in the following examples (7–14).

7) **Anger** which is expressed against real injustice is not wrong, but what we do with our anger can lead to wrong.
8) His blue-green eyes flashed in **an anger** she'd never seen before. (Cecily Von Ziegesar. 2012. *Tempted*, via Google Books)
9) Being part of a group gives you **courage** that you might not have individually. (Mark Matousek. 2009. *When You're Falling, Dive*, via Google Books)
10) We learned of passengers on a doomed plane who died with **a courage** that frightened their killers.
11) **Happiness** that shows on the faces of Prince Charles and Lady Diana Spencer and is shared by their families extends far and wide through the nation.
12) What she finds when she gets there is a welcome peace of mind and **a happiness** she could not have expected.
13) He had **warmth** which got across to children, and he used a technique which was rather like Disney in seeming to make animals talk.
14) Pobjoy agreed, with **a warmth** which surprised him.

These examples show that the presence of an RC per se is not directly connected to the use of *a/an*. However, Figure 7.1 shows that there is some connection between *a/an* and RCs unlike adjectives and PPs. There is some difference between RCs and adjectives or PPs in that RCs are capable of providing more information about a referent of a noun than adjectives or PPs (e.g. *great courage* vs. *a courage that frightened their killers*). From this, it can be hypothesized that ANNs can combine with *a/an* when the distinctive quality of a referent is emphasized as proposed by Berry (1993: 20-21). For example,

when *anger* in (7) and *anger* in (8) are compared, '*an anger she'd never seen before*' (8) seems to be more specific and distinctive than '*anger which is expressed against real injustice*' (7). In the same way, '*a courage that frightened their killers*' (10) seems to be more specific and distinctive than '*courage that you might not have individually*' (9). The same can be said of *happiness* in (11) and (12) and *warmth* in (13) and (14). However, it is difficult to confirm this hypothesis with these examples since the interpretation is subjective.

It is a subjective judgment to determine whether the distinctive nature of a referent is emphasized or not, and it is very difficult to examine the proposition that *a/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent (Berry 1993: 20-21). However, it is worth a try. When analyzing if the distinctive quality of a referent of a noun is emphasized or not, emphasizing adjectives such as *absolute* and *complete* may be a good criterion. However, as will be discussed in Chapter 8, some nouns occur with ø far more frequently than with *a/an* when they are modified by emphasizing adjectives (e.g. *complete silence*, *absolute silence*, *total dependence*: see Appendix). Emphasizing adjectives do not make a criterion.

One way to avoid the problem of subjectivity is to search for occurrences of *a/an* and ø with abstract nouns in the constructions such as [*a/an* or ø + Noun + Subject NP + *never* + *to know*] (e.g. *He discovered a courage he never knew he had*), in which a relative clause emphasizes the particular nature of the referent of a noun more clearly. Unfortunately, there are very few or no occurrences of the thirty-six nouns (listed in Chapter 5) in this construction. It is necessary to find other constructions in which the nouns occur frequently. Still a problem remains: judgment on whether the distinctive quality of a referent is emphasized or not is always subjective.

7.5. Summary of the findings in Chapters 5–7 and discussion

Chapters 5–7 examined the connection between *a/an* and three types of modifiers: pre-modifying adjectives, post-modifying PPs and RCs. The findings in these chapters are summarized as follows:

1) Regarding the connection between *a/an* and a pre-modifying adjective, the presence of an adjective per se is not correlated with a high frequency of *a/an*. Thirty nouns out of the thirty-six (83.3%) occur more frequently with ø than with *a/an* whether or not they are modified by an adjective. Among the six nouns, five nouns occur with *a/an* more frequently. With these five nouns, a high frequency of *a/an* is more strongly connected to post-modifiers than to adjectives.

2) Regarding the connection between *a/an* and a post-modifying PP, the presence of a PP per se is not correlated with a high frequency of *a/an*. Eighteen nouns out of the twenty-five (72.0%) occur with ø more frequently than with *a/an* when they are modified by a PP. The other seven nouns occur with *a/an* more frequently. Among these seven nouns, five nouns occur with *a/an* far more frequently than with ø in the [*to have* (*to take*) + (Adj) Noun + PP] construction. With these five nouns, it is not a PP per se, but the combination of a verb and a PP that is connected to a high frequency of *a/an*. Among these five nouns, four nouns denote a feeling of liking and disliking. It can be hypothesized that abstract nouns that denote a feeling of liking and disliking are very likely to combine with *a/an* in the [*to have* (*to take*) + (Adj) Noun + PP] construction.

3) Regarding the connection between *a/an* and an RC, there is some connection between them. As a general tendency, abstract nouns are more likely to occur with *a/an* when they are modified by RCs than when they are modified by adjectives or PPs.

However, some nouns such as *anger*, *anxiety*, *hatred*, *help* and *knowledge* occur with ø more frequently than with *a/an* when they are modified by an RC. The presence of an RC per se is not correlated with a high frequency of *a/an*.

These findings can be summarized as follows. The data collected from the Bank of English do not support the proposition that ANNs admit *a/an* when they are pre-modified by an adjective and/or post-modified by a phrase or a clause. The presence of a modifier per se is not correlated with a high frequency of *a/an*. Semantic analysis seems to be required to explore the connection between *a/an* and modification. Considering the data that there is some connection between *a/an* and RCs, it is worthwhile looking into the semantic connection between *a/an* and RCs. It can be hypothesized as follows: The semantic property of *a/an* is individuation, and *a/an* demands an individuated reading of a noun. When the noun is noncount, its meaning needs to be made congruent with individuation. With concrete noncount nouns, such as *water* and *beer*, the use of *a/an* demands a count reading such as a unit reading (e.g. *a beer* referring to a glass/can/bottle of beer). In the same way, the use of *a/an* demands an individuated reading of abstract noncount nouns (ANNs), such as *anger* and *courage*. However, ANNs (i.e. Type II nouns and the noncount use of Type III nouns) do not have established count readings available, and they are incongruous with *a/an*. Then, the noun calls for modification to make ANNs less incongruous with *a/an* (i.e. individuation).

Modifiers are used to show that the referent has an individuated nature, more specifically, to make it clear that the referent has a particular quality that distinguishes it from the generic reference or from other referents (e.g. *an anger she'd never seen before*). Generally, the greater the amount of modification, the more specific the quality of the referent. Adjectives often (but not always) fail to provide a specific description that gives

the meaning of individuation. For example, *great courage* or *real courage* is not specific enough to communicate that the speaker has a particular type or instance of courage in mind. RCs are potentially more capable of giving an individuated, distinctive nature to a referent than adjectives or PPs (e.g. *a courage he never knew he had*), and they can make ANNs less incongruous with *a/an*.

This hypothesis can explain the connection between *a/an* and RCs, and it is in line with the hypothesis proposed in Section 5.6 in Chapter 5: it is *a/an* that attracts an adjective rather than an adjective that attracts *a/an*. When an ANN occurs with *a/an*, the listener searches for an interpretation that is congruent with individuation. To help the listener to find an appropriate interpretation, the speaker describes the referent by modifying the noun (with adjectives and/or RCs) to indicate that the referent has distinctive characteristics.

The hypothesis that *a/an* attracts a modifier can be supported by the data collected from the Bank of English. Table 7.2 below compares the numbers and the percentages of the occurrences of the thirty-six nouns with and without modification when they combine with *a/an*, i.e. the following four constructions are compared:

[*a/an* + Adj + Noun + Post-mod]

[*a/an* + Adj + Noun + (without Post-mod)]

[*a/an* + (without Adj) + Noun + Post-mod]

[*a/an* + (without Adj) + Noun + (without Post-mod)]

The nouns are arranged in descending order of frequency of occurrence with modification. Modification includes pre-modifying adjectives, RCs (including reduced RCs and those not listed in Section 7.2), *to*-infinitive clauses (e.g. *determination to do something*, *eagerness to do something*) and PPs (e.g. *aversion to*, *fondness for*), excluding

verb phrases with a preposition such as '*to bring/give an increased awareness to someone*'.

Table 7.2. Modification and the use of *a/an*

	With *a/an*						
NOUN	TOTAL	With Adj		Without Adj		With Modification (Pre- and/or Post-Mod)	
		With Post-Mod	Without Post-Mod	With Post-Mod	Without Post-Mod		
coarseness	7	2	2	3	0	7	100.00%
courage	63	17	15	31	0	63	100.00%
dislike	426	252	23	148	3	423	99.30%
fondness	533	187	18	324	4	529	99.25%
hatred	417	190	55	166	6	411	98.56%
knowledge	1945	1274	164	472	35	1910	98.20%
distrust	216	140	6	66	4	212	98.15%
familiarity	215	98	39	74	4	211	98.14%
eagerness	146	32	18	93	3	143	97.95%
aversion	395	154	16	213	12	383	96.96%
awareness	1681	789	148	688	56	1625	96.67%
sensitivity	397	167	71	145	14	383	96.47%
love	2629	682	457	1370	120	2509	95.44%
consciousness	414	107	201	87	19	395	95.41%
anxiety	258	88	94	64	12	246	95.35%
anger	257	83	97	64	13	244	94.94%
understanding	7088	4175	465	2087	361	6727	94.91%
unhappiness	18	9	6	2	1	17	94.44%
pride	499	191	120	160	28	471	94.39%
rationality	52	4	39	6	3	49	94.23%
sincerity	55	9	26	16	4	51	92.73%
happiness	90	11	50	22	7	83	92.22%
tranquility	12	0	5	6	1	11	91.67%
faith	1021	306	405	220	90	931	91.19%

determination	1405	441	197	641	126	1279	91.03%
peace	1606	449	810	199	148	1458	90.78%
sadness	376	99	159	75	43	333	88.56%
fierceness	26	3	6	13	4	22	84.62%
sleep	938	27	716	44	151	787	83.90%
silence	2643	232	1798	151	462	2181	82.52%
shyness	45	4	23	10	8	37	82.22%
warmth	393	63	193	61	76	317	80.66%
help	1554	484	615	142	313	1241	79.86%
education	3898	241	2489	331	837	3061	78.53%
kindness	130	7	40	33	50	80	61.54%
quietness	18	2	4	4	8	10	55.56%

Dislike (in the third row), for example, has a total of 426 occurrences with *a/an*. Among them, there are 252 occurrences with both a pre-modifying adjective and a post-modifier, 23 occurrences with an adjective but with no post-modifier, 148 occurrences with a post-modifier but with no adjective, and three occurrences with no modifiers. Altogether there are 423 occurrences with an adjective and/or a post-modifier, which is 99.30 percent of all the occurrences with *a/an*.

The frequency varies from 100% (*coarseness*, *courage*) to 55.56% (*quietness*), but all the nouns occur with modification more frequently than without modification when they combine with *a/an*, and most of them (34 out of 36) with a frequency of over 78 percent. This result indicates that a high frequency of modifiers is connected to *a/an*. On the other hand, as found in Chapter 5 and Chapter 6, ANNs generally occur with ø more frequently than with *a/an* when modified by an adjective or a PP, and some nouns occur with ø more frequently when they are modified by an RC. These results support the hypothesis that it is *a/an* that attracts a modifier rather than a modifier that attracts *a/an*, which is in line with the proposition that *a/an* can be used with ANNs when a speaker wants to emphasize

the individual, particular nature of a referent. The semantic property of *a/an* is individuation, and *a/an* demands an individuated reading of a noun. Then, the noun calls for modification to acquire an individuated reading. In other words, *a/an* emphasizes the individual, particular nature of a referent, and an ANN requires modification.

The next chapter examines the connection between *a/an* and combinations of nouns and adjectives to explore the possibility that particular types of adjectives motivate the use of *a/an* when they combine with certain types of nouns.

Chapter 8

CASE STUDY B: Semantic Connection between *a/an* and Types of Nouns and Adjectives

8.1. Introduction

This chapter explores the semantic connection between the use of *a/an* (or ø) and modification. Case Study A (chapters 5-7) examined the syntactic connection between *a/an* and modification to find that the presence of a modifier per se is not directly correlated with a high frequency of *a/an*, whether a modifier is an adjective, a PP or a relative clause. On the other hand, the collected data indicate that some combinations of a noun and an adjective frequently occur with *a/an* or ø (see the tables in Appendix), which suggests that there may be some semantic connection between them. For example, it will be shown that *long silence*, *working knowledge* and *thorough understanding* occur with *a/an* far more frequently than with ø, while *absolute silence*, *new knowledge* and c*ultural understanding* occur with ø far more frequently than with *a/an*. From these findings, it can be hypothesized that particular combinations of nouns and adjectives are connected to a high frequency of *a/an* or ø. This hypothesis is examined in the following sections to propose that abstract nouns occur with *a/an* when an adjective limits the meaning of a noun in the way that motivates a singular reading (e.g. *a working knowledge*) or a count reading (e.g. *a long silence*, *long silences*) that is available for the noun.

In Case Study A (chapters 5–7), the type and meaning of a noun or an adjective have not been considered as a factor that may be connected to a high frequency of *a/an*. That is simply because the thirty-six nouns are selected from the nouns that are often presented in the reference grammars and dictionaries, and none of the reference grammars and

dictionaries mentions the connection between semantic properties of a noun and the use of *a/an* except that the use of *a/an* is limited to some types of nouns such as those that denote emotions and mental activity or that *a/an* is used when a noun refers to an instance or a kind. Neither do they mention the connection between the use of *a/an* and the way an adjective limits the meaning of a noun except for vague statements that *a/an* is used when the meaning of a noun is limited.

In Section 8.2, fifty-one nouns to be examined in this chapter are presented. Section 8.3 examines if there are any combinations of nouns and adjectives that frequently occur with *a/an* or ø. Section 8.3.1 examines the connection between *a/an* and the types of nouns and adjectives. Section 8.3.2 examines the connection between ø and the types of nouns and adjectives. Section 8.4 summarizes the findings.

8.2. Methodology: Nouns to be examined

I have selected fifty-one abstract nouns and placed them into four semantic groups (emotion, mental activity, quality, state) to examine if there is any semantic connection between these four types of nouns and three types of adjectives (classifying, qualitative, emphasizing) that motivates the use of *a/an* or ø. In Case Study A (chapters 5–7), thirty-six nouns are collected from the example sentences presented by the reference grammars and learner's dictionaries (see Table 2.8 in Chapter 2). I have divided these thirty-six nouns into the following five semantic groups:

Emotion nouns (i.e. nouns that denote emotions and feelings):

anger, anxiety, aversion, dislike, distrust, eagerness, faith, fondness, *happiness, hatred, love, pride, sadness, unhappiness*

Mental Activity nouns (i.e. nouns that denote mental activities):

awareness, consciousness, education, *familiarity, knowledge, rationality, understanding*

Quality Nouns (i.e. nouns that denote qualities of a person as part of his/her character):

courage, determination, kindness, sensitivity, shyness, sincerity, warmth (in the sense of friendliness)

State Nouns (i.e. nouns that denote a state of affairs):

coarseness, fierceness, peace, quietness, silence, sleep, tranquility, warmth (in the sense of being slightly hot)

Act Nouns (i.e. nouns that denote an act)

help (the act of helping)

Each group, except the group of act nouns, has several nouns. This list suggests that grammarians and lexicographers probably assume that nouns denoting emotions, mental activities, qualities of a person and states are more likely to combine with *a/an* than other types of nouns when they are modified. For example, Swan (2016: 120.4) and Hands et al (2017: 64. 1.233) mention human emotions and mental activity as conditions related to the use of *a/an* (as opposed to ø) (e.g. *education*, *knowledge*). I have selected the following fifty-one abstract nouns and placed them into four semantic groups (emotion, mental activity, quality and state) to explore the semantic connection between the use of *a/an* (or ø) and modification.

Emotion nouns (15 nouns)

anger, anxiety, comfort, fear, happiness, hatred, hope, joy, love, pleasure, sadness,

sorrow, surprise, sympathy, worry

Mental activity nouns (6 nouns)

awareness, consciousness, knowledge, perception, recognition, understanding.

Quality nouns (15 nouns)

courage, cruelty, curiosity, determination, generosity, honesty, impatience, intelligence, intolerance, kindness, patience, sensitivity, shyness, sincerity, tolerance

State nouns (15 nouns)

absence, confusion, dependence, freedom, health, illness, independence, marriage, peace, poverty, presence, silence, sleep, unemployment, war

Each group has fifteen nouns except the group of mental activity nouns. Mental activity nouns are defined here as those that denote a state that results from the activities of taking in and processing information about something. They are so defined as to exclude those nouns that have an established count use such as *opinion*, *idea* and *thought*, which refer to a result of thinking. Because of this definition, there are only six nouns in the mental activity noun group, although there may be more.

In selecting these fifty-one nouns listed above, twenty-two nouns are taken from the thirty-six nouns presented by the refence grammars and the learner's dictionaries, excluding those nouns that have fewer than 2,000 occurrences in the Bank of English (14 nouns: *aversion, coarseness, dislike, distrust, eagerness, familiarity, fierceness, fondness, quietness, rationality, shyness, sincerity, tranquility, unhappiness*). Five other nouns (*education, faith, help, pride* and *warmth*) are also excluded because of the following reasons. *Education* means the activity or process of educating people, and it does not belong to the group of mental activity nouns as defined above. *Faith* and *pride* may not

belong to the group of emotion nouns, and there are other more basic emotion nouns to be taught in EFL/ESL classes, such as *fear*, *hope*, *joy* and *worry*. *Help* does not belong to any of the four semantic groups. *Warmth* belongs to two groups: the quality nouns in the sense of friendliness (e.g. *the warmth of his smile*) and the state nouns in the sense of the state of being slightly hot (e.g. *the warmth of the fire*). Thus, the following seventeen nous are selected from the thirty-six nouns: *anger, anxiety, courage, determination, freedom, happiness, hatred, kindness, knowledge, love, sadness, sensitivity, shyness, silence, sincerity, sleep, understanding*. The other thirty-four nouns are selected from The New General Service List (NGSL). The NGSL is a list of 2,801 core vocabulary, which represents the most important high frequency words of the English language for second language learners of English.[24]

As mentioned in Section 4.1 in Chapter 4, I used CQPweb to collect data to examine the connection between the use of *a/an* (or ø) and the presence of a pre-modifying adjective. For example, [*a/an* (or ø) + Adjective + *anger* (in the singular form)] was searched. A query syntax (or a CQL query), [_JJ* *anger*_NN1], which means [general adjectives (including comparative and superlative forms) + *anger* (common noun in the singular form)], was used to search for the occurrences of *anger* in the sequence with an adjective immediately followed by *anger*. Occurrences with determiners other than *a/an* and ø are removed one by one. Occurrences in the plural form (with all types of determiners) are checked to see if they belong to Type II nouns with no established count use but may admit *a/an* or Type III nouns that can be used as both count and noncount. The same data will be used in Chapter 9 to examine if the nouns allow a count reading.

[24] For more information about the NGSL, refer to http://www.newgeneralservicelist.org.

8.3. Combinations of adjectives and nouns and the use of *a/an* and ø.

This section examines if there are any combinations of nouns and adjectives that frequently occur with *a/an* or ø. Various combinations of the fifty-one nouns and adjectives are listed in Tables E1 to S15 in Appendix. The tables list only those NPs (adjective + noun) that have a total of 30 or more occurrences in the Bank of English. Table E1 below is an example of *anger* (cited from Appendix).

Table E1. *Anger*

Adj. + *anger*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
deep anger	23.3%	7	23	30	0	30
growing anger	15.9%	13	69	82	0	82
intense anger	9.7%	3	28	31	0	31
great anger	9.1%	4	40	44	0	44
righteous anger	8.8%	6	62	68	0	68
real anger	7.1%	4	52	56	0	56
public anger	1.4%	3	209	212	0	212
widespread anger	0.0%	0	104	104	0	104
popular anger	0.0%	0	38	38	0	38
Arab anger	0.0%	0	37	37	0	37

Table E1 shows the numbers of occurrences of NPs (adjective + *anger*) in the singular form with *a/an* and ø and in the plural form with all determiners (abbreviated as 'All Det.') including ø, *the*, possessives, etc. NPs are arranged in descending order of the frequency of occurrence of a noun with *a/an* (i.e. the percentage of occurrences with *a/an* among the total occurrences with both *a/an* and ø in the singular form combined). For

example, *deep anger* in the top row has a total of 30 occurrences in the singular form with both *a/an* and ø combined. Among the 30 occurrences, *deep anger* has seven occurrences with *a/an* (23.3% of the occurrences with *a/an* and ø combined) and 23 occurrences with ø. *Deep anger* has no occurrence in the plural form.

The fifty-one nouns generally occur with ø more frequently than with *a/an*. Out of 632 combinations of [Adjective + Noun] in Tables E1 to S15 in Appendix, 281 combinations occur with ø highly frequently (i.e. 90% or over of the occurrences with ø and *a/an* combined), whereas 98 combinations occur with *a/an* highly frequently. Some nouns such as *surprise* and *worry* generally occur more frequently with *a/an* than with ø regardless of the types of adjectives that modify them (Tables E13 and E15), while other nouns such as *courage* and *intelligence* occur more frequently with ø than with *a/an* (Tables Q1 and Q8). Also, there are some nouns such as *silence* that may occur more frequently with *a/an* or with ø depending on the types of adjectives they combine with as shown in Table S12 below (cited from Appendix).

Table S12. *Silence*

Adj. + *silence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
long silence	95.2%	359	18	377	12	389
short silence	94.9%	56	3	59	0	59
Numeral + *year, minute, etc.* + *silence*	93.7%	119	8	127	4	131
brief silence	91.8%	56	5	61	0	61
dignified silence	86.7%	39	6	45	0	45
uneasy silence	84.2%	32	6	38	0	38
eerie silence	77.8%	63	18	81	0	81
uncomfortable silence	77.8%	42	12	54	3	57
awkward silence	76.0%	95	30	125	26	151
deafening silence	64.9%	37	20	57	0	57
embarrassed silence	60.0%	24	16	40	4	44
shocked silence	50.0%	20	20	40	0	40
tense silence	50.0%	15	15	30	2	32
respectful silence	48.8%	20	21	41	0	41
companionable silence	32.5%	13	27	40	3	43
stunned silence	32.1%	61	129	190	2	192
stony silence	30.4%	28	64	92	5	97
dead silence	20.9%	19	72	91	0	91
complete silence	6.1%	7	107	114	0	114
utter silence	5.3%	3	54	57	0	57
total silence	4.8%	7	140	147	0	147
absolute silence	1.5%	1	64	65	0	65

For example, *long silence* and *short silence* (highlighted in gray) occur with *a/an* far more frequently than with ø (95.2% and 94.9% respectively of the occurrences with *a/an* and ø combined), while *total silence* and *absolute silence* (highlighted in gray) occur with ø far more frequently than with *a/an* (95.2% and 98.5% respectively). This suggests that there may be some connection between the types of adjectives and the use of *a/an* or ø,

i.e. *a/an* or ø may be connected to how an adjective limits the meaning of a noun.

On the other hand, different nouns modified by the same adjective may occur frequently with *a/an* or ø. For example, *silence*, *absence* and *surprise* behave differently when they are modified by the adjective *total*. As shown in Table S 12 above, *total silence* occurs with ø far more frequently than with *a/an* (95.2%), whereas *total absence* and *total surprise* (highlighted in gray in Table S1 and Table E13 below) occur with *a/an* far more frequently than with ø (86.5% and 79.4% respectively). These findings suggest that the adjective *total* may motivate the use of ø with *silence*, while it may motivate the use of *a/an* with *absence* and *surprise*.

Table S1. *Absence*

Adj. + *absence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
Numeral + *year, month, week, day* + *absence*	98.4%	562	9	571	2	573
complete absence	95.2%	60	3	63	0	63
long absence	94.1%	95	6	101	56	157
total absence	86.5%	45	7	52	0	52

Table E13. *Surprise*

Adj. + *surprise*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
welcome surprise	100.0%	38	0	38	6	44
wonderful surprise	100.0%	37	0	37	9	46
major surprise	98.8%	85	1	86	28	114
huge surprise	98.1%	105	2	107	4	111
pleasant surprise	98.1%	406	8	414	88	502
nasty surprise	97.4%	76	2	78	118	196
nice surprise	95.4%	103	5	108	12	120
unpleasant surprise	95.3%	41	2	43	64	107
real surprise	94.6%	87	5	92	53	145
big surprise	88.8%	348	44	392	52	444
great surprise	85.9%	122	20	142	21	163
complete surprise	84.0%	210	40	250	0	250
total surprise	79.4%	81	21	102	2	104
considerable surprise	50.0%	15	15	30	0	30
mild surprise	28.6%	14	35	49	3	52

The following two sections (8.3.1–8.3.2) examine if there are any combinations of nouns and adjectives that occur with *a/an* or ø highly frequently. Section 8.3.1 examines the connection between *a/an* and the types of nouns and adjectives. Section 8.3.2 examines the connection between ø and the types of nouns and adjectives.

8.3.1. Connection between *a/an* and types of nouns and adjectives

This section examines if a high frequency of *a/an* is connected to types of nouns and adjectives. In this section, only the combinations of a noun and an adjective that occur

with *a/an* highly frequently are listed, i.e. with a frequency of 90 percent or over of the occurrences with *a/an* and ø combined. First, the connection between *a/an* and types of nouns is examined to see if a high frequency of *a/an* is limited to certain types of nouns. The nouns are divided into four types: emotion nouns, quality nouns, state nouns, mental activity nouns. Table 8.1 is a list of fifty-one nouns grouped into the four types, and it also lists adjectives with which the nouns occur with *a/an* highly frequently (i.e. with a frequency of 90 percent or over). The nouns are arranged in alphabetical order in each type of noun. Highlighted in gray are measurement adjectives such as *long*, *short*, *brief* and 'NUMERAL'. 'NUMERAL' represents two-word compounds that denote a specific period of time (e.g. *two-minute silence*, *four-year marriage*).

Table 8.1. Types of nouns and the use of *a/an*

Type of Noun	Noun	Adjective				
EMOTION	anger	None				
	anxiety	None				
	comfort	None				
	fear	None				
	happiness	None				
	hatred	None				
	hope	None				
	joy	None				
	love	None				
	pleasure	None				
	sadness	None				
	sorrow	None				
	surprise	*huge*	*major*	*nasty*	*nice*	*pleasant*
		real	*unpleasant*	*welcome*	*wonderful*	
	sympathy	None				
	worry	*big*	*major*	*real*		
QUALITY	courage	None				

	cruelty	None				
	curiosity	None				
	determination	None				
	generosity	None				
	honesty	None				
	impatience	None				
	intelligence	None				
	intolerance	None				
	kindness	None				
	patience	None				
	sensitivity	None				
	shyness	None				
	sincerity	None				
	tolerance	*high*				
STATE	absence	NUMERAL	*complete*	*long*		
	confusion	None				
	dependence	None				
	freedom	None				
	health	None				
	illness	*brain-wasting*	*brief*	*lengthy*	*long*	*mysterious*
		short	*undisclosed*			
	independence	None				
	marriage	NUMERAL	*bad*	*broken*	*failed*	*good*
		happy	*long*	*loveless*	*perfect*	*previous*
	peace	*fragile*	*negotiated*	*separate*	*uneasy*	
	poverty	None				
	presence	*big*	*commanding*	*constant*	*diplomatic*	*global*
		large	*major*	*permanent*	*powerful*	*significant*
		strong	*stronger*	*visible*		
	silence	NUMERAL	*brief*	*long*	*short*	
	sleep	*long*				
	unemployment	None				
	war	NUMERAL	*bitter*	*bloody*	*costly*	*different*
		effective	*good*	*great*	*illegal*	*long*
		new	*prolonged*	*protracted*	*short*	*successful*
		terrible	*trade*	*two(multi)-front*	*unjust*	*unnecessary*
		unpopular	*wider*			

MENTAL ACTIVITY	awareness	*acute*	*keen*	*new*		
	consciousness	None				
	knowledge	*working*				
	perception	*different*	*false*	*growing*	*negative*	*widespread*
	recognition	None				
	understanding	*better*	*clear*	*clearer*	*deeper*	*different*
		fuller	*good*	*keen*	*profound*	*proper*
		sophisticated	*thorough*			

Anger (in the top row of the emotion nouns), for example, has no adjectives (indicated as 'none') with which it occurs with *a/an* highly frequently. *Absence* (in the top row of the state nouns) occurs with *a/an* highly frequently when it combines with NUMERAL, *complete* and *long*.

Table 8.1 shows that a highly frequent occurrence of *a/an* is largely limited to the state nouns and the mental activity nouns. Many state nouns (9 out of 15) and mental activity nouns (5 out of 6) have a variety of adjectives with which they occur with *a/an* highly frequently. Among various adjectives that modify the state nouns, there are some measurement adjectives such as *long* and *short* (highlighted in gray), which are not found among the adjectives that modify the other types of nouns. Measurement adjectives modify six nouns (*absence*, *illness*, *marriage*, *silence*, *sleep*, *war*) as in the following examples (1–5). On the other hand, none of the emotion nouns and quality nouns except *surprise*, *worry* and *tolerance* has adjectives with which they occur with *a/an* highly frequently.

1) After **a long absence** from the stage, John Arden's Sgt Musgrave's Dance was staged last year by the Oxford Theatre Company.
2) On January 7th, 1989, Emperor Hirohito of Japan died after **a long illness**.
3) Peter and Kay Russell met as teenagers and have enjoyed **a long marriage**.

4) There was a silence. Quite **a long silence**. Then his voice came through again.
5) "Helen, I'm going to give you a sedative. I want you to have **a long sleep**. The nurse will stay with you."
6) After **a long war**, the Eritrean People's Liberation Front (EPLF) won control in 1991, and Eritrea gained formal independence in 1993.

Next, the connection between *a/an* and types of adjectives is examined to see if a high frequency of *a/an* is limited to certain types of adjectives. Adjectives are grouped into three types: classifying, qualitative and emphasizing.[25] Classifying adjectives identify a referent as a member of a class (e.g. *financial*, *medical*). Qualitative adjectives describe the quality of a referent (e.g. *good*, *beautiful*). Qualitative adjectives are defined here as those adjectives that are gradable and have comparative and superlative forms. Emphasizing adjectives are those that emphasize the speaker's feeling about a referent (e.g. *absolute*, *complete*) (Hands 2017: 2.36). Adjectives that modify more than two different nouns are selected from the combinations of [Adjective + Noun] that occur with *a/an* highly frequently (with a frequency of 90% or over) to examine if the meaning of an adjective is connected to a high frequency of *a/an*.

Table 8.2 below is a list of adjectives grouped into three types, and it also lists nouns with which the adjectives occur with *a/an* highly frequently. The adjectives are arranged in alphabetical order in each type of adjective.

[25] Grouping adjectives into different types is very difficult, and disagreement with the grouping is expected.

Table 8.2. Types of adjectives and the use of *a/an*

Type of Adjective	Adjective	Emotion Noun	Quality Noun	State Noun	Mental Activity Noun
CLASSIFYING	None				
QUALITATIVE	different[26]			*war*	*perception*
					understanding
	good			*marriage*	*understanding*
				war	
	long			*absence*	
				illness	
				marriage	
				silence	
				sleep	
				war	
	short			*illness*	
				silence	
				war	
EMPHASIZING	major	*surprise*		*presence*	
		worry			

There are only five adjectives: four qualitative adjectives (*different*, *good*, *long*, *short*) and one emphasizing adjective (*major*), and there is no classifying adjective. A high frequency of *a/an* is limited to qualitative and emphasizing adjectives, particularly to the combinations of measurement adjectives (e.g. *long*, *short*) and state nouns.

Table 8.1 and 8.2 show that a high frequency of *a/an* is largely limited to state nouns and mental activity nouns, and particularly to the combination of state nouns and measurement adjectives. State nouns such as *absenc*e, *illness*, *marriage* and *silenc*e are often conceptualized in time (i.e. temporal space), and they can be used as count nouns when a referent is construed as bunded in temporal space, i.e. being interpreted as

[26] *Different* does not describe the quality of a referent, but it is placed in the group of qualitative adjectives because it occurs in the comparative and the superlative forms.

referring to an event. Measurement adjectives limit the meaning of the state nouns in the way that a referent is bounded in time (e.g. *a long absence*, *a brief marriage*). In other words, a measurement adjective encourages a temporally bounded interpretation of a referent, i.e. an event reading.

As for adjectives that modify the mental activity nouns, there are some evaluative adjectives that denote a certain level of a metal state (e.g. *acute*, *working*, *thorough*) as in the following examples (7–9). This suggests that mental activity nouns are likely to combine with *a/an* when they refer to a certain level of a mental state, and evaluative adjectives encourage a level interpretation.

7) On motivation "I have an extremely highly developed work ethic and **an acute awareness** that talent is never enough."
8) Archives is searching for a part-time volunteer Archivist. Applicants must have professional archive training, SAA certification preferred. **A working knowledge** of gay and lesbian history is required.
9) In this context, the events of the Ice Ages take on a special significance, since **a thorough understanding** of past climatic changes is essential if there is to be any chance of predicting future trends.

There are very few adjectives with which emotion nouns and quality nouns occur with *a/an* highly frequently. Emotion nouns such as *fear* and *worry* are used as count nouns when they refer to a cause that arouses the emotion as in (10–11). However, there seem to be no adjectives that encourage a cause interpretation. In the same way, quality nouns such as *kindness* and *cruelty* are used as count nouns when they refer to an act as in (12–13). However, there seem to be no adjectives that encourage an act interpretation. This is probably the reason that emotion and quality nouns do not have any particular adjectives

with which they occur with *a/an* highly frequently.

10) Crime is **a constant fear**.
11) Clean water is **a constant worry**.
12) It would be **a great kindness**.
13) To keep animals so similar to ourselves in laboratory conditions is **an unacceptable cruelty**.

Two emotion nouns, *surprise* and *worry*, have some adjectives such as *major* and *real* with which they occur with *a/an* highly frequently as in (14–17). However, other emotion nouns such as *anger*, *comfort* and *love* occur with ø more frequently than with *a/an* when they are modified by *real* as in (18–20). It is not likely that adjectives such as *major* and *real* encourage a cause reading. *Surprise* and *worry* have an established count use: *surprise* in the sense of an unexpected event (21) and *worry* in the sense of a problem that worries you (22), and they can combine with *a/an* regardless of the types of adjectives that modify them.

14) Even the kids have said they liked the quiet, which was **a real surprise** for us.
15) It will be **a major surprise** if McGeady, 18, is not included in the panel.
16) It's **a real worry** for us.
17) Lack of growth in Europe is **a major worry** for U. S. firms, because about $1 of every $6 of exports goes to Europe.
18) There was **real anger** in her voice, restrained but there all the same.
19) There is nothing like staying home for **real comfort**.
20) If it's **real love**, it has to include physical passion.
21) Kent's death was **a surprise**.
22) It's **a worry** that the concerns of the community are not really noticed until it's too late.

These findings suggest that abstract nouns occur with *a/an* when an adjective limits the meaning of a noun in the way that motivates a count reading (e.g. *a long silence*) or a singular reading (e.g. *a working knowledge*) that is available for the noun. Available count readings or singular readings vary from noun to noun, and types of adjectives that motivate a count or singular reading varies from noun to noun. It can be proposed that a high frequency of *a/an* is connected to the combination of particular types of nouns and adjectives.

8.3.2. Connection between ø and types of nouns and adjectives

This section examines if a high frequency of ø is connected to types of nouns and adjectives. In this section, only the combinations of a noun and an adjective that occur with ø highly frequently are listed (with a frequency of 90 percent or over of the occurrences with *a/an* and ø combined). First, the connection between ø and types of nouns is examined to see if a high frequency of ø is limited to certain types of nouns.

Table 8.3 is a list of fifty-one nouns grouped into four types, and it also lists adjectives with which the nouns occur with ø highly frequently (i.e. with a frequency of 90 percent or over). The nouns are arranged in alphabetical order in each type of noun.

Table 8.3. Types of nouns and the use of ø

Type of Noun	Noun	Adjective				
EMOTION	anger	*Arab*	*great*	*intense*	*popular*	*public*
		real	*righteous*	*widespread*		
	anxiety	*acute*	*chronic*	*considerable*	*excessive*	*great*
		high	*increased*	*public*	*social*	
	comfort	*air-conditioned*	*cold*	*extra*	*greater*	*maximum*

		relative	*small*			
	fear	*constant*	*public*			
	happiness	*great*	*human*	*perfect*	*personal*	*true*
	hatred	*ethnic*	*racial*	*religious*		
	hope	*fresh*	*local*	*new*	*renewed*	
	joy	*pure*				
	love	*brotherly*	*courtly*	*divine*	*free*	*human*
		maternal	*parental*	*physical*	*romantic*	*sexual*
		tough	*true*	*unconditional*	*undying*	*unrequited*
		young				
	pleasure	*driving*	*immense*	*personal*	*pure*	*sexual*
		sheer				
	sadness	None				
	sorrow	*deep*				
	surprise	None				
	sympathy	*considerable*	*great*	*human*	*international*	*public*
	worry	None				
QUALITY	courage	*Dutch*	*extraordinary*	*great*	*moral*	*personal*
		physical	*political*	*real*	*tremendous*	
	cruelty	*mental*	*human*			
	curiosity	*idle*	*public*			
	determination	*sheer*				
	generosity	*public*				
	honesty	None				
	impatience	None				
	intelligence	*actionable*	*average*	*better*	*credible*	*emotional*
		faulty	*flawed*	*general*	*good*	*great*
		high	*human*	*low*	*new*	*normal*
		prewar	*raw*	*recent*	*secret*	*specific*
		useful				
	intolerance	*racial*	*religious*			
	kindness	*human*				
	patience	*great*	*infinite*			
	sensitivity	*cultural*	*political*			
	shyness	*extreme*				
	sincerity	None				
	tolerance	*racial*	*religious*			
STATE	absence	None				
	confusion	*considerable*	*further*	*great*	*mass*	*mental*
		total	*utter*	*widespread*		
	dependence	*economic*	*financial*	*mutual*	*total*	

	freedom	*American*	*absolute*	*academic*	*artistic*	*complete*
		considerable	*creative*	*economic*	*financial*	*full*
		greater	*human*	*individual*	*intellectual*	*personal*
		political	*relative*	*religious*	*reproductive*	*sexual*
		total	*true*			
	health	*aboriginal*	*bad*	*better*	*declining*	*dental*
		economic	*emotional*	*environmental*	*excellent*	*failing*
		frail	*full*	*general*	*good*	*human*
		ill	*improved*	*improving*	*mental*	*occupational*
		oral	*overall*	*perfect*	*personal*	*physical*
		poor	*poorer*	*private*	*psychological*	*public*
		reproductive	*robust*	*rude*	*sexual*	
	illness	*human*				
	independence	*American*	*Baltic*	*Indian*	*Scottish*	*Taiwanese*
		complete	*de facto*	*economic*	*editorial*	*financial*
		formal	*full*	*greater*	*judicial*	*national*
		outright	*personal*	*political*	*total*	
	marriage	*gay*	*homosexual*	*same-sex*	*traditional*	
	peace	*global*	*greater*	*international*	*perfect*	*regional*
		relative	*true*			
	poverty	*abject*	*absolute*	*dire*	*extreme*	*global*
		grinding	*relative*	*rural*	*urban*	*widespread*
	presence	None				
	silence	*absolute*	*complete*	*total*	*utter*	
	sleep	*disturbed*	*poor*	*slow-wave*		
	unemployment	*growing*	*high*	*higher*	*long-term*	*low*
		lower	*mass*	*massive*	*widespread*	
	war	None				
MENTAL ACTIVITY	awareness	*public*	*spiritual*			
	consciousness	*full*	*human*	*impaired*	*popular*	*public*
	knowledge	*advance*	*common*	*current*	*direct*	*first(-)hand*
		full	*human*	*inside*	*local*	*medical*
		new	*political*	*prior*	*procedural*	*professional*
		public	*scientific*	*specializ(s)ed*	*specific*	*sufficient*
		technical	*traditional*	*useful*		
	perception	*distinct*	*extra(-)sensory*	*sensory*		
	recognition	*diplomatic*	*due*	*federal*	*full*	*greater*
		instant	*international*	*legal*	*mutual*	*national*
		official	*proper*	*special*	*wider*	
	understanding	*conceptual*	*cultural*	*human*		

A high frequency of ø is not limited to any particular types of nouns. There are only nine nouns (out of 51) that have no adjectives with which they occur with ø highly frequently: three emotion nouns (*sadness, surprise, worry*), three quality nouns (*honesty, impatience, sincerity*) and three state nouns (*absence, presence, war*). A far wider variety of adjectives are available when the nouns combine with ø than when they combine with *a/an*.

Next, the connection between ø and types of adjectives is examined to see if a high frequency of ø is limited to certain types of adjectives. Adjectives that modify more than two different nouns are selected from the combinations of [Adjective + Noun] that occur with ø highly frequently (with a frequency of 90% or over) to examine if the meaning of an adjective is connected to a high frequency of ø.

Table 8.4 below is a list of adjectives grouped into three types, and it also lists nouns with which the adjectives occur with ø highly frequently. The adjectives are arranged in alphabetical order in each type of adjective.

Table 8.4. Types of adjectives and the use of ø

Type of Adjective	Adjective	Emotion Noun	Quality Noun	State Noun	Mental Activity Noun
CLASSIFYING	economic			*dependence*	
				freedom	
				health	
				independence	
	financial			*dependence*	
				freedom	
				independence	
	human	*happiness*	*cruelty*	*freedom*	*consciousness*
		love	*intelligence*	*illness*	*knowledge*
		sympathy	*kindness*	*health*	*understanding*
	international	*sympathy*		*peace*	*recognition*
	mental		*cruelty*	*confusion*	
				health	
	new	*hope*	*intelligence*		*knowledge*
	personal	*happiness*	*courage*	*freedom*	
		pleasure		*health*	
				independence	
	physical	*love*	*courage*	*health*	
	political		*courage*	*freedom*	*knowledge*
			sensitivity	*independence*	
	public	*anger*	*curiosity*	*health*	*awareness*
		anxiety	*generosity*		*consciousness*
		fear			*knowledge*
		sympathy			
	racial	*hatred*	*intolerance*		
			tolerance		
	relative	*comfort*		*freedom*	
				peace	
				poverty	
	religious	*hatred*	*intolerance*	*freedom*	
			tolerance		
	sexual	*love*		*freedom*	
		pleasure		*health*	
	true	*happiness*		*freedom*	
		love		*peace*	
QUALITATIVE	considerable	*anxiety*		*confusion*	
		sympathy		*freedom*	

	full		*freedom*	*health*	*consciousness*
				independence	*knowledge*
					recognition
	great	*anger*	*courage*	*confusion*	
		anxiety	*intelligence*		
		happiness			
		sympathy	*patience*		
	greater	*comfort*		*independence*	*recognition*
				freedom	
				peace	
	high	*anxiety*	*intelligence*	*unemployment*	
	widespread	*anger*		*confusion*	
				poverty	
				unemployment	
EMPHASIZING	absolute			*freedom*	
				poverty	
				silence	
	complete			*freedom*	
				independence	
				silence	
	perfect	*happiness*		*health*	
				peace	
	total			*freedom*	
				confusion	
				dependence	
				independence	
				silence	

There are a wide variety of adjectives that modify more than two different nouns, and a high frequency of ø is not limited to any particular types of adjectives. Regarding the connection between types of adjectives and types of nouns, both classifying and qualitative adjectives occur with all four types of nouns, while the occurrence of emphasizing adjectives is limited to the state nouns except *happiness*. *Happiness* can be defined as 'the state of being happy' rather than 'the feeling of being happy', and it can be placed into the group of the state nouns. Then, a high frequency of emphasizing

adjectives with ø is limited to the state nouns. It is not clear why the combination of an emphasizing adjective and a state noun occur with ø highly frequently. It may be the case that emphasizing adjectives focus on the quality of a referent, and bounding in any space is irrelevant, which motivates the use of ø, i.e. a noncount reading. However, if this is the case, a high frequency of ø should be observed in the combinations with other types of nouns as well, but it is not.

8.4. Summary of the findings and discussion

Findings in this chapter are summarized as follows:

1) A high frequency of *a/an* is largely limited to state nouns and mental activity nouns, particularly to the combinations of measurement adjectives and state nouns (e.g. *a short illness*, *a long silence*). Also, the combinations of evaluative adjectives and the mental activity nouns are connected to a high frequency of *a/an* (e.g. *an acute awareness*, *a working knowledge*, *a thorough understanding*).

2) A high frequency of ø is not limited to any particular types of nouns or adjectives except the combinations of emphasizing adjectives and the state nouns (e.g. *complete freedom*, *absolute silence*).

These two findings support the hypothesis that particular combinations of nouns and adjectives are connected to a high frequency of *a/an* or ø. The connection between *a/an* and the combination of a state noun and a measurement adjective can be explained as follows. State nouns (e.g. *absence*, *illness*, *silence*) can combine with *a/an* when the referent is construed as being bounded in time. Measurement adjectives (e.g. *long*, *short*) encourage a bounded interpretation (i.e. an event reading), which motivates the use of *a/an*.

The connection between *a/an* and the combination of a mental activity noun and an evaluative adjective can be explained as follows. Mental activity nouns (e.g. *awareness*, *knowledge*, *understanding*) can combine with *a/an* when they refer to a certain level of a mental state. Evaluative adjectives (e.g. *acute*, *working*) encourage a level interpretation, which motivates the use of *a/an*. The connection between ø and the combination of a state noun and an emphasizing adjective can be explained as follows. Emphasizing adjectives focus on the quality of a referent. It is irrelevant whether the referent is bounded in time or not, which motivates the use of ø (a noncount reading).

Abstract nouns occur with *a/an* when an adjective limits the meaning of a noun in the way that motivates a count reading or a singular reading that is available for the noun. Available count readings or singular readings vary from noun to noun, and the types of adjectives that motivate a count or singular reading varies from noun to noun. It is not an adjective per se, but a combination of a particular type of noun and adjective that motivates the use of *a/an*. From this, it can be hypothesized that nouns in the same semantic group are likely to share the same conditions under which they acquire a certain type of count reading or singular reading. This hypothesis is now examined in Chapter 9.

Chapter 9

CASE STUDY C: Count Readings of Abstract Nouns

9.1. Introduction

Case Studies A and B (chapters 5–8) explored the connection between *a/an* and modification. The focus was mainly on Type II nouns. So far, the noncount use of the Type III nouns and the possibility of pluralization have not been considered. As a consequence, this chapter explores the semantic conditions that motivate count readings (i.e. the use of *a/an* and pluralization) of Type III nouns (e.g. *fear*, *recognition*, *curiosity*, *absence*), which have both a count and a noncount use. Distinction between [*a/an* + count use] and [*a/an* + noncount use] is taken into consideration where it is necessary.

The grammatical behavior of the fifty-one abstract nouns in the four semantic groups (selected in Section 8.2 in Chapter 8) is examined to test the hypothesis just presented in Chapter 8: Nouns in the same semantic group are likely to share the same conditions under which they acquire a certain type of count reading or singular reading (i.e. *a/an* + noncount use). The grammatical behavior of the fifty-one nouns in the four semantic groups is examined in the following sections: emotion nouns in Section 9.2, mental activity nouns in 9.3, quality nouns in 9.4, and state nouns in 9.5.

9.2. Emotion nouns and count readings

Emotion nouns denote emotions and feelings.[27] The fifteen emotion nouns can be grouped into the following two types: E-II (Emotion nouns of Type II) and E-III (Emotion

[27] Grimm (2014: 197) calls emotion nouns as 'psych-nouns,' i.e. those nouns which designate psychological states or events, and he uses the term 'stimulus reading' in a similar way to cause reading.

nouns of Type III). Nouns of the E-II Type are noncount but may admit *a/an*, and nouns of the E-III Type have both a count and a noncount use.

E-II: *sympathy*

E-III: *anger, anxiety, comfort, fear, happiness, hatred, hope, joy, love, pleasure, sadness, sorrow, surprise*, *worry*

All the nouns except *sympathy* are placed in the group of E-III, since they occur with *a/an* and in the plural form. *Sympathy* may occur in the plural form, but it is classified as Type II here, since the plural form of *sympathies* is a formal expression of sympathy like *condolences*, *congratulations* and *apologies*, and it does not refer to more than one instance (or type) of sympathy. The grammatical behavior of *sympathy* is not examined here.

Emotion nouns generally have two senses: the feeling (of anger, fear, etc.) and a cause that arouses the emotion (e.g. a situation, a person, etc. as in *Clean water is a constant worry*). In order to distinguish these two senses, the Bank of English was searched for the occurrences of the emotion nouns in the following two constructions: [Subject NP + Copula *BE* + (*a/an*) + Noun (both the singular and plural form)] in which a subject NP denotes a cause that arouses the emotion as in (1) and [*to express/feel* + (*a/an*) + Noun (both the singular and plural form)] in which a noun denotes a feeling as in (2).

1) His mother's health is **a constant worry**.
2) Penner also expressed **worry** that Bush may lack the political will to block any spending increases approved by Congress.

9.2.1. Cause readings of emotion nouns

This section examines if the emotion nouns acquire a count reading when they refer to a cause. The Bank of English was searched for the occurrences of the emotion nouns in the [Subject NP + Copula *BE* + (*a/an*) + Noun] construction in which a subject NP denotes a cause that arouses the emotion. All the nouns of Type E-III except *anger* and *hatred* occur in this construction. The following is a list of example sentences with the twelve nouns (excluding *anger*, *hatred* and *sympathy*) in the [Subject NP + Copula *BE* + (*a/an*) + Noun (both the singular and plural form)] construction (3–26). Each noun has two example sentences with a noun in the forms of *a*N (singular with *a/an*) and N*s* (plural). Five nouns have no occurrence in the plural form in this construction: *anxiety*, *happiness*, *pleasure*, *sadness* and *surprise*. However, this does not mean that they do not occur in the plural form in the sense of a cause. The examples of their plural forms in other constructions are presented below. These examples are carefully selected so that the nouns clearly refer to more than one cause that arouses the emotion. The following are the examples with *anxiety* (3–4).

anxiety

3) Her son was **a continual anxiety**; he stole and went missing.
4) Alongside the more familiar **parental anxieties**—such as placing children in good schools and universities—there is now a new cause for concern.

In (3), 'her son' is the cause (or the source) that arouses the feeling of anxiety, and *anxiety* combines with *a/an*. In (4), the plural form *anxieties* does not occur in the [Subject NP + Copula *BE* + (*a/an*) + Noun] construction, but it is clear from the context that *anxieties* refers to more than one cause, i.e. *such as placing children in good schools and*

universities. With all the nouns listed below (5–26), *a*N refers to one cause (or source), and N*s* refers to more than one cause.

comfort

5) His presence was **a great comfort** to Katharine, who guiltily spoilt him.
6) Eating may be one of **her few comforts** in life at present.

fear

7) Crime is **a constant fear**, especially in the cities.
8) Traffic and crime were **the greatest fears** for the 10- and 11-year-old children interviewed.

happiness

9) I always think of you as the one dear object whose presence has ever been **a great happiness** to me.
10) He afterwards regarded making friends with Lord Halifax as one of **the happinesses** of the York years. (BNC)

hope

11) Every new job created is **a new hope** for someone.
12) These two athletes are **our main hopes** for the Olympics.

joy

13) Swimming is **an absolute joy** when the local pool is outside.
14) Good chicken and good wine are **essential joys** of the table, of his family, and of his life.

love

15) Baseball is **a love** of mine.
16) Family and sports were his greatest **loves**.

pleasure

17) A good nonfiction book should be **a pleasure** to read.
18) It's often life's **simpler pleasures** — like listening to music, reading a book or having a massage — that offer the most immediate gratification.

sadness

19) Princess Margaret's passing was **a sadness** for the royal family.

20) Yet the qualities that make *Ulysses* so loved are often overlooked. It is a deeply humane, compassionate novel. Joyce's account of the small joys and quiet **sadnesses** of Bloom's life is unsurpassed in its intimacy.

sorrow

21) Her passing is **a sorrow** to us all and our thoughts and sympathies are with her family.

22) Your death was only one of **many sorrows** I had been through.

surprise

23) Allan's decision is **a surprise** to all of us.

24) There are **a few surprises** during the show, but I won't spill the beans.

worry

25) With a family to support, money was **a constant worry** for Hincks.

26) In the countryside, wind farms and rubbish dumps are **the main worries**, along with large roads and airports.

The above examples show that the twelve nouns are used as count nouns when they refer to a cause that arouses the emotion. *Anger* and *hatred* have no occurrence in the [Subject NP + Copula *BE* + (*a/an*) + Noun] construction with either *a/an* or in the plural form. They do not seem to denote a cause (e.g. **His presence is an anger/a hatred*). It can be speculated that the assertive nature of these two emotions may prevent a cause reading. With *anger* and *hatred*, the focus is more on the person who expresses the emotion than on the cause that arouses the emotion. On the other hand, emotions such as anxiety, fear, sadness, surprise and worry are experienced passively, and the focus is more on the cause that arouses the emotion. However, there are some emotion nouns such as *joy*, *love* and *pleasure,* to which this speculation may not apply. Joy, love and pleasure are not the type of emotion that is experienced passively, but nevertheless they can still refer to a cause.

9.2.2. Emotion nouns in the sense of the feeling

This section examines if the emotion nouns acquire a count reading when they denote the feeling (of anxiety, fear, etc.). The Bank of English was searched for the occurrences of the emotion nouns in the [*to express/feel* + (*a/an*) + Noun (both the singular and plural form)] construction. All of the fourteen nouns (excluding *sympathy*) occur in this construction. Nine nouns (*anger, anxiety, fear, hatred, hope, joy, pleasure, sorrow, worry*) are used as both count and noncount, and they occur in all three NP forms: øN, *a*N and N*s*. The other five nouns do not acquire a count reading. Four nouns (*comfort*, *happiness*, *love*, *sadness*) occur in øN and *a*N, but not in N*s*. *Surprise* occurs only in øN. The following is a list of example sentences with the nine nouns that occur in all three NP forms (27–53). Each noun has three example sentences with a noun in the forms of øN, *a*N and N*s*. The following are the examples with *anger* (27–29).

anger

27) Anti-abortion activists expressed **anger** at the decision yesterday.
28) An Auschwitz survivor seized the microphone to express **a bewildered anger**, undiminished by six decades.
29) I'm not saying that anger at the externals should be suppressed — just the opposite. Patients must be encouraged to express **all their angers**, resentments, hatreds, and fears.

Ø *anger* in (27) denotes the feeling of anger in general, while *a bewildered anger* in (28) refers to a particular type of anger that is aroused by a particular cause, e.g. someone's experience at Auschwitz. Regarding the plural form of *angers* in (29), it is not clear what the plural form refers to in this context. It can be interpreted that *angers* refers to the

feeling of anger that is aroused by more than one cause.[28] The same analysis applies to all the other nouns listed below (30–53): *anxiety, fear, hatred, hope, joy, pleasure, sorrow, worry*.

anxiety

30) One year after the unveiling of Roy Romanow's landmark report on medicare, Canadians' gloom over the health system is beginning to lift as considerably fewer voters express **anxiety** about the future.

31) As Stephen Jessel reports from Paris, the schoolchildren are also expressing **a deeper anxiety** about their own future.

32) Britain has expressed **anxieties** about the situation in Kenya and has urged the early release of detainees there.

fear

33) When their plane was forced by weather to stay overnight in El Salvador, a Salvadoran woman and a Guatemalan woman expressed **fear** that they'd be murdered by death squads if they deplaned.

34) However, the tenants on the two estates, who voted more than two-to-one against the scheme, had expressed **a fear** that rents would have gone up under the new arrangements.

35) He expressed **two fears** about prison. One: Would he be given time alone each day to collect his thoughts? Two: Did they serve Pepsi?

hatred

36) However, he expressed **hatred** for Robert Kennedy because of Kennedy's support of Israel.

37) But he did express **a hatred** toward police. "I do hate police. Police are a big lie. Kids are taught that police are the good guys, that you should trust them and they will protect you," said Sand.

38) Religions and God-talk generally offer us tools and languages for expressing our

[28] It is also possible to interpret that the plural form refers to the feeling of anger that more than one individual possesses toward difference sources.

ideals, **hatreds**, aspirations, fears, and feelings.

hope

39) The war passed very long ago, and it caused them sorrow not only for Vietnamese people, but all American people too. But I feel **hope** that we can push it in — into the past and now look forward to the future.

40) When U.S. troops chased Saddam from power, Samia said, she felt **a strange hope** that her brother might be alive after all.

41) He strongly believes that this is no longer his son, and he feels **no parental hopes** or responsibilities toward him.

joy

42) Finally, after more than a month of walking, weak with starvation, he was greeted by U-S soldiers in tanks. The tank roof opened and a blond-haired soldier popped out and said 'you are free.' Thank God he was an American. It was the first time I felt **joy** in many years.

43) "The summit of Everest! I hardly believe it. My eyes aren't big enough, my heart isn't big enough for this. I feel **an intense joy**, new and more perfect than any known pleasure," Mr. Laforest later wrote in a book.

44) "Well, all men are looking for sex, let's be honest here! Yes, that is part of what I am in search of, but I also want to connect emotionally with a partner, I want to feel **the same joys** in life that you do, more than just a one-night stand."

pleasure

45) Rebecca hates herself for feeling **pleasure** at the fact that she has perhaps made Murphy jealous.

46) Barnaby looks down at Kate's hand: it is small and very feminine with shell-pink nails. The touch of that hand makes Barnaby feel **a pleasure** he has almost forgotten.

47) She forgot the painful lessons of the past and felt only **the pleasures** of the present streaming through her.

sorrow

48) We are shocked by the news of course, and among the relatives of the victims I have spoken to, we feel **sorrow** for his wife and children who now have to live without a husband and father.

49) I feel **a great sorrow** when trees are burned, when the forest is destroyed.
50) Siddhartha Gautama (the historical Buddha) came to the truths he did as a result of **deep sorrows** felt in his early life.

worry

51) Penner also expressed **worry** that Bush may lack the political will to block any spending increases approved by Congress.
52) In its final report before being wound up, the broadcasting standards commission said the number of complaints about soaps increased in the 12 months to March 31 2003, but singled out scenes in the two most popular soaps. It expressed **a worry** that broadcasters were finding ways of portraying violence in subtler ways.
53) He also expressed **worries** that today's high energy prices could harm the global economy and dampen demand for oil.

Nine nouns out of the fifteen emotion nouns are used as both count and noncount when they denote the feeling: *anger, anxiety, fear, hatred, hope, joy, pleasure, sorrow, worry*. It is difficult to find the definite conditions that cause emotion nouns in the sense of the feeling to acquire a count reading from the above examples. However, it can be hypothesized that they acquire a count reading when the focus is on the cause that arouses the emotion. The following examples of *anger* and *fear* in the plural form (54–55) can support this hypothesis.

54) But it sounds like your fury is fueled by a build-up of **past angers** at men for forcing and at women for giving in.
55) Communication is most helpful in reducing the child's anxiety and, for that matter, the adult's anxiety. The child may then express **some unrealistic fears** and the parents will have an opportunity to explore **these fears** and reassure the child.

Past angers in (54) and *some unrealistic fears* and *these fears* in (55) refer to the

feeling of anger and of fear that are aroused by different causes on different occasions. The pluralization of *anger* and *fear* comes from the number of causes, such as events and thoughts that arouse the emotion. The question is what blocks count readings of the other five nouns (*comfort*, *happiness*, *love*, *sadness*, *surprise*). Four nouns (*comfort*, *happiness*, *love*, *sadness*) do not occur in the plural form, and *surprise* occurs only with ø. It is not known what blocks their count readings.

9.2.3. Summary of the findings on emotion nouns and count readings

As Table 9.1 shows, twelve nouns out of fourteen (excluding *sympathy*) acquire a count reading when they refer to a cause that arouses an emotion, and nine nouns acquire a count reading in the sense of the feeling when the focus is on the cause (marked with ✓).

Table 9.1. Count readings of emotion nouns

Count Readings	cause	feeling aroused by a particular cause
anger		✓
anxiety	✓	✓
comfort	✓	
fear	✓	✓
happiness	✓	
hatred		✓
hope	✓	✓
joy	✓	✓
love	✓	
pleasure	✓	✓
sadness	✓	
sorrow	✓	✓
surprise	✓	
sympathy		
worry	✓	✓

All of the fourteen emotion nouns of Type E-III except *anger* and *hatred* acquire a count reading when they refer to a cause that arouses the emotion. It can be speculated that nouns denoting the type of emotion that is experienced passively (e.g. *anxiety*, *fear*, *surprise*, *worry*) acquire a cause reading, while nouns denoting the type of emotion that is expressed assertively (e.g. *anger*, *hatred*) do not acquire a cause reading. However, this speculation does not apply to some nouns such as *love* and *pleasure*, which are assertive in nature.

All of the fourteen emotion nouns of Type E-III occur in the [*to express/feel* + (*a/an*) + Noun] construction, in which nouns denote the feeling. Nine nouns in the sense of the feeling (*anger, anxiety, fear, hatred, hope, joy, pleasure, sorrow, worry*) can be used as both count and noncount. Four nouns (*comfort*, *happiness*, *love*, *sadness*) occur with *a/an* and ø, but not in the plural form. *Surprise* occurs only with ø. It can be hypothesized that emotion nouns in the sense of the feeling acquire a count reading when the focus is on the cause that arouses the emotion. This hypothesis, however, cannot explain why four nouns (*comfort*, *happiness*, *love*, *sadness*) do not occur in the plural form, and why *surprise* occurs only with ø. Seven nouns (*anxiety*, *fear*, *hope*, *joy*, *pleasure*, *sorrow*, *worry*) can be used as count nouns when they denote the feeling as well as a cause.

9.3. Mental activity nouns and count readings

Mental activity nouns denote the state that results from the activities of taking in and processing information, i.e. the state of having information, understanding and/or skills about something. The six mental activity nouns can be grouped into the following two types: M-II (Mental activity nouns of Type II) and M-III (Mental activity nouns of Type

III). Nouns of the M-II Type are noncount but may admit *a/an*, and nouns of the M-III Type have both a count and a noncount use.

M-II: *consciousness, knowledge*

M-III: *awareness, perception, recognition*, *understanding*

Both types of nouns combine with *a/an* when they refer to a particular point of view (i.e. a particular way of understanding a situation), typically in the [Noun + Subordinator *that* + Content Clause] construction.

9.3.1. Viewpoint reading of mental activity nouns

This section examines if the mental activity nouns acquire a count reading when they refer to a particular point of view. The Bank of English was searched for the occurrences of the mental activity nouns in the [Noun + Subordinator *that* + Content Clause] construction. All the mental activity nouns occur in this construction. Table 9.2 shows the numbers and the percentages of the occurrences of the six nouns with *a/an* and ø in the [Noun (singular form) + Subordinator *that* + Content Clause] construction. The nouns are arranged in alphabetical order.

Table 9.2. [Noun + Subordinator *that* + Content Clause] with *a/an* and ø

Noun	TOTAL	Ø	*a/an*	*a/an*%
awareness + *that* + Content Clause	288	86	202	70.1%
consciousness + *that* + Content Clause	11	3	8	72.7%
knowledge + *that* + Content Clause	277	256	21	7.6%
perception + *that* + Content Clause	515	22	493	95.7%
recognition + *that* + Content Clause	739	241	498	67.4%
understanding + *that* + Content Clause	345	10	335	97.1%

Awareness, for example, has a total of 288 occurrences with *a/an* and ø combined. Among them, there are 202 occurrences with *a/an* (70.1%). All the nouns except *knowledge* occur with *a/an* more frequently than ø in this construction. The following is a list of example sentences with the six nouns that occur in the [*a/an* + Noun (singular form) + Subordinator *that* + Content Clause] construction (56–65).

56) But there is **an awareness** among day traders **that** they can't rely on rumours or the advice of strangers.
57) Consumer experts said that along with the increased convenience of buying second-hand goods there is **a growing consciousness that** people should not throw things away as readily as they used to.
58) There is **a perception that** HIV is no longer a major threat.
59) Being an only child has given me determination, **a knowledge that** life is not always fair to us and it has allowed me to follow my dreams.
60) And there is **a recognition that** the current laws are not working.
61) There is **a clear understanding that** a lot of hard work is ahead.

These examples (56–61) show that the six nouns combine with *a/an* when they refer to a particular point of view on a particular topic. The nouns of the M-III type (*awareness, perception*, *recognition*, *understanding*) can be pluralized when they refer to more than

one point of view as in (62–65).

62) As I saw Karrid now I went through the most extraordinary multiplicity of **awarenesses**: **that** Karrid was naked and **that** this nakedness was not like the nakedness of people in the Hearth, but a significant nakedness — **that** he was not the Karrid I had seen before but transfigured into great beauty — **that** he was *he* — **that** my mother had warned me about him — **that** I wanted to touch him — **that** I was afraid of him.

63) Q: How are you seen now in Hollywood?
A: People have different **perceptions**. Warner (which produced *Matchstick Men*) may have a different perception than Miramax (*Confessions of a Dangerous Mind*) does. Some people think I'm a comedian. Some people think I play sleazy guys. Some people have seen me kiss the girl.

64) This evolving, cooperative approach to African security appears to stem from **two recognitions**. On the one hand, there is **a recognition** on the American side **that** keeping the peace in Africa "is not just the responsibility of Africans," as a recent report on Africa by the U.S. National Intelligence Council put it. At the same time, the U.S. side also wants its African partners to **recognize**, as the European Command's General Wald recently put it, **that** while the continent needs a lot of help, its problems are not going to be solved by the United States military alone.

65) She said that these feelings came from an identification with her mother who had always explicitly stated that sex was "for men" and revolting; something women tolerated with difficulty. Mary found arousal a frightening experience because it meant separating herself from her mother's experience. Such changes between generations in **their sexual understandings** have given rise to many confusions and much sexual angst.

The Bank of English has no occurrence of *consciousness* and *knowledge* in the plural form to refer to more than one point of view. It is not known why these two nouns do not occur in the plural form in the sense of a point of view.

9.3.2. Mental activity nouns with evaluative adjectives and the use of *a/an*

Some mental activity nouns such as *awareness*, *knowledge*, *recognition* and *understanding* occur with *a/an* highly frequently when modified by some adjectives as shown in Tables M1, M3, M5 and M6 in Appendix. Cited here are the combinations of [Adjective + Noun (both the singular and plural form)] that occur with *a/an* highly frequently.

Table M1. *Awareness*

Adj. + *awareness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
keen awareness	100.0%	31	0	31	0	31
acute awareness	94.3%	33	2	35	0	35

Table M3. *Knowledge*

Adj. + *knowledge*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
working knowledge	91.0%	121	12	133	0	133
thorough knowledge	80.0%	48	12	60	0	60

Table M5. *Recognition*

Adj. + *recognition*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
clear recognition	80.6%	25	6	31	0	31

Table M6. *Understanding*

Adj. + *understanding*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
thorough understanding	98.6%	68	1	69	0	69
clearer understanding	97.9%	93	2	95	0	95
keen understanding	97.5%	39	1	40	0	40
clear understanding	97.0%	296	9	305	0	305
good understanding	95.5%	276	13	289	0	289
fuller understanding	95.0%	38	2	40	0	40
profound understanding	91.7%	33	3	36	0	36
sophisticated understanding	91.7%	33	3	36	1	37
deeper understanding	91.3%	188	18	206	2	208
better understanding	90.9%	954	96	1050	5	1055

For example, Table M3 shows that *working knowledge* and *thorough knowledge* occur with *a/an* far more frequently than with ø (91.0% and 80.0% of *a/an* and ø combined respectively). This suggests that *knowledge* is likely to occur with *a/an* when it refers to a particular level of practical understanding or skill of something. According to the OED, *knowledge* in the sense of practical understanding or skill in a particular subject frequently occurs with *a/an*. The *Oxford English Dictionary* (OED) states as follows:

> 6. a. Chiefly with *of*. The fact or condition of having acquired a practical understanding or command of, or competence or skill in, a particular subject, language, etc., esp. through instruction, study, or practice; skill or expertise acquired in a particular subject, etc., through learning. Frequently with indefinite article.

This applies to *awareness*, *recognition* and *understanding* as well. As discussed in Chapter 8 (Section 8.3.1), the combinations of evaluative adjectives and some mental activity nouns seem to be connected to a high frequency of *a/an*. The following are examples of *awareness*, *knowledge*, *recognition* and *understanding* modified by

evaluative adjectives (66–69).

66) Larner's conclusions are the most disappointing of all, for she had **a keen awareness** of how the oppression of women works in history.
67) Archives is searching for a part-time volunteer Archivist. Applicants must have professional archive training, SAA certification preferred. **A working knowledge** of gay and lesbian history is required.
68) From my experience of working in Singapore and Hong Kong, there is **a clear recognition** of the need to continue investing in the city's infrastructure — and the political will to see it carried out.
69) Even so, no programme of inbreeding should be commenced until the breeder has **a thorough understanding** of the subject.

The other two mental activity nouns, *consciousness* and *perception*, do not occur with evaluative adjectives very often. As shown in Table M2 (*consciousness*) and Table M4 (*perception*) in Appendix, there is no combination with evaluative adjectives. It is not known why these two nouns do not occur with evaluative adjectives very often.

It should be noted here that evaluative adjectives per se do not have a direct connection with the use of *a/an*. For example, *working knowledge*, which occurs with *a/an* highly frequently, combines with ø when it is used in the generic sense (i.e. a type of knowledge in general) as in the following example (70).

70) The rapid growth of computer technologies and other changes in the workplace challenge these traditional conceptions of **working knowledge** and their associated means to prepare workers. (COCA)

There are very few occurrences of *working knowledge* with ø as shown in Table M3 (12

occurrences out of 133), but it combines with ø when it denotes working knowledge in general.

9.3.3. Summary of the findings on mental activity nouns and count readings

Table 9.3 shows that four nouns (*awareness, perception*, *recognition*, *understanding*) among the six mental activity nouns acquire a count reading when they refer to a point of view (marked with '✓').

Table 9.3. Count readings of mental activity nouns

Count Reading	*awareness*	*consciousness*	*knowledge*	*perception*	*recognition*	*understanding*
viewpoint	✓	*a/an*	*a/an*	✓	✓	✓

Two nouns, *consciousness* and *knowledge*, combine with *a/an*, but they do not occur in the plural form to refer to more than one point of view. *Knowledge* is different from the other five nouns in that it occurs with ø far more frequently than *a/an* in the [*knowledge* + Subordinator *that* + Content Clause] construction. *Knowledge* is more likely to combine with *a/an* than with ø when it refers to a particular level of practical understanding or skill of something. This applies to three other nouns: *awareness*, *recognition* and *understanding*, but not to *consciousness* and *perception*.

9.4. Quality nouns and count readings

Quality nouns denote a quality of a person as part of his or her character, with which the person acts and behaves. Quality nouns often occur in the [Subject NP + Verb + (Object) + *with* + Quality Noun] construction as in *She approached the photo album with curiosity*

and *Winston listened to his friend with patience*.

The fifteen quality nouns can be grouped into the following two types: Q-II (Quality nouns of Type II) and Q-III (Quality nouns of Type III). Nouns of the Q-II Type are noncount but may admit *a/an*, and nouns of the Q-III Type have both a count and a noncount use.

Q-II: *courage, honesty, impatience, patience, shyness, sincerity*

Q-III: *cruelty, curiosity, determination, generosity, intelligence, intolerance, kindness, sensitivity*, *tolerance*

Types of count readings available for quality nouns vary widely, and there seem to be no general rules that can explain the circumstances under which quality nouns acquire count readings.

9.4.1. Various count readings of quality nouns

Various count readings are available for quality nouns. This section examines the conditions that motivate count readings of quality nouns of Type Q-III. Four out of the nine quality nouns of Type Q-III (*cruelty, determination, generosity, kindness*) acquire a count reading when they refer to an act that is performed with the quality of cruelty, generosity, etc. The following (71–78) is a list of example sentences with these four nouns. Each noun has two example sentences with a noun in the forms of *a*N and N*s*.

cruelty

71) To keep animals so similar to ourselves in laboratory conditions is **an**

unacceptable cruelty.

72) In point of fact the Nazi regime was responsible for **many cruelties** against non-humans.

In the above examples of *cruelty*, *an unacceptable cruelty* (71) refers to an act of keeping animals in laboratory conditions, and *many cruelties* in (72) refers to more than one act of cruelty committed against non-humans. The same analysis applies to the other three nouns listed below (73–78): *determination, generosity, kindness*.

determination

73) And as the President indicated, I have not made **a determination** about the best way to achieve our mission of removing the threat that Saddam Hussein poses.

74) The White House said Wednesday that President Bush's blueprint for peace in the Middle East is the best formula, but left the door open for Secretary of State Colin Powell to meet later this week with those who drafted an alternate plan. "The secretary of state will make **determinations** about who he meets with," presidential spokesman Scott McClellan said.

generosity

75) Sharing such information with a guide who makes his living off photographers was **a generosity** I never expected.

76) Finally, a sabbatical award from the James McKeen Cattell Fund for 1992-93 permitted me to finish this book free of academic responsibilities. Without **these many generosities**, this section of my imperfect mural would have remained untouched.

kindness

77) It's not uncommon for a complete stranger to extend **a kindness** quite gratuitously. Whether it be opening a door, quickly getting out the way of my wheelchair, or helping me get into a seat; assistance is usually at hand.

78) Thank you for your **many kindnesses**.

Unlike the above four nouns, the count use of *intolerance* in the sense of unwillingness to tolerate something is rare, but *the ferocious intolerances* in (79) might be interpreted as referring to acts of intolerance.

intolerance

79) The belief in the historical and authentic truth of the scriptures, particularly the Gospels, has been largely abandoned, even by the religious. **The ferocious intolerances** of the pre-liberal world have been left behind — it is inconceivable now that a Henry Barrow would be executed, or a Henry Garnet, or that the Scrooby Separatists would have been forced to leave home and country — and perhaps as a result of that change, perhaps as a symptom, religion, or at least the conventional religion of ordinary people, has been drained of its passion.

Curiosity is count when it refers to an object that arouses curiosity (80–81) or to the feeling of curiosity that is aroused by a particular cause (82–83). These count readings of *curiosity* are similar to those of emotion nouns such as *fear* and *worry*. It may be appropriate to place *curiosity* in the group of emotion nouns, since *curiosity* can be classified as a type of emotion.

curiosity

(An object that arouses curiosity)

80) Traditionally to be unmarried was to be a circus freak, a divorced man was **a curiosity** and a divorcee was viewed as a painted Jezebel.

81) The mantelpieces and windowsills are adorned with **curiosities**: a kangaroo foot mounted in silver on a block of pink marble, a copy of Canova's bust of Napoleon […].

(The feeling of curiosity aroused by a particular cause)

82) As a Cornishman, I have long felt **a personal curiosity** about these legends.

83) We therefore must keep the space program operational in order to keep alive mankind's infinite quest for knowledge and its unending pursuit to unlock the mysteries of the universe. Our insatiable desire to satisfy **our curiosities** is even greater than our fear of death.

Intelligence is count when it refers to a person or a life form with intelligence as in the following examples (84–85).

intelligence

84) One might say that as an astronomer Plato was little more than a straw in the wind, were it not that, having eloquently insisted that the Universe operates according to mathematical laws that can only be understood by **a properly trained intelligence**, he helped to create an entire educational climate favourable to the subject.
85) From that fact it follows that we shall never make contact with **intelligences** in space that are more advanced than us.

Sensitivity is noncount in the sense of the ability to understand other people's feelings and problems as in (86), while it can be used as count in the sense of being hypersensitive, i.e. the quality of being easily affected by something as in (87–88). *Tolerance* is noncount in the sense of the willingness to accept something or someone as in (89), while it is count when it denotes the capacity to endure hardship or pain, i.e. the degree to which someone can accept a bad or difficult situation as in (90–91).

sensitivity

86) I suggest that you approach this delicate issue with **sensitivity** and honesty.
87) My eyes have developed **a sensitivity** to cold air or wind.
88) He believes food and chemical **sensitivities** play a huge part in triggering off migraines, and that more commonly eaten food such as wheat, milk and eggs are

more often to blame.

tolerance

89) The Pope is appealing for **greater religious tolerance** and reconciliation between the different communities in Bosnia-Herzegovina.

90) Mosaid, analysts say, is a highly speculative stock that suits investors with **a high tolerance** for risk.

91) At McArthur River, Mr. Grandey learned the pressure of dealing with a crisis that was not a one-time event, but continued day after day. Every morning, there was a new report on how many inches the water had risen or fallen. One discovery was that people had **different tolerances** for this incessant stress.

9.4.2. Summary of the findings on quality nouns and count readings

Count readings available for quality nouns vary from noun to noun. In Table 9.4, available count readings are marked with ✓. It is difficult to propose a general rule that can explain the conditions that motivate count readings.

Table 9.4. Count readings of quality nouns

Count Readings	act	cause	life form	hypersensitivity	capacity to endure
courage					
cruelty	✓				
curiosity		✓			
determination	✓				
generosity	✓				
honesty					
impatience					
intelligence			✓		
intolerance	?				
kindness	✓				
patience					
sensitivity				✓	
shyness					
sincerity					
tolerance					✓

Some quality nouns such as *cruelty* and *generosity* acquire a count reading when they refer to an act that is performed with the quality (of cruelty, generosity, etc.). Count readings of other quality nouns vary from noun to noun. There seem to be no general rules that apply to many of the quality nouns. Quality nouns may need to be further classified into narrower semantic groups to explore the conditions that motivate count readings.

9.5. State nouns and count readings

State nouns denote a state of affairs. For example, *peace* denotes the state in which there is no war or fighting. The fifteen state nouns can be grouped into the following two types: S-II (State nouns of Type II) and S-III (State nouns of Type III). Nouns of the S-II Type are noncount but may admit *a/an*, and nouns of the S-III Type have both a count and a noncount use.

S-II: *dependence, health, independence, peace, poverty, unemployment*

S-III: *absence, confusion, freedom, illness, marriage, presence, silence, sleep, war*

Nouns of the Type S-II have no or very few occurrences in the plural form. *Independence* and *unemployment* have no occurrence in the plural form. *Dependence* has only one occurrence. *Poverty* has two occurrences, and *peace* has four occurrences. *Health* has six occurrences in the verb phrase [*to drink* + *health*] as in *They began to drink healths to one another*. These six nouns are placed in the group of Type II nouns. The other nine nouns are placed in the group of Type III.

9.5.1. Event reading of state nouns

State nouns can be conceptualized in temporal space, and they can acquire a count reading when a referent is construed as bounded in time and its boundedness is emphasized. The nouns of the S-II type generally denote a state that is expected to continue for a long period of time except *unemployment*, while the nouns of the S-III type generally denote a state that comes to an end after a relatively short period of time except *freedom* and perhaps *marriage*. S-II type nouns such as *health* and *peace* are noncount probably because they are considered a natural state, which is unbounded in time. S-III type nouns such as *illness* and *war* have both a count and a noncount use. They are count when they acquire an event reading, i.e. when a referent is construed as bounded in time. In real life, a state of war may continue for more than a hundred years, and a state of peace may continue for only a short period of time.

Among the nine nouns of the S-III type, six nouns acquire an event reading (*absence*,

*illnes*s, *marriage*, *silence*, *sleep*, *war*), while the other three nouns do not (*confusion, freedom, presence*). The following is a list of example sentences with the six nouns (92–109) that acquire a count reading when they refer to a temporally bounded event (i.e. event reading). Each noun has three example sentences with a noun in the forms of øN, *a*N and N*s*.

absence

92) Then, when the trial finally began, it was found that only 68 of the 135 commissioners were present. **Absence** was a form of mute protest.
93) After **a long absence** from the stage, John Arden's Sgt Musgrave's Dance was staged last year by the Oxford Theatre Company.
94) Codey has called Martinez to Trenton to explain her **15 absences**.

Ø *absence* in (92) denotes the general state of not being in the place, and it is irrelevant whether a referent is bounded or unbounded in time. *A long absence* in (93) refers to a period of being absent, which is bounded in time. *15 absences* in (94) refers to a period of being absent that occur on fifteen different occasions. The same analysis applies to the other five nouns listed below: *illness, marriage, silence, sleep* and *war* in (95–109).

illness

95) I have had two weeks off work due to **illness** in my entire professional life.
96) At 10 pm he became quieter, and at 11.30 pm, after **an illness** of only two days, the great man died.
97) On my mother's block of 18 houses, four young people had been buried in the past six months. They all died after **long illnesses**.

marriage

98) Kidman divorced Tom Cruise, after 10 years of **marriage**.

99) Peter and Kay Russell met as teenagers and have enjoyed **a long marriage**.

100) John Paul also has three children from **two previous marriages**.

silence

101) In children, **silence** is a common reaction to uncertainty.

102) There was **a silence**. Quite **a long silence**. Then his voice came through again.

103) Don't feel obliged to fill **silences** with anything that comes into your head — you might lose control of your argument.

sleep

104) This research confirms other studies of children and adolescents that show the same relationship between **sleep** and obesity.

105) Pausing before getting the boys dressed. They had **a long sleep** and I made good progress with the ironing.

106) **Four two-hour sleeps** is not equal to **one eight-hour sleep.**

war

107) Hitler declared **war** against the United States.

108) Regardless of whether people support or oppose war in Iraq, everyone should hope it's over quickly, because **a short war** means fewer lives lost — and less damage to the environment.

109) After **three wars** in 70 years between 1870 and 1939, France and Germany are at peace.

These six nouns acquire a count reading when they refer to an event, i.e. when they are construed as temporally bounded. On the other hand, the other three nouns (*confusion*, *presence*, *freedom*) do not acquire an event reading. *Confusion* and *presence* denote a state that comes to an end after a while, and they are expected to acquire a count reading in temporal space, but they do not.

The Bank of English was searched for *confusion* that occur in the [*after* + (up to three words) + Noun (singular form)] construction to examine if *confusion* acquires a count reading in temporal space. It is assumed that the preposition *after* indicates a sequence of

events and one event occurs after another. The frequency of occurrence of *confusion* with *a/an* is compared with that of *silence*, which has an event reading available (i.e. a temporally bounded reading). Table 9.5 compares the numbers of occurrences of *confusion* and *silence* in the [*after* + (up to three words) + Noun (singular form)] construction.

Table 9.5. *Confusion* and *silence* in [*after* + Noun]

	confusion	*silence*
after + (determiner, etc.) + NP	78	376
after a/an + NP	1	149
a/an %	1.28%	39.63%

Confusion has a total of 78 occurrences in this construction, among which there is only one occurrence with *a/an* (*after a small confusion*), i.e. 1.28%. *Silence* has a total of 376 occurrences in this construction, among which there are 149 occurrences with *a/an*, i.e. 39.63%. There is no occurrence of *confusions* in the plural form in the [*after* + (up to three words) + Noun (plural form)] construction, while there are three occurrences of *silences* in the plural form (e.g. *After the initial awkward silences*). These findings indicate that *confusion* is unlikely to acquire a count reading in temporal space. When *confusion* is construed as bounded in time, classifiers such as *a period of* and *a moment of* are used (e.g. *after a moment/a period of confusion*).

Confusion denotes the state of being confused in general as in (110), and it acquires a count reading when it refers to a state of being confused that is developed by a particular cause as in (111–112).

confusion

110) There was **great confusion**, the trip was unscheduled, nobody knew what was going on and the French Commanding Officer was doing his best to sort out the situation.

111) There is at the moment **a great confusion** between the two issues — the European issue and internal politics.

112) **Other common confusions** include *pedal* and *peddle*, *draw* and *drawer*, *compliment* and *complement* and *their*, *there* and *they're*.

A great confusion in (111) and *other common confusions* in (112) refer to the confusion (or confusions) that is developed by a particular cause (or causes): the two issues in (111) and *pedal* and *peddle*, *draw* and *drawer*, etc. in (112). This behavior of *confusion* is similar to that of emotion nouns such as *fear* and *worry*.

Presence denotes the state of being in a particular place as in (113). It is singular when it refers to a group of people (especially soldiers) as in (114), and it is count when it refers to a person or a spirit that cannot be seen as in (115) and (116).

presence

113) **Presence** of the virus was strongly associated with female sex and younger age.

114) Unless President Aquino can win more support, almost one hundred years of **an American military presence** in the Philippines might come to an end.

115) He was conscious of **four familiar presences** standing with him in the shadows beside the wall.

116) I become aware of the souls of those I slayed, **their presences**; all equally strong because all equally important.

Freedom denotes the state of being free as in (117), and it does not acquire a count reading in temporal space, probably because freedom is not generally considered bounded

in time. *Freedom* can be used as count when it refers to the right to do something as in (118–119).

freedom

117) China has discovered that **economic freedom** leads to national wealth.
118) What we have tried to do is to say that there should be **a freedom** to think and report what you discover without fear of losing your career.
119) Cubans are denied due process of law. They are denied privacy rights and the **freedoms** of speech, press, assembly, and association.

As the example sentences (110–119) show, some state nouns such as *confusion*, *presence* and *freedom* do not acquire an event reading. Instead, they acquire various other count readings. *Confusion* is count when it refers to a state of being confused that is developed by a particular cause. *Presence* is count when it refers to a person or a spirit that cannot be seen. *Freedom* is count when it refers to the right to do something. It is difficult to predict the types of count readings available for some nouns such as *confusion*, which does not acquire an event reading even though it is expected to.

9.5.2. Type reading of state nouns

Some state nouns such as *illness* may acquire a count reading when they refer to a type (or types) as in the following examples (120–121).

120) Her parents Peter and Julie claim her weight problem is due to **an illness**.
121) WHO listed **17 illnesses**, ranging from Alzheimer's to tuberculosis to alcoholic liver disease, which need urgent attention.

An illness in (120) and *17 illnesses* in (121) refer to a type (or types) of illness. In the same way, some other sate nouns such as *freedom*, *marriage*, *poverty*, *silence*, *sleep* and *war* acquire a count reading when they refer to a type (or types) as in the following examples (122–131).

freedom

122) Dropping out of education can seem like **a wonderful freedom** to a sixteen-year-old.

123) The child raised in the countryside will have **different freedoms** and different limitations to a child raised in an inner city area. (WordbanksOnline)

marriage

S8) I believe **peer marriage** — **a marriage** founded on the principle of equality and supported by shared roles and a greater chance of shared sensibilities — is an adaptation in the direction of greater family stability rather than instability. (Martin King Whyte (Ed.) 2000. *Marriage in America: A Communitarian Perspective*, via Google Books)

124) Other research confirms that marital interaction may be more important to women's well-being than men's. According to the sociologist Jessie Bernard, husbands and wives experience **different marriages**, and these differences are evident in our study. Both the husbands and wives got happiness from their spouse, but they got it in different ways.

poverty

125) Here you have a different kind of poverty — **a poverty** of the spirit, of loneliness, and of being unwanted.

126) Michael Harrington once wrote that we should not talk about "poverty," but about **poverties**. He meant that there are so many ways of being poor that no single description or analysis can apply to them all. (*Mother Jones Magazine*, July/August 1992, via Google Books)

silence

127) Imagine entering the library. There seems something particular to the silence of a

library: it is **a silence** that does not belong to gas stations or hospitals or record stores, for instance, although it could be confused with **other silences**: Dennis the Menace distinguishes the quiet of the city bus he is in from the noisiness of a school bus and thinks he must be in a library bus. (Marianne Constable. 2005. *Just Silences: The Limits and Possibilities of Modern Law*, via Google Books)

sleep

128) Here I remind the reader that the winter-sleep is **a sleep** almost in name only, since it is not an inactivity of the brain alone, but of the whole organism, and so a kind of suspended animation. (Arthur Schopenhauer. 1966. *The World as Will and Representation*, Vol 2, via Google Books)

129) These vastly **different sleeps** are all variations of what Fitbit calls sleep quality, which is an overall measure of how well you sleep. (Paul McFedries. 2019. *Fitbit For Dummies*, via Google Books)

war

130) *Good Morning America* stated that this was "a very different kind of war, **a war** on terrorism, **a war** with no end in sight." (Jim A. Kuypers. *Bush's War*, via Google Books)

131) The United States would be capable of fighting a variety of **different wars**, from the conventional upwards, reacting to enemy aggression at the same level.

The state nouns in the above examples (120–131) are conceptualized in type space. They occur with *a/an* when they refer to a type, and they occur in the plural form when they refer to more than one type. Nouns in other semantic groups may acquire a count reading in type space as well. Some emotion nouns such as *fear* and some mental activity nouns such as *awareness* acquire a type reading as in the following examples (132–135).

fear

132) So, we're talking about a particular kind of fear, **a fear** you want to overcome. You're afraid of flying, and yet, you want to fly. (David Carbonel. 2017. *Fear of Flying Workbook*, via Google Books)

133) Women have a tendency to underestimate their achievements and abilities and are held back in their professional growth by **fears** such as fear of failure, fear of criticism, fear of taking risks, and even fear of winning or being successful.

awareness

134) Emotions are a certain kind of mental awareness: **an awareness** of bodily changes. (David Sander and Klaus Scherer (Ed.). 2009. *Oxford Companion to Emotion and the Affective Sciences*, via Google Books)

135) Where the Greeks and their legatees have assumed only one mind equipped with senses and the ability to reflect, the Hindus have assumed as given **four coequal awarenesses**: through the body, through the mind, through the higher consciousness of self, and from a source beyond the phenomenal world of Maya.

A fear in (132) refers to a type of fear that someone wants to overcome, and *fears* in (133) refers to different types of fear such as fear of failure and fear of criticism. *An awareness* in (134) refers to a type of mental awareness, and *awarenesses* in (135) refers to various types of awareness such as awareness through the body and awareness through the mind.

It is not certain how far the type reading may apply. Some typical noncount nouns such as *music* and *health* may combine with *a/an* when they refer to a type, and they can be pluralized when they refer to more than one type as in (136–139).

136) But he is fascinated by a wider definition of harmony and rhythm, using his classical education yet producing **a music** that trembles with the spontaneity that is jazz's distinguishing feature.

137) Commonly we tend to identify music with melody; but this equation is invalid, since whole areas of music are constructed from quasi-nonpitched or complexly structured sounds. Even where melodic music is concerned, we can recognize **many musics** of the world, from many different historic periods, on hearing a specimen of no more than a few seconds' duration — at times even less. (Peter Fletcher. 2004. *World Musics in Context: A Comprehensive Survey of the World's*

Major Musical Cultures, via Google Books)

138) Thus, all in all, Miss H. has done well — amazingly so, considering the existence she has led. Against all odds, Miss H. has always managed to be a real *person* and to face reality without denial or madness. She draws on a strength unfathomable to me, **a health** which is deeper than the depth of her illness. (Oliver Sacks. 1973. *Awakenings*, via Google Books)

139) For there is no health as such, and all attempts to define a thing that way have been wretched failures. Even the determination of what is healthy for your body depends on your goal, your horizon, your energies, your impulses, your errors, and above all on the ideals and phantasms of your soul. Thus there are innumerable **healths** of the body. (Nietzsche. *The Gay Science*, via Google Books)

These examples of *music* and *health* may not represent common usage, but they show that abstract nouns can acquire a count reading when a referent is construed as bounded in type space. It may not be advisable to teach the type reading of ANNs to L2 learners of basic and intermediate levels, since the established ways such as *a type of* and *types of* are available.

9.5.3. Summary of the findings on state nouns and count readings

Various count readings are available for state nouns as shown in Table 9.6, and it is difficult to propose a general rule that can explain the conditions that motivate count readings.

Table 9.6. Count readings of state nouns

Count Readings	event	type	a state that is developed by a particular cause	right to do something	a group of people
absence	✓				
confusion			✓		
dependence					
freedom		✓		✓	
health					
illness	✓	✓			
independence					
marriage	✓	✓			
peace					
poverty		✓			
presence					✓
silence	✓	✓			
sleep	✓	✓			
unemployment					
war	✓	✓			

The nouns of the S-III type except *freedom* (and perhaps *marriage*) denote a state that comes to an end after a relatively short period of time, and they are expected to acquire a count reading in temporal space. Six nouns acquire a count reading when they refer to a temporally bounded event (*absence*, *illness*, *marriage*, *silence*, *sleep*, *war*), whereas three nouns do not (*confusion*, *freedom*, *presence*). *Confusion* acquires a count reading when it refers to a state of being confused that is developed by a particular cause. *Presence* is count when it refers to a person or a spirit that cannot be seen. *Freedom* can be used as count when it refers to the right to do something. Seven nouns acquire a count reading when they refer to a type (*freedom*, *illness*, *marriage*, *poverty*, *silence*, *sleep*, *war*). Some typical noncount nouns such as *music* and *health* may acquire a count reading when they

refer to a type, but it is not certain how far the type reading may apply.

9.6. Summary of the findings and discussion

There are various count readings available for abstract nouns of the Type III, which have both a count and a noncount use. Table 9.7 shows the count readings that are available for the fifty-one abstract nouns in the four semantic groups.

Table 9.7. Count readings of abstract nouns in four semantic groups

Type of Noun	Nouns	Count Readings						
		Type	Cause	Something developed by a particular cause	Event	View -point	Act	Other types of count readings
EMOTION	*anger*			✓				
	anxiety		✓	✓				
	comfort		✓					
	fear	✓	✓	✓				
	happiness		✓					
	hatred			✓				
	hope		✓	✓				
	joy		✓	✓				
	love		✓					
	pleasure		✓	✓				
	sadness		✓					
	sorrow		✓	✓				
	surprise		✓					
	sympathy							
	worry		✓	✓				
MENTAL	*awareness*	✓				✓		
	consciousness					*a/an*		
	knowledge					*a/an*		
	perception					✓		
	recognition					✓		
	understanding					✓		
QUALITY	*courage*							

	cruelty						✓	
	curiosity		✓					
	determination						✓	
	generosity						✓	
	honesty							
	impatience							
	intelligence							a life form
	intolerance						?	
	kindness						✓	
	patience							
	sensitivity							hyper-sensitivity
	shyness							
	sincerity							
	tolerance							capacity to endure
STATE	*absence*				✓			
	confusion			✓				
	dependence							
	freedom	✓						right to do something
	health							
	illness	✓			✓			
	independence							
	marriage	✓			✓			
	peace							
	poverty	✓						
	presence							a group of people
	silence	✓			✓			
	sleep	✓			✓			
	unemployment							
	war	✓			✓			

Table 9.7 shows that not all the nouns in the same semantic group share the same type of count reading. Regarding the count use of emotion nouns, many, but not all, emotion nouns acquire a count reading when they refer to a cause that arouses the emotion or when they refer to the feeling that is aroused by a particular cause. Regarding the count use of

mental activity nouns, all of the six mental activity nouns occur with *a/an* when they refer to a particular point of view. Among them, four nouns acquire a count reading (*awareness, perception*, *recognition*, *understanding*), and they can be pluralized to refer to more than one viewpoint.

Regarding the count use of quality nouns, there are various count readings available. Some quality nouns such as *cruelty* and *generosity* acquire a count reading when they refer to an act that is performed with the quality (of cruelty, generosity, etc.). *Curiosity* is count when it refers to an object that arouses curiosity or when it refers to the feeling of curiosity that is aroused by a particular cause. *Intelligence* is count in the sense of a person or a life form with intelligence. *Sensitivity* is count in the sense of hypersensitivity. *Tolerance* is count in the sense of the capacity to endure hardship or pain.

Regarding the count use of state nouns, many, but not all, state nouns acquire a count reading when they refer to an event, i.e. when a referent is construed as being bounded in temporal space. Some nouns such as *confusion* and *freedom* do not acquire a count reading in temporal space. It can be generalized that state nouns are noncount when they denote a state that is expected to continue for a long period of time (e.g. *peace*), while they can be used as either count or noncount when they denote a state that is expected to come to an end after a relatively short period of time (e.g. *silence*).

Nouns in different semantic groups may share the same count reading. For example, a quality noun *curiosity* is count when it refers to a cause in the same way as some emotion nouns such as *fear* and *worry* acquire a cause reading. It may be appropriate to place *curiosity* in the group of emotion nouns, since it is a type of feeling as well.

Emotion nouns, mental activity nouns and state nouns show a general tendency to acquire a count reading when they refer to a cause, a viewpoint and an event respectively.

On the other hand, count readings of quality nouns vary widely. From the findings in this chapter, tentative conclusions can be presented as follows.

1. Emotion nouns acquire a count reading when they refer to a cause that arouses the emotion or when they refer to the emotion that is aroused by a particular cause.
2. Mental activity nouns acquire a count reading when they refer to a particular point of view.
3. State nouns acquire a count reading when they refer to an event.

In order to examine these tentative conclusions further and to explore the conditions that motivate count readings of abstract nouns (i.e. the conditions that allow a singular form with *a/an* and a plural form), it is necessary to increase the number of abstract nouns to be examined. It is also necessary to examine the available count readings of those nouns that do not support the above conclusions.

PART III: PEDAGOGICAL IMPLICATIONS

Chapter 10

Implications for Dictionary Compilation

10.1. Introduction

The previous chapters explored the conditions that motivate the use of *a/an* with ANNs and that motivate count readings of abstract nouns that have both a count and a noncount use. The following are the findings: 1) The presence of a modifier per se is not correlated with a high frequency of *a/an*. 2) *A/an* can be used with ANNs when the individual, particular nature of a referent is emphasized, and an ANN with *a/an* (i.e. [*a/an* + noncount use]) refers to a type that has only one instance, which is distinguished from the generic reference or from other referents. 3) Various count readings are available for abstract nouns (e.g. type reading, event reading, cause reading, etc.), and emotion nouns, mental activity nouns and state nouns show a general tendency to acquire count readings when they refer to a cause, a viewpoint and an event respectively.

I have conducted the empirical investigations to develop practical guidelines that would help L2 learners to make an appropriate choice of NP forms (øN, *a*N or N*s*). L2 learners consult dictionaries to find practical guidelines about the C/NC distinction of nouns that tell them when to use øN, *a*N or N*s*. This chapter looks into the grammar labeling of C/NC distinction in seven learner's dictionaries and points out that dictionaries often fail to provide sufficient information about the C/NC distinction of abstract nouns. Then, based on the findings in the previous chapters, some revisions are proposed to make dictionaries and materials more helpful for L2 learners.

10.2. Count/noncount labeling in learner's dictionaries

This section addresses the following four issues with the grammar labeling of the C/NC distinction of nouns in learner's dictionaries. 1) Grammar labeling of the same noun often varies from dictionary to dictionary, i.e. lexicographers are often not unanimous on the count/noncount labeling of a noun (or a sense of a noun). 2) Dictionaries often label a noun (or a sense of a noun) as both count and noncount. 3) Dictionaries often fail to present illustrative sentences that help L2 learners to make an appropriate choice among the three basic NP forms: øN, *a*N or N*s*. 4) Dictionaries often fail to provide information about the types of count readings available for a noun (e.g. event reading, cause reading, etc.).

10.2.1. Different count/noncount labels for a noun in the same sense

Learner's dictionaries use basically four symbols to represent the countability of nouns: *Countable*, *Uncountable*, *Singular* and *Plural*. *Singular* means that a noun is not used in the plural form, and a noun requires a determiner such as *a/an* and *the*, which means that the noun can combine with *a/an*. COBUILD uses the symbol 'N-VAR' (variable noun) to represent those nouns that can be used as both count and noncount.[29] In the following tables, 'N-VAR' is replaced with 'U/C' (countable and uncountable).

Grammar labeling of the C/NC distinction of a noun (or a sense of a noun) often varies from dictionary to dictionary as shown in Tables 10.1–10.6. This is not limited to particular types of abstract nouns, but it can be found in various types of nouns: emotion

[29] Dictionary titles are abbreviated here. Refer to the reference section for their titles.

nouns (e.g. *anxiety*, *sympathy*) in Tables 10.1 and 10.2, mental activity nouns (e.g. *knowledge*) in Table 10.3, quality nouns (e.g. *generosity*) in Table 10.4, and state nouns (e.g. *confusion*, *freedom*) in Tables 10.5 and 10.6. Table 10.1 below is the case of *anxiety*.

Table 10.1. *Anxiety* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a worried feeling	U/C	U/C	U/C	U	U	U/P	U/C
2	something that makes you worry	C	N/A	N/A	C	C	N/A	N/A

U: Uncountable, C: Countable, U/C: Countable and Uncountable, P: Plural, S: Singular, N/A: Not Available.

Anxiety in the sense of a worried feeling is labeled as both 'C' (countable) and 'U' (uncountable) in four dictionaries (LAAD, LDOCE, OALD, MALED), while it is labeled as 'U' in two dictionaries (CALD, MEDAL), and as 'U' and 'P' (plural) in COBUILD. Table 10.2 below is the case of *sympathy*.

Table 10.2. *Sympathy* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a feeling of being sorry for someone in a bad situation	U	U/P	U/C/P	U	U	U	U/C
2	a feeling of support for something	U/P	U/P	U/C/P	U	U	U/P	U/P

Sympathy in the sense of a feeling of being sorry for someone is labeled as 'U' in four dictionaries (LAAD, CALD, MEDAL, COBUILD), 'U' and 'P' in LDOCE, 'U', 'C' and 'P' in OALD, and 'U' and 'C' in MALED. Table 10.3 below is the case of *knowledge*.

Table 10.3. *Knowledge* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	information, understanding, skill	U	U	U, S	U, S	U, S	U	U, S
2	state of having information	U	U	U	U	U		U

Knowledge in the sense of information, understanding and skill is labeled as 'U' and 'S' in four dictionaries (OALD, CALD, MEDAL, MALED), which means that *knowledge* can combine with *a/an*. On the other hand, *knowledge* is labeled as 'U' in three dictionaries (LAAD, LDOCE, COBUILD), which means that *knowledge* does not combine with *a/an*. However, LAAD, which labels *knowledge* as 'U', presents an example sentence with *knowledge* modified by *a/an*: *Most young people lack a basic knowledge about politics*.

A similar situation can be found in many other abstract nouns (e.g. *generosity*, *confusion*, *freedom*) as shown in the following tables (10.4–10.6).

Table 10.4. *Generosity* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	the quality of being generous	U/C	U	U/S	U	U	U	U

Table 10.5. *Confusion* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a state of not being certain about something	U	U/C	U/C	U/C	U	U/C	U/C
2	a situation in which someone mistakenly think that one person or thing is another	U	U/C	U/C		U/S	N/A	U

Table 10.6. *Freedom* and grammar labeling (same as Table 1.1 in Chapter 1)

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	the right to do what you want	U/C	U/C	U/C	C	U	U/P	C
2	the state of being free	U	U	U/S	U/C	U		U

As the tables 10.1–10.6 show, grammar labeling often varies from dictionary to dictionary, i.e. lexicographers are often not unanimous about the C/NC distinction of abstract nouns. This confuses L2 learners and EFL/ESL instructors who are not native speakers of English. Lexicographers should present illustrative sentences with a noun in the singular form with ø when they label the nouns as noncount, and with a noun in the singular form with *a/an* and in the plural form when they label the nouns as count. Then, they can check if they have labeled the noun properly.

10.2.2. Labeling a noun in the same sense as both count and noncount

When grammarians suggest using a dictionary to find if a noun is count or noncount, they seem to have concrete nouns in mind, and it is assumed that a noun (or a sense of a noun) is either count or noncount. This assumption applies very well to the C/NC distinction of concrete nouns, which is based on whether a referent is bounded or unbounded in physical

space. For example, *chicken* is count when it denotes a bird, while it is noncount when it denotes the meat of a chicken. With concrete nouns, a sense of a noun and its count or noncount use is directly connected in most cases. However, this assumption does not apply to abstract nouns very well. An abstract noun in the same sense is often used as both count and noncount as in the following examples of *noise* (1–3) and *silence* (4–6).

1) There was **noise** all around me, people coming and going.
(Keith Laumer. 2005. *Imperium*, via Google Books)
2) At the gate there is **a noise** of people coming and going.
(*The Sunday School Journal*, Vol. 22, via Google Books)
3) There were always **noises** of people coming and going.
(Émile C. Freeland. 1954. *Tales of a Sugar Tramp*, via Google Books)

Noise in (1–3) refers to a loud or unpleasant sound that comes from the people coming and going. Although used in the same sense, *noise* is used as both count and noncount. *Noise* occurs with ø in (1), with *a/an* in (2), and in the plural form in (3). In the same way, *silence* in the following examples (4–6) refers to a situation when nobody is speaking, and *silence* occurs with ø in (4), with *a/an* in (5), and in the plural form in (6).

4) Everyone stood in **stunned silence**.
(Calvin C. Clawson. 2009. *Buffalo Man*, via Google Books)
5) Everyone stood in **a stunned silence**.
(Jonathan Smith. 2019. *Electos: Sophomore Year*, via Google Books)
6) Everyone stood in **stunned silences**.
(Charles & Irene Nickerson. 2015. *The Empress Angelina's Quest*, via Google Books)

This is reflected in grammar labeling in dictionaries as shown in Tables 10.7 (*noise*) and

10.8 (*silence*).

Table 10.7. *Noise* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a loud or unpleasant sound	U/C	U/C	U/C	U/C	U/C	U	U

Table 10.8. *Silence* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	complete absence of sound or noise	U	U	U	U	U	U	U
2	a situation or period of time in which people do not talk	U/C	U/C	U/C	U/C	U/C	U/C	U/C

Table 10.7 shows that five dictionaries (out of seven) label *noise* in the sense of a loud or unpleasant sound as both count and noncount. Table 10.8 shows that seven dictionaries label *silence* in the sense of a situation in which people do not talk (Sense 2) as both count and noncount.

Many other abstract nouns such as *anxiety*, *fear*, *freedom* and *war* can be used as both count and noncount in the same sense. This is reflected in grammar labeling in dictionaries as shown in Tables 10.9 to 10.12.

Table 10.9. *Anxiety* and grammar labeling (partly cited from Table 10.1)

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a worried feeling	U/C	U/C	U/C	U	U	U/P	U/C

Table 10.10. *Fear* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a feeling of being afraid	U/C	U/C	U/C	U/C	U	U/C	U/C

Table 10.11. *Freedom* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	the right to do what you want	U/C	U/C	U/C	U/C	U	U/Pl	U

Table 10.12. *War* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	fighting between two or more countries or groups	U/C	U/C	U/C	U/C	U/C	U/C	U/C

Four dictionaries (LAAD, LDOCE, OALD, MALED) label *anxiety* in the sense of a worried feeling as both count and noncount. Six dictionaries (LAAD, LDOCE, OALD, CALD, COBUILD, MALED) label *fear* in the sense of a feeling of being afraid as both count and noncount. Four dictionaries label *freedom* in the sense of the right to do what you want as both count and noncount. Seven dictionaries label *war* in the sense of fighting between two groups as both count and noncount. This way of grammar labeling confuses L2 learners because there is no way to know when to use ø, *a/an* or the plural form. Lexicographers need to present illustrative sentences with a noun used as both count and noncount in contexts that clearly show the difference in meaning between the count and noncount use, or they should add some comment that tells how the count use and the noncount use differ in meaning with example sentences.

10.2.3. Illustrative sentences in learner's dictionaries

In addition to the confusing grammar labeling, dictionaries often fail to present illustrative sentences that clearly show the count or noncount use of a noun. If there are illustrative sentences with a noun used with ø, *a/an* and in the plural form, they may help L2 learners understand the C/NC distinction of the noun. The most important purpose of the grammar labeling is to show that a noun (or a sense of a noun) can be used with ø (øN), *a/an* (*a*N) or in the plural form (N*s*). Learner's dictionaries are expected to present illustrative sentences with øN when they label a noun (or a sense of a noun) as noncount, and with both *a*N and N*s* when they label it as count. However, dictionaries often fail to meet this expectation. Below is a case of *knowledge* in LAAD. Boldface is used for emphasis.

knowl·edge noun [uncountable]
the information and understanding that you have gained through learning or experience:
▪*scientific knowledge*
of
▪ *She has impressed people with her knowledge of art*.
about
▪ *Most young people lack **a basic knowledge** about politics*.

LAAD labels *knowledge* as 'Uncountable', but it presents an example sentence with *knowledge* modified by *a/an* (*a basic knowledge*). LAAD should label *knowledge* as *Singular* and *Uncountable*.

Another example is *anxiety*. LAAD, LDOCE, OALD and MALED label *anxiety* in the sense of a worried feeling as both 'U' and 'C' (see Table 10.9), but none of them presents an example of *anxiety* with *a/an*. For example, LAAD presents the following two illustrative sentences: *People's anxiety about the economy is increasing* and *Tom*

often has anxiety attacks. Neither of them shows whether *anxiety* is used as count or noncount.

Learner's dictionaries should make it a rule to present illustrative sentences in the form of øN when they label a noun (or a sense of a noun) as noncount, and in both *a*N and N*s* when they label it as count. That would be very helpful for L2 learners. It may be difficult in paper dictionaries to present many illustrative sentences because of the limited space. However, in electronic dictionaries or in online dictionaries, lexicographers could present as many illustrative sentences as they wish. Also, lexicographers could check if their grammar labeling is appropriate or not. For example, they should not label a noun as noncount if they do not present example sentences with a noun in the form of øN. In the same way, they should not label a noun as count if they do not present example sentences with a noun in *a*N and N*s*.

10.2.4. Information about the types of count readings available for a noun

In addition to appropriate grammar labeling and illustrative sentences, L2 learners need information about the types of count readings available for a noun as well as information about what motivates a count use of a noun that has both a count and noncount use in the same sense. For example, *fear* in the sense of a feeling of being afraid can be used as both count and noncount as shown in the following examples (cited from Section 9.2.2 in Chapter 9).

7) When their plane was forced by weather to stay overnight in El Salvador, a Salvadoran woman and a Guatemalan woman expressed **fear** that they'd be murdered by death squads if they deplaned.
8) However, the tenants on the two estates, who voted more than two-to-one against

the scheme, had expressed **a fear** that rents would have gone up under the new arrangements.

9) He expressed **two fears** about prison. One: Would he be given time alone each day to collect his thoughts? Two: Did they serve Pepsi?

In (7–9), *fear* is used with ø, *a/an,* and in the plural form respectively. *Fear* in the sense of a feeling of being afraid can be used as count when the focus is on the cause as the example (9) shows. In the sense of something bad that might happen (i.e. when *fear* refers to a source or a cause that arouses the feeling of fear), *fear* is count as in the following examples (cited from Section 9.2.1 in Chapter 9). *Fear* is used with *a/an* in (10) and in the plural form in (11).

10) Crime is **a constant fear**, especially in the cities.
11) Traffic and crime were **the greatest fears** for the 10- and 11-year-old children interviewed.

Fear also acquires a count reading when it refers to different types of fear as in the following examples (cited from Section 9.5.2 in Chapter 9).

12) Women have a tendency to underestimate their achievements and abilities and are held back in their professional growth by **fears** such as fear of failure, fear of criticism, fear of taking risks, and even fear of winning or being successful.

Table 10.13 shows how dictionaries label the two senses of *fear*: 1) a feeling of being afraid, 2) something bad that might happen. Only two dictionaries (LAAD and MEDAL) list the second sense, and none of them lists the type reading of *fear*.

Table 10.13. Two senses of *fear* and grammar labeling

Meaning		LAAD	LDOCE	OALD	CALD	MEDAL	COBUILD	MALED
1	a feeling of being afraid	U/C	U/C	U/C	U/C	U	U/C	U/C
2	something bad that might happen	U/C	N/A	N/A	N/A	C	N/A	N/A

Six dictionaries label *fear* in the sense of a feeling of being afraid (Sense 1) as both count and noncount. However, none of them provides information about what motivates the use of øN, *a*N and N*s* or presents illustrative sentences that clearly show when to use øN, *a*N and N*s*. As discussed in Chapter 9, it is difficult to find the definite conditions that cause *fear* in this sense to acquire a count reading. However, dictionaries could present an illustrative sentence such as *He has a fear of flying*. As found in Chapter 6, nouns that denote liking and disliking (e.g. *aversion, dislike, fear, fondness, love*) occur with *a/an* highly frequently in the [*to have* (*to take*) + (Adj) Noun + PP] construction. Unfortunately, only one dictionary (CALD) presents an illustrative sentence with *fear* in this construction: *I have a fear of heights*.

The second sense of *fear* is listed in only two dictionaries (LAAD, MEDAL). The other five dictionaries seem to include this sense in the first sense. For example, OALD has an illustrative sentence, *Alan spoke of his fears for the future* in the first sense, while LAAD has *What are your hopes and fears for the future?* in the second sense. Five dictionaries do not list the second sense, probably because they regard the two senses as a case of regular polysemy (count/noncount polysemy in this case), and they might consider that the second sense is predictable from the first sense. However, regular polysemy is language-specific (Goddard 2010: 159, Wierzbicka 1988: 522) and the

second sense should be listed in learner's dictionaries, since the secondary sense of an abstract noun is often not predictable (Huddleston et al. 2002: 337), particularly for L2 learners. Regular polysemy is discussed in the following section (10.2.5).

10.2.5. Secondary sense of regular polysemy and its predictability

Apresjan (1974:16) defines regular lexical polysemy as follows:

> Polysemy of a word A with the meaning a_i and a_j is called regular if, in the given language, there exists at least one other word B with the meaning b_i and b_j, which are semantically distinguished from each other in exactly the same way as a_i and a_j and if a_i and b_i, a_j and b_j are non-synonymous.

According to Apresjan, polysemy is regular if there are at least two words that share the same semantic extension pattern. If regular polysemy is so defined (i.e. at least two words), it is necessary to list a secondary sense for every word. The question is the actual degree of regularity in regular lexical polysemy. If a particular semantic extension pattern does not apply to most (or many) of the nouns of the same type, the secondary sense should be listed separately in dictionaries.

Murphy (2010: 89-90) illustrates regular polysemy with the examples of nouns with the container sense and the contents sense and nouns with the music sense and the dance sense as follows:

> A variety of polysemy that gets a fair amount of linguistic attention is **regular** (also called **systematic**) polysemy. This refers to word senses that are distinct, but which follow a general pattern or rule in the language. For example, words for containers can generally refer to both a kind of container and the contents of the container, as

can be seen in (19):

(19) **'container' sense**: I put some sand into a box/bottle/tin/canister.

'contents' sense: I dumped the whole box/bottle/tin/canister onto the floor.

The relation between the 'container' and 'contents' senses is completely regular, which is to say it is entirely predictable. If we invent a new kind of container, we can be certain that the name of the container will also be able to denote its contents in some situations. Other cases of regular polysemy can vary in their regularity, however. For instance, the names of dances can also name a piece of music that accompanies such dances for some cases, as shown in (20), but not so much for others, as in (21).

(20) I'd like to hear a salsa/tango/waltz.

(21) #I'd like to hear a break-dance/disco.

As shown by the case of nouns with the music sense and the dance sense, names of dances do not necessarily refer to a piece of music that accompany a particular type of dance. It is often difficult to predict the availability of a count reading of count/noncount polysemy and the types of count readings that are available for particular nouns.

Paired count and noncount senses of a noun may make a case of regular polysemy, and a secondary sense may be predictable from a primary sense (Huddleston et al. 2002: 336-337). For example, some nouns that denote drinks such as beer and coffee are primarily noncount, and they allow count interpretations when they refer to a serving (e.g. glass, bottle) and acquire a unit reading (i.e. a count reading). It is not very difficult for L2 learners to predict a count reading of drinks once they learn that drinks acquire a serving interpretation. In the same way, the foodstuff (or substance) interpretation of nouns that denote poultry such as chicken and turkey is predictable, and their noncount sense may not need individual listing. However, it is best to list secondary senses in dictionaries, since L2 learners are from diverse cultural back grounds, and what is expected to be predictable may turn out to be unpredictable for some learners.

With abstract nouns, it is far more difficult to predict a secondary sense of polysemy than with concrete nouns, because various types of count readings are available for abstract nouns. Some abstract nouns such as *injustice* allow a count reading when they refer to an individual event (i.e. event reading) as in *I feel guilty about an injustice I have done someone* and *He cared deeply about injustices and did his best to redress them* (Huddleston. 2002: 337). On the other hand, nouns such as *permission* does not allow an event reading.

Another example is emotion nouns. As discussed in Chapter 9, many emotion nouns such as *fear* and *worry* acquire a count reading when they refer to a cause (or a source) that arouses the emotion (e.g. *Money is a constant worry*). This semantic extension applies to other emotion nouns such as *joy, sadness* and *sorrow* (e.g. *Swimming is an absolute joy*, *Her passing is a sadness/sorrow*). However, it does not apply to some other emotion nouns such as *anger* and *hatred* (e.g. **His presence is an anger/a hatred*). The source reading does not work as systematically as the unit (or serving) reading of the concrete nouns that denote drinks.

The secondary sense (i.e. count reading) of abstract nouns varies from noun to noun. When the regularity of semantic extension varies, a secondary sense should be listed as a separate sense along with a primary sense in learner's dictionaries. With abstract nouns, a secondary count sense needs individual listing, perhaps except the type reading, which applies to a variety of nouns (refer to 9.5.2 in Chapter 9). Nouns often acquire a count reading when they refer to individual types as in *two of my favourite cheeses*. The type (or kind or variety) interpretation applies not only to concrete nouns but also to a wide variety of abstract nouns, and the type reading is predictable. For example, various types of abstract nouns such as emotion nouns (e.g. *fear*, *pleasure*), mental activity nouns (e.g.

consciousness, *perception*), quality nouns (e.g. *curiosity*, *intelligence*), and state nouns (e.g. *freedom*, *illness*) occur in the plural form to denote more than one type as in the following examples (13-22).

Emotion nouns

13) Children aged between 2 and 6 have an average of **four different fears**.
14) LL says he derives **different pleasures** from movies and music.
15) Many women worry about their figures at some stage in their lives. These are very **different worries** from the ingrained and unremitting self-doubts of women with bulimia.

Mental activity nouns

16) He grew up in the period of fusion politics, the united front of Asians and Afro-Caribbeans. That era is ending. Browns and blacks have different problems, **different consciousnesses**. Blacks, in time, can become Englishmen; after all, they share religion, political traditions, cultural assumptions. Muslims do not. (COCA)
17) And the patients have **different perceptions**. "Infertile women have been through so much therapy already, they have a different attitude. When told they have a 35 percent chance of having a baby, they find that incredible. But to a fertile woman, that figure is quite low, especially considering that [patients] have to pay $8,000 to $10,000 out of pocket," Carson says.

Quality nouns

18) Children have different responses to the approaches of a person called "father" and **different curiosities**, both about the man himself and about what they, as children, might become in relation to a man they do not yet know. (Gill Gorell Barnes. 2018. *Staying Attached: Fathers and Children in Troubled Times*, via Google Books)
19) Instead, say researchers, everyone has many **different intelligences**, but no two people have them in the same combination. (COCA)

State nouns

20) Different people value **different freedoms**.
21) Both her father and mother died from **different illnesses** about six years ago, and

Janatta and Dominque took care of them.

22) The United States would be capable of fighting a variety of **different wars**, from the conventional upwards, reacting to enemy aggression at the same level.

The type reading is predictable by a rule of semantic extension, and it may not need individual listing. However, it is necessary to teach in class that many abstract nouns acquire a count reading when they refer to individual types.

10.3. Learner-friendly descriptions of C/NC distinction

This section looks at how learner's dictionaries describe the C/NC distinction of *fear* and *silence*. Then, based on the findings in the previous chapters, some revisions are proposed to make the description of the C/NC distinction of abstract nouns more helpful for L2 learners, for example, providing information about when to use øN, *a*N and N*s*. Note that grammatical information other than C/NC distinction is not included.

10.3.1. The case of *fear*

The following is how LDOCE defines *fear*. LDOCE lists two senses for *fear*: 1) the feeling of being afraid, which is labeled as both count and noncount. 2) the possibility or danger that something bad might happen, which is labeled as noncount (e.g. *There's no fear of revolt now*). The second sense is not included here. LDOCE does not list a sense of something bad that might happen, i.e. something that arouses the feeling of fear.

1. [countable, uncountable] the feeling you get when you are afraid or worried that something bad is going to happen

fear of

a fear of flying

fear that

There are fears that share prices could decrease still further.

fear for

The girl's parents expressed fears for her safety.

in fear

The children looked at her in fear.

without fear

People must be able to express their views without fear of criticism.

LDOCE presents illustrative sentences with øN, *a*N and N*s*: two examples of *fear* with ø (*in fear*, *without fear*), one example of *fear* with *a/an* (*a fear of flying*), and two examples of *fear* in the plural form. However, these example sentences do not give information about the conditions that motivate the use of *a/an* and the plural form. For example, the NP, *fear of flying*, may combine with ø (e.g. *Fear of flying is quite common*, cited from LAAD) as well as with *a/an* (e.g. *He has a fear of flying*). As discussed in Chapter 6, *fear* occurs with *a/an* highly frequently, not because of a PP headed by *of*, but because of the combination of a verb *to have* and a PP headed by *of* (see Table 6.10 in Chapter 6). As an illustrative sentence to show that *fear* may combine with *a/an*, LDOCE should present a sentence with *fear* in the [*to have* + (Adj) *fear of*] construction. It might be a good idea to have both the verb *to have* and the preposition *of* in boldface to indicate that the use of *a/an* and the combination of the verb and the PP are strongly connected. Illustrative sentences such as *He* ***has a fear of*** *flying* and *I* ***have a fear of*** *heights* would give the information that *fear* combines with *a/an* when it denotes the feeling of fear that someone has about something in the [*to have* + (Adj) *fear of*] construction, while a sentence, *Fear of flying is quite common*, would give the information that *fear* combines

with ø when it denotes the feeling of fear in general (i.e. without individual nature).

The following is a revised version of *fear*. *Fear* is divided into the following two senses: 1. the feeling of being afraid; 2. a source or a cause that arouses the feeling of fear.

fear

1. [noncount, count] the feeling of being afraid

1 (a)

[noncount: the feeling of fear in general]

[øN] She was shaking with **fear**.

1 (b)

[count: the feeling of fear that an individual person (or a group of people) has about a particular cause or source]

[*a*N] One in five people has **a fear** of flying.

[Ns] (the feeling of fear that is aroused by more than one source or cause)

He expressed **two fears** about prison. One: Would he be given time alone each day to collect his thoughts? Two: Did they serve Pepsi?

COLLOCATIONS

[*to have* + *a/an* + (Adjective) + *fear of*]

She **has a fear of** heights.

He **has a fear of** flying.

I **have a great fear of** failure.

I **had a terrible fear of** going insane, of losing my reason.

GRAMMAR POINT

Fear occurs with *a/an* highly frequently in the [*to have* + (Adjective) + *fear of*] construction. This applies to many other nouns that denote liking and disliking such as *dislike*, *fondness*, and *love*.

1 (c)

[noncount, count: type of fear]

[øN: a type of fear in general]

Fear of flying is probably the second-biggest phobia, behind public speaking.

Fear of failure is one reason why many of us choose not to attempt goals.

Fear of snakes is the most common, followed by heights and flying, and then claustrophobia.

(Note: Ø is used to refer to a type of fear in general, especially established types such as fear of flying.)

[*a*N: a type (or an instance) of fear with a distinctive nature]

He stared and smiled, and I felt **a fear** I had never known before and have never known since.

[N*s*: more than one type of fear]

Women have a tendency to underestimate their achievements and abilities and are held back in their professional growth by **fears** such as **fear of failure**, **fear of criticism**, **fear of taking risks**, and even **fear of winning** or being successful.

2. [count] a source or a cause that arouses the feeling of fear

[*a*N] Crime is **a constant fear**, especially in the cities.

[N*s*] Traffic and crime were **the greatest fears** for the 10- and 11-year-old children interviewed.

But, as you can imagine, **many fears** were mentioned—incapacitating illness, the loss of a spouse, the death of a child.

In the first sense, *fear* has both a count and noncount use. *Fear* in this sense can be divided into three subgroups: (a), (b) and (c). 1(a) is noncount, and it denotes fear in general. 1(b) is count. *Fear* occurs with *a/an* when it refers to the fear that an individual person (or a group of people) has about a particular cause or source. The combination of *fear* and *a/an* occurs highly frequently in the [*to have + fear of*] construction. *Fear* in this sense may occur in the form of *a*N or N*s* depending on the number of sources (or causes) that arouse the feeling of fear. 1(c) has both a count and noncount use. *Fear* is noncount when it refers to a type of fear in general (e.g. fear of heights). It occurs with *a/an* when the distinctive nature of the fear is emphasized. *Fear* occurs in the plural form when it

refers to more than one type of fear. Note that ø is used to refer to a type of fear in general, especially established types such as fear of flying. *Fear* in the second sense is count, referring to a source (or sources) that arouses the feeling of fear.

10.3.2. The case of *silence*

The following is how LDOCE defines *silence*. Only the first two senses are cited here.

1. NO NOISE [uncountable] complete absence of sound or noise.
   silence of
   Nothing disturbed the silence of the night.
   silence falls/descends (on/upon something)
   After the explosion, an eerie silence fell upon the scene.
   break/shatter the silence
   A loud scream shattered the silence.
2. NO TALKING [countable, uncountable] complete quiet because nobody is talking.
   There was a brief silence before anyone answered.
   in silence
   The four men sat in silence.
   complete/total/dead silence
   'How long have you been here?' I asked. There was complete silence.
   'Silence in court!' roared the judge.
   embarrassed/awkward/stunned etc. silence
   There was an awkward silence between them.
   The accused exercised his right to silence (=the legal right to choose to say nothing).

Silence in Sense 1 is labeled as noncount. However, LDOCE presents no illustrative sentences with *silence* used with ø in the singular form. It presents an example of *silence* modified by *a/an*, *an eerie silence*, although it labels Sense 1 as 'Uncountable'. Sense 2

is labeled as both count and noncount. However, LDOCE presents no illustrative sentences with *silence* in the plural form. Also, it gives no information about the types of count readings available for *silence*. Judging from the two examples with *a/an*, *a brief silence before anyone answered* and *an awkward silence between them*, *silence* seems to acquire a count reading when it is construed as bounded in temporal space, i.e. interpreted as an event. It may be difficult for L2 learners to recognize from these two sentences that *silence* acquires a count reading when it refers to an event.

The following is a revised version of *silence*. Two senses are listed here: 1. a complete lack of noise or sound; 2. a situation when nobody is speaking.

silence

1. [noncount, singular] a complete lack of noise or sound

[noncount: silence in general]

[øN] I crossed the road to the well-worn dirt track leading to the mountains and in minutes the highway was gone, the bush closing in, no sound of vehicles, just **complete and utter silence** except for the faint murmur of water far away and the rustle of a small breeze shaking the leaves of the aspens.

[singular: a type (or an instance) of silence with a distinctive nature]

[*a*N] But there was something more awful: **a silence** that I have never experienced anywhere else, the perfect silence of the grave. (Honoré de Balzac. 1997. *Colonel Chabert*, via Google Books)

2. [noncount, count] a situation when nobody is speaking

[noncount: a general situation when nobody is speaking]

[øN] In children, **silence** is a common reaction to uncertainty.

[count: a period of time when no one speaks]

[*a*N] In Western societies, silence makes people uncomfortable. After five seconds, most people feel pressure to fill **a silence** by saying something. (Peter De Jong & Insoo Kim Berg. 2012. *Interviewing for Solutions*, via Google Books)

[N*s*: more than one period of silence]

Also, the timing and pace of your presentation is critical. Don't rush to fill **silences**. (COCA)

[N*s*: caused by more than one source: e.g. more than one person who lapses into silence]

Canine excrement, I have learned, is referred to only as "poop" by the dog people. I once made the mistake of using a more colorful term, and was met by **stunned silences** all around.

COLLOCATIONS

[*a/an* + Measurement Adjective + *silence*]

There was **a brief silence** for a moment and she started to tell him about her mum and dad.

There was **a long silence** while Ellis chose his words carefully.

After **a short silence** she spoke. "How long have you been travelling?"

Leger and Jody Carter placed wreaths in their honour during **a two minute silence**.

GRAMMAR POINT

Silence occurs with *a/an* highly frequently when it is modified by measurement adjectives such as *brief*, *long*, *short* and *two-minute*, which encourage a temporally bounded interpretation of a referent.

3. [noncount, count] type of silence (This applies to both Sense 1 and 2)

[øN: a type of silence in general]

We all just sat there in **absolute silence** wondering who would be next.

There was **complete silence** for quite a time after he had sat down.

[*a*N] There seems something particular to the silence of a library: it is **a silence** that does not belong to gas stations or hospitals or record stores, for instance, although it could be confused with **other silences**.

[N*s*] This is the gist of a short story by Heinrich Boll "Dr Murke's Collection of Silences". What sustains the story is the possibility of distinguishing between **different silences** in terms of their different significances. At the most extreme, and at this everyday empirical level, there is an obvious difference between **the silence** of someone who has not heard that he is being asked a question, **the**

silence of someone who does not know what to say, and **the silence** of someone who refuses to answer.

COLLOCATIONS

[ø + Emphasizing Adjective + *silence*]

There was **utter silence** in the room except for clocks ticking among the clutter.

"You're in love with my sister." For a moment there was **dead silence**. "Don't be silly," she said.

For a moment they stood in **total silence**, no one daring to move.

GRAMMAR POINT

Silence occurs with ø highly frequently when it is modified by emphasizing adjectives such as *absolute*, *complete*, *dead*, *total* and *utter*, which encourage a temporally unbounded interpretation of a referent.

In the first sense (a complete lack of noise or sound), *silence* is noncount and may combine with *a/an*. The noncount use (øN) is generic in meaning denoting silence in general, while the singular use (*a*N) emphasizes the distinctive nature of a type (or an instance) of silence. *Silence* in the second sense (a situation when nobody is speaking) has both a count and a noncount use. The noncount use (øN) is generic in meaning denoting a general situation when nobody is speaking, while the count use (*a*N and N*s*) refers to a period (or periods) of silence. The plural form may reflect the number of the sources of the silence, i.e. individual persons who lapse into silence, as in *stunned silences all around*. *Silence* in the type sense can be used as both count and noncount. *Silence* occurs with *a/an* highly frequently when it is modified by measurement adjectives such as *brief*, *long*, *short* and *two-minute*, which encourage a temporally bounded interpretation of a referent. *Silence* occurs with ø highly frequently when it is modified by emphasizing adjectives such as *absolute, complete, dead, total and utter*, which encourage a temporally unbounded interpretation of a referent.

These revised versions of *silence* and *fear* may still need to be improved, but they would help L2 learners to have a better understanding of the C/NC distinction of *fear* and *silence*. L2 learners would feel less confused in choosing an appropriate NP form: øN, *a*N or N*s*.

10.4. Summary

Regarding the C/NC distinction of abstract nouns, L2 learners expect to find the following information in learner's dictionaries: 1) whether a noun (or a sense of a noun) is count or noncount, 2) if a noun occurs with *a/an*, ø or in the plural form, 3) types of count readings available for a noun. Unfortunately, learner's dictionaries often fail to meet these expectations.

There are four problems with the grammar labeling of C/NC distinction in learner's dictionaries. 1) Grammar labeling of the same noun often varies from dictionary to dictionary. 2) Dictionaries often label a noun (or a sense of a noun) as both count and noncount. 3) Dictionaries often fail to present illustrative sentences that help L2 learners to make an appropriate choice among the three basic NP forms: øN, *a*N or N*s*. 4) Dictionaries often fail to provide information about the types of count readings available for a noun.

The following revisions are proposed to make learner's dictionaries more helpful for L2 learners to gain a better understanding of the C/NC distinction of abstract nouns. 1) Dictionaries should present illustrative sentences with a noun in øN when they label it as noncount, and with a noun in both *a*N and N*s* when they label it as count. 2) Dictionaries should mention the types of count readings available for a noun along with illustrative sentences that clearly show the types of count readings a noun acquires.

Chapter 11

Suggestions on How the C/NC Distinction of Abstract Nouns is Taught

11.1. Introduction

Regarding the C/NC distinction of English nouns, EFL/ESL textbooks focus on concrete nouns, and abstract nouns are often neglected (Amusie & Spinner 2012: 430). This is probably because the C/NC distinction of abstract nouns is semantically far more complex than that of concrete nouns (as discussed in Chapter 2). The notion of bounding makes a good criterion to distinguish between physical objects and substances, and it works very well to account for the C/NC distinction of concrete nouns. On the other hand, it does not work well to account for the C/NC distinction of abstract nouns, since abstract nouns provide no perceptual input. Also, domains of instantiation vary from noun to noun, and it is difficult to predict the domain in which a particular noun can be construed as being bounded. Based on the findings in the previous chapters, the following three points should make it easy for L2 learners to understand the complexity of the C/NC distinction of abstract nouns.

1. Abstract nouns can be grouped into four syntactic types based on their grammatical behavior (see Table 11.1 in Section 11.2 below)
2. *A/an* gives the meaning of individuation. *A/an* is used with abstract noncount nouns to emphasize the particular, individual nature of a referent.
3. Many abstract nouns can be used as both count and noncount, and types of count readings available for each noun vary.

11.2. Four syntactic types of nouns and C/NC distinction

In teaching the C/NC distinction of abstract nouns, it is advisable to divide abstract nouns into four syntactic types (Type I–IV) as shown in Table 11.1 to make it easy for L2 learners to recognize the noun forms (øN, *a*N or N*s*) that are available for each group of nouns. (Table 11.1 is a tentative list, and the choice of nouns in each type needs to be further scrutinized.)

Table 11.1. Four syntactic types of abstract nouns

	Noun Form	Examples of Nouns
Type I	øN	*advice, electricity, evidence, fun, homework, information, luck, news, patience, permission, research, scenery, slang, traffic, travel.*
Type II	øN, *a*N	*air, abundance, courage, distrust, fluency, fondness, fuss, hurry, knowledge, lack, likelihood, perfection, pride, readiness, recognition, reliance, relief, resistance, respect, retirement, rush, surrender, willingness.*
Type III	øN, *a*N, N*s*	*ability, absence, action, addiction, admission, adoption, advantage, age, ambiguity, ambition, analysis, appeal, appearance, application, arrival, aspect, attack, average, awareness, battle, beauty, bombing, brutality, burglary, burial, capacity, caution, chance, change, coincidence, collection, comment, commitment, concern, conflict, connection, context, contrast, control, controversy, conversation, credit, criticism, cruelty, custom, danger, death, debate, decrease, defeat, defense, delivery, departure, description, desire, dialect, difficulty, disagreement, disaster, discussion, disease, dispute, distance, distinction, distraction, division, divorce, doubt, duty, effect, effort, email, emotion, emphasis, entertainment, environment, error, escape, examination, exchange, execution, expectation, experience, failure, famine, fashion, fear, film, fire, flame, force, freedom, function, habit, hardship, hatred, height, hope, identity, imagination, improvement, incentive, income, increase, inequality, influence, injury, injustice, input, instinct, intellect, invasion, invention, investment, irregularity,*

		justification, kindness, language, legend, length, life, loss, lust, marriage, meaning, medication, medicine, memory, mind, misunderstanding, movement, murder, myth, nationality, nature, noise, observation, obstruction, opportunity, order, origin, pain, passion, perception, performance, personality, policy, position, posture, poverty, practice, pregnancy, prejudice, pressure, privilege, probability, procedure, profit, promotion, proof, protest, purchase, qualification, quality, quantity, race, rape, reaction, rebellion, recession, recreation, reduction, reference, reform, rejection, relation, rent, repair, repetition, reservation, response, result, retreat, review, revision, revival, revolt, revolution, reward, rhythm, risk, robbery, routine, rumor, sadness, satisfaction, shape, shock, size, society, solution, song, sound, space, speed, status, strength, stress, submission, suicide, surprise, suspicion, talent, taste, technology, tension, termination, territory, testimony, theft, therapy, thirst, thought, threat, time, tradition, tragedy, transfer, transition, translation, trauma, treatment, trial, tyranny, uniform, usage, vacation, vaccination, value, variation, victory, violation, virtue, voice, war, waste, weight, width, withdrawal, wrongdoing.
Type IV	*a*N, N*s*	*answer, funeral, game, item, job, joke, journey, jump, laugh, lecture, lesson, lie, match, meal, meeting, message, mistake, mood, mortgage, nuisance, party, thing, offer, pattern, piece, place, poem, portion, present, prize, problem, process, project, program, queue, scene, score, secret, sentence, shift, sign, situation, store, story, tale, task, thing, treat, trip, visit, wedding, win, wish.*

Nouns of Type I are noncount nouns that have no established count use (e.g. *advice*, *luck*), which occur in the form of øN but not in the form of *a*N or N*s*. Nouns of Type II are noncount nouns that may admit *a/an* but do not occur in the plural form (e.g. *knowledge*, *willingness*). Type III nouns have both a count and noncount use (e.g. *experience*, *kindness*), which occur in any of the three forms (øN, aN, Ns). Nouns of Type IV are count nouns that have no established noncount use (e.g. *problem*, *thing*), which occur in the forms of *a*N and N*s* but not in the form of øN. Lexicographers are often not

unanimous about the C/NC distinction of abstract nouns (as discussed in Section 10.2 in Chapter 10), and nouns of each type should be limited to clear and representative examples when preparing a list of nouns for L2 learners.

11.3. *A/an* with Type II nouns

The noncount status of the Type I nouns and the count status of the Type IV nouns are lexically fixed regardless of their meanings and how their referents may be conceptualized. With the Type II and Type III nouns, it is necessary to raise the learners' awareness about the importance of *a/an*. L2 learners, particularly classifier language speakers, need to recognize that *a/an* gives the meaning of individuation and that *a/an* is used when a speaker has a specific image of the referent in mind and wants to emphasize its individual, particular nature. When teaching the importance of *a/an*, it is necessary to present examples of abstract noncount nouns with *a/an* and ø in pairs to help learners recognize the difference in meaning as in the following examples (1–4).

1) He faced sudden terminal illness with **courage** and dignity.
2) He discovered **a courage** he never knew he had.
3) Through a variety of materials and activities, the council strives to increase **awareness** of the importance of exercise and good health.
4) But there is **an awareness** among day traders that they can't rely on rumours or the advice of strangers.

Ø *courage* in (1) denotes the quality of being brave in general, whereas *a courage* in (2) refers to a particular type (or instance) of courage (as discussed in Section 7.4 and Section 7.5 in Chapter 7). In the same way, ø *awareness* in (3) denotes the quality (or state) of

being aware in general, while *an awareness* in (4) refers to a particular point of view (as discussed in Section 9.3 in Chapter 9).

11.4. *A/an* and the [*to have* + Noun + PP] construction

It may also be necessary to draw learners' attention to the connection between the use of *a/an* and the sentence constructions in which *a/an* occurs highly frequently. As discussed in sections 6.3.3–6.3.5 in Chapter 6, nouns that denote the feelings of liking and disliking occur with *a/an* highly frequently in the [*to have* + Noun + PP] construction as in the following examples (5–12).

5) He **had a great affection for** Glasgow
6) The Bush administration **has an aversion to** international justice.
7) She **has an intense dislike of** the Internet.
8) She **has a distrust of** the big words – like *love*, *loyalty*.
9) One in five people **has a fear of** flying.
10) George **has a fondness for** women who aren't his wife.
11) He **has a hatred of** injustice.
12) She still **has a love for** skating.

However, caution is needed. The connection between *a/an* and the [*to have* + Noun + PP] construction does not apply to other types of nouns such as *knowledge* as in (13–14).

13) You also have to **have a knowledge of** budget processing and handling of the volunteers and choirs.
14) I offer this ring as evidence that I **have knowledge of** his whereabouts.

A knowledge in (13) refers to a certain level of practical understanding or skill in a

particular subject (as discussed in Section 9.3.2 in Chapter 9), whereas ø *knowledge* in (14) denotes the state of being aware of something. *Knowledge* in the sense of awareness does not combine with *a/an*. Learners should pay attention to the meaning of a noun when using ø and *a/an*.

11.5. Domains of instantiation and semantic types of nouns

The use of *a/an* is also connected to the presence of a modifier. For example, state nouns (e.g. *silence*, *war*) are generally conceptualized in temporal space, and they occur with *a/an* highly frequently when they are modified by measurement adjectives such as *long*, *short* and *brief*, which encourage an event reading (i.e. a temporally bounded interpretation). However, caution is needed not to mislead L2 learners into believing that abstract nouns combine with *a/an* when they are modified by an adjective. It is important that they should be aware that the connection between the use of *a/an* and the presence of an adjective is limited to certain types of nouns, particularly state nouns, and that most abstract nouns are more likely to occur with ø than with *a/an* when they are modified by an adjective.

With Type III nouns, learners need to be aware that domains of instantiation vary from noun to noun; i.e. types of count readings available for nouns vary (as discussed in Chapter 9). Some nouns acquire a count reading in physical space (e.g. *beauty*, *curiosity*, *intelligence*), others in temporal space (e.g. *absence*, *silence*, *war*), and many in type space (e.g. *fear*, *freedom*, *illness*). Little is known about how an abstract noun acquires a particular type of count reading, and it is difficult to predict the domain in which a noun can be construed as being bounded. Tentatively, it is assumed that there is some connection between the meaning of a noun and its domain of instantiation. For example,

many, but not all, state nouns (e.g. *illness*, *silence*, *war*) can be construed as being bounded in time (i.e. temporal space). Many, but not all, emotion nouns (e.g. *fear*, *happiness*, *worry*) can be construed as being bounded in the cause (or source) domain. It is advisable to divide abstract nouns into some sematic groups such as emotion nouns and state nouns and prepare a list of nouns that share the same domain of instantiation as in Table 11.2.

Table 11.2. Count readings of abstract nouns

Domain of Instantiation	Semantic Type	Nouns
Cause (Source)	Emotion	*anxiety, comfort, fear, happiness, hope, joy, love, pleasure, sadness, sorrow, surprise, worry*
	Quality	*curiosity*
Time (Event)	State	*absence, illness, marriage, silence, sleep, war*
Type	Emotion	*fear*
	Mental Activity	*awareness*
	State	*freedom, illness, marriage, poverty, silene, sleep, war*
Viewpoint	Mental Activity	*awareness, perception, recognition, understanding*
Act	Quality	*cruelty, determination, generosity*

When presenting a list of nouns such as Table 11.2, it might be a good idea to let the students figure out the types of count readings available for nouns of each semantic type and look for general rules and exceptions. For example, emotion nouns are likely to acquire a count reading when they refer to a cause (or source) that arouses the emotion. However, it does not apply to some emotion nouns such as *anger* and *hatred* (as discussed in Section 9.2.1 in Chapter 9). It is also important to tell learners that the same noun may acquire a count reading in more than one domain of instantiation as in the following

examples (15–17).

15) Don't feel obliged to fill **silences** with anything that comes into your head — you might lose control of your argument.
16) Canine excrement, I have learned, is referred to only as "poop" by the dog people. I once made the mistake of using a more colorful term, and was met by **stunned silences** all around.
17) Imagine entering the library. There seems something particular to the silence of a library: it is **a silence** that does not belong to gas stations or hospitals or record stores, for instance, although it could be confused with **other silences**: Dennis the Menace distinguishes the quiet of the city bus he is in from the noisiness of a school bus and thinks he must be in a library bus. (Marianne Constable. 2005. *Just Silences: The Limits and Possibilities of Modern Law*, via Google Books)

Silences in (15) is conceptualized in time (i.e. temporal space) referring to more than one period of silence, while *stunned silences* in (16) is conceptualized in space (i.e. physical space) referring to a period of silence that more than one person at the place lapsed into. *A silence* and *other silences* in (17) are conceptualized in type space referring to different types of silence.

11.6. Nouns that can be used as both count and noncount in the same sense

For advanced level learners, instructors may tell them that an abstract noun in the same sense may be used as both count and noncount depending on a speaker's interpretation as in the following examples of *noise* (18–20).

18) There was **noise** all around me, people coming and going.
(Keith Laumer. 2005. *Imperium*, via Google Books)

19) At the gate there is **a noise** of people coming and going.

(*The Sunday School Journal*, Vol. 22, via Google Books)

20) There were always **noises** of people coming and going.

(Émile C. Freeland. 1954. *Tales of a Sugar Tramp*, via Google Books)

As discussed in 10.2.2 in Chapter 10, *noise* in the sense of a loud or unpleasant sound may occur with ø (18), *a/an* (19) or in the plural form (20). Ø *noise* (18) indicates that the speaker interprets different sounds as a mass of undifferentiated sounds, while *a noise* (19) indicates that the speaker interprets different sounds coming from various sources (i.e. people moving around) as one type of sound, and *noises* (20) indicates that there are multiple types or sources of noise, perhaps coming from different people at different times. Caution is needed not to mislead L2 learners into believing that any abstract noun can be used as either count or noncount depending on how a referent is construed. It is important to tell the students that only some of the Type III nouns, i.e. nouns that can be used as both count and noncount in the same sense, can be flexibly used as either count or noncount depending on a speaker's interpretation (e.g. *fear* in the sense of the feeling of being afraid, *silence* in the sense of a situation when nobody is speaking).

It is true that a speaker uses particular words and constructions (e.g. øN, aN, Ns) to evoke a particular understanding that the speaker intends to communicate (Croft & Cruse 2004: 8). However, the flexibility of the C/NC distinction does not apply to the other types of nouns. It is important to show a list of nouns such as Table 11.1 to the students and tell them that nouns of Type I and II are not used as count nouns even when they are construed as being bounded as in the case of *advice*. In the same way, Type IV nouns are not used as noncount.

11.7. Summary

The C/NC distinction of abstract nouns is dauntingly complex for L2 learners. In EFL/ESL classes, it is necessary to make it easy for the students to understand the complexity. First, it is advisable to divide the abstract nouns into four syntactic types (Type I to Type IV) based on their grammatical behavior: i.e. whether they occur with *a/an* or ø in the singular form or in the plural form. Second, it is important for the students to recognize that *a/an* gives the meaning of individuation and that *a/an* may be used with Type II nouns (and the noncount use of Type III nouns) to emphasize the individual, particular nature of a referent. Third, students should be aware that Type III nouns have both a count and noncount use and that various count readings are available. Some of the Type III nouns can be used as either count or noncount in the same sense depending on a speaker's interpretation of a referent.

Chapter 12

Conclusion

12.1. Summary of the findings

The C/NC distinction of nouns is an essential part of EFL/ESL teaching. When using a noun, L2 learners need to make a choice between three basic NP forms, øN, *a*N and N*s*. Some abstract noncount nouns (ANNs) may combine with *a/an*, and learners need to know when to use *a/an*. Many abstract nouns have both a count and a noncount use, and various types of count readings are available. L2 learners need to know the types of count readings available for each abstract noun, and they also need to know the circumstances under which abstract nouns acquire count readings.

Chapters 3–8 examined the following three propositions about the C/NC distinction of nouns: 1) Practically every noun can be used as either count or noncount in a proper context. 2) ANNs admit *a/an* when they are modified. 3) *A/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent.

Regarding the first proposition, linguists provide examples of count-to-noncount shifts of concrete nouns under semantic coercion. Based on the results of the questionnaire survey that I conduced (Kodera 2016b), semantic coercion does not guarantee a high acceptability of the noncount use of concrete count nouns (discussed in Section 3.2 in Chapter 3). Also, linguists do not provide examples of noncount-to-count shifts of typical noncount nouns, either of concrete or abstract nouns such as *furniture* and *advice*. The C/NC distinction of nouns is not as flexible as they argue. The noncount syntax of Type I nouns (e.g. *advice*, *luck*) and the count syntax of Type IV nouns (e.g. *problem*, *thing*) are lexically fixed regardless of their meanings and how their referents

may be conceptualized.

Case Study A (chapters 5–7) examined the second proposition with the data collected from the Bank of English and other corpora. Thirty-six nouns were collected from the example sentences presented by twelve reference grammars and eight English learner's dictionaries as the evidence to support the proposition. The grammatical behavior of the thirty-six nouns was examined, and it was found that a high frequency of *a/an* is not correlated with the presence of a modifier per se whether a modifier is a pre-modifying adjective, a post-modifying PP or an RC.

Regarding the connection between *a/an* and an adjective, thirty nouns out of the thirty-six (83.3%) occur with ø more frequently than with *a/an* whether or not they are modified by an adjective. Five nouns occur with *a/an* more frequently than with ø when they are modified by an adjective: *aversion*, *dislike*, *fondness*, *silence*, *understanding*. With four nouns among these five (excluding *silence*), a high frequency of *a/an* is more strongly connected to post-modifiers than to adjectives.

Case Study B (Chapter 8) found that some combinations of an adjective and a noun (e.g. *short illness*, *long silence*) occur with *a/an* highly frequently. The use of *a/an* is connected to how an adjective limits the meaning of a noun, more specifically, whether an adjective motivates a count reading that is available for a noun. For example, state nouns (e.g. *absence*, *silence*) are often conceptualized in temporal space, and many of them have an event reading available. They acquire a count reading when a referent is construed as being bounded in time and its boundedness is emphasized. Measurement adjectives such as *long* and *short* motivate a temporally bounded interpretation of a referent. Thus, many state nouns acquire an event reading when they are modified by a measurement adjective. It is not an adjective per se, but particular combinations of an

adjective and a noun that are connected to a high frequency of *a/an*.

Regarding the connection between *a/an* and a PP, eighteen nouns out of the twenty-five (72.0%) occur with ø more frequently than with *a/an* when they are modified by a particular PP. Seven nouns occur with *a/an* more frequently than with ø when they are modified by a PP: *aversion to, consciousness of, dislike of, fondness for, love of, silence of, understanding of*. Five nouns among them (*aversion*, *dislike*, *fondness*, *love*, *understanding*) occur with *a/an* far more frequently than with ø in the [*to have* (*to take*) + (Adj) Noun + PP] construction. With these five nouns, it is not a PP per se, but the combination of a verb and a PP that is connected to a high frequency of *a/an*. This applies to four other nouns that denote a feeling of liking and disliking (*affection, distrust, fear, hatred*), and it can be hypothesized that abstract nouns that denote a feeling of liking and disliking are very likely to combine with *a/an* when they occur in the [*to have* (*to take*) + (Adj) Noun + PP] construction.

Regarding the connection between *a/an* and an RC, seventeen nouns out of the twenty-two (77.3%) occur with *a/an* more frequently than with ø when they are modified by an RC, while five nouns (*anger*, *anxiety*, *hatred*, *help*, *knowledge*) occur with ø more frequently. It is not clear why these five nouns occur with ø more frequently than with *a/an*. However, the results show that there is some connection between *a/an* and an RC. The connection can by explained as follows. Compared to adjectives and PPs, RCs are potentially more capable of giving an individuated, distinctive nature to a referent (*great courage* vs. *a courage he never knew he had*), and they can make ANNs less incongruous with *a/an*, whose semantic property is individuation. If this is the case, it supports the third proposition that *a/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent. However, it is difficult to examine this

proposition with corpus data, since it is a subjective judgment whether a particular type of modifier (e.g. adjectives, PPs, RCs) emphasizes the distinctive nature of a referent or not.

Then, the connection between *a/an* and modification was examined from the opposite direction to find if the use of *a/an* invites the presence of a modifier. The corpus data show that all of the thirty-six nouns occur with modifiers (either a pre- or post-modifier or both) more frequently than without modifiers when they combine with *a/an*, and most of them (34 out of 36) with a frequency of over 78 percent. This result indicates that it is the use of *a/an* that attracts the presence of a modifier, not a modifier that attracts *a/an*. This supports the third proposition that *a/an* can be used with ANNs when a speaker wants to emphasize the individual, particular nature of a referent. The semantic property of *a/an* is individuation, and *a/an* calls for an individuated interpretation of a noun. Then, an ANN, which has no established count reading, calls for modification to acquire an individuated reading. In other words, *a/an* emphasizes the individual, particular nature of a referent, which makes an ANN require modification.

Case Study C (Chapter 9) explored the circumstances under which abstract nouns of Type III, which have both a count and a noncount use, acquire count readings. It was found that nouns in the same semantic group may or may not share the same type of count reading. However, there is some general tendency among emotion nouns, mental activity nouns and state nouns. Many, but not all, state nouns acquire a count reading when they refer to an event, i.e. when a referent is construed as being bounded in time (e.g. *a long silence*, *long silences*). Many, but not all, emotion nouns acquire a count reading when they refer to a cause (or a source) that arouses the emotion (e.g. *His mother's health is a constant worry*; *Wind farms and rubbish dumps are the main worries*). Also, many, but

not all, emotion nouns in the sense of the feeling acquire a count reading when the focus is on the cause that arouses the emotion (e.g. *Your fury is fueled by a build-up of past angers at men*). All of the six mental activity nouns occur with *a/an* when they refer to a particular point of view (e.g. *a recognition that the current laws are not working*). Among them, four nouns acquire a count reading, and they can be pluralized (*awareness, perception*, *recognition*, *understanding*).

Count readings available for quality nouns vary widely. Some nouns such as *cruelty* and *generosity* are count when they refer to an act that is performed with the quality (e.g. *the cruelties of Stalin's regime*). *Curiosity* is count when it refers to an object that arouses curiosity (e.g. *A divorced man was a curiosity***)**. *Intelligence* is count in the sense of a life form with intelligence. Nouns in different semantic groups may share the same type of count reading. For example, a quality noun *curiosity* shares a cause reading with some emotion nouns such as *fear* and *worry*. It is difficult to develop comprehensive guidelines that sufficiently explain the circumstances under which abstract nouns acquire count readings.

Following are the tentative conclusions of Case Study C.

1. Emotion nouns acquire a count reading when they refer to a cause that arouses the emotion or when they refer to the feeling that is aroused by a particular cause.
2. Mental activity nouns acquire a count reading when they refer to a particular point of view.
3. State nouns acquire a count reading when they refer to an event.

Chapter 10 examined the grammar labeling of the C/NC distinction of abstract nouns in various learner's dictionaries, and addressed following four issues with the descriptions of the C/NC distinction of abstract nouns: 1) Grammar labeling of the same noun often

varies from dictionary to dictionary. 2) Dictionaries often label a noun (or a sense of a noun) as both count and noncount. 3) Dictionaries often fail to present illustrative sentences that help L2 learners to make an appropriate choice among the three basic NP forms: øN, *a*N or N*s*. 4) Dictionaries often fail to provide information about the types of count readings available for abstract nouns. Based on the findings in this study, some revisions were proposed to make dictionaries more helpful for L2 learners, and I demonstrated how the C/NC distinction of *fear* and *silence* should be described in learner's dictionaries.

12.2. Directions for further inquiry

Abstract nouns have various count readings available, and nouns in the same semantic group do not necessarily share the same type of count reading. This makes it difficult to develop practical guidelines that help L2 learners to predict a type of count reading available for an abstract noun. Nevertheless, based on the tentative conclusions mentioned in Section 12.1, the following hypotheses may be well worth further exploration. Abstract nouns acquire a count reading 1) when the focus is on a source that causes a particular state (e.g. state nouns) or a particular feeling (e.g. emotion nouns), or 2) when the focus is on a particular result, for example, of mental activity (e.g. mental activity nouns) or the quality of a person (e.g. quality nouns). In order to test these hypotheses, the following need to be done.

1) It is necessary to examine the grammatical behavior of nouns that do not support the hypotheses (or tentative conclusions) and analyze what blocks the count reading that a noun is expected to acquire.

2) It is necessary to reclassify nouns based on the types of count readings they acquire

(e.g. placing *curiosity* in the group of emotion nouns) or divide nouns into smaller semantic groups (e.g. dividing emotion nouns into two groups: emotion nouns and nouns denoting liking and disliking, and placing *love* among the nouns of liking and disliking). 3) It is necessary to increase the number and types of abstract nouns to be examined. For example, action nouns (or deverbal nouns) are missing in this study. They are often mentioned in the research on the C/NC distinction of abstract nouns (Langacker 1987b: 207, Barner et al. 2008: 827, Grimm. 2014: 182). Action nouns are not included in this study, since many of them have the same form with verbs (e.g. *attack*, *walk*), and errors in part-of-speech tagging are often found in corpora. Their grammatical behavior is intriguing in that some nouns that denote destruction such as *damage*, *destruction*, *demolition*, *devastation* and *harm* are noncount, whereas nouns that denote construction such as *construction*, *creation*, *cure*, *remedy*, *renovation*, *repair* and *restoration* are count or have both a count and a noncount use. Some of them such as *construction* acquire a result reading (e.g. *a wooden construction*), while others such as *repair* acquire an act reading (e.g. *make repairs on the house*).

12.3. Final remarks

Many abstract nouns have both a count and noncount use, and some ANNs admit *a/an*. L2 learners need to know which NP form is appropriate (øN, *a*N or N*s*), when they use abstract nouns. Unfortunately, research on the C/NC distinction of nouns has been mainly on concrete nouns, and little research has been done on abstract nouns. Probably because of this lack of research, the C/NC distinction of abstract nouns is often neglected in EFL/ESL teaching, and misleading information may be provided. For example, L2 learners may be taught that it is necessary to use *a/an* when abstract nouns are modified.

For example, *Common Mistakes at IELTS Advanced* (Moore. 2007: 6) states, "Don't forget to include *a/an* before an adjective + singular noun combination", along with example sentences such as *He clearly has* ***a good understanding*** *of the issues*.

It is true that *good understanding* occurs with *a/an* far more frequently than with ø (see Table M6 in Appendix). However, the corpus data show that abstract nouns generally occur with ø more frequently than with *a/an* whether they are modified by an adjective or not. *Understanding* occurs with ø far more frequently than with *a/an* when it is modified by adjectives such as *cultural* and *public*. The use of *a/an* depends on how an adjective limits the meaning of a noun. A high frequency of *a/an* is connected to particular combinations of a noun and an adjective. EFL/ESL instructors are advised to rely more on objective data than on their native speaker's intuitions.

The results in this study show that it is necessary to use large corpora such as the Bank of English to analyze the C/NC distinction of abstract nouns. Through this study, I have found that it is very difficult to develop comprehensive guidelines that clearly and sufficiently explain the conditions that motivate the use of *a/an* with ANNs and that motivate count readings of abstract nouns that have both a count and noncount use. Still, L2 learners need practical guidelines by which they can predict the types of count readings available for abstract nouns and make an appropriate choice of øN, *a*N or N*s*. I believe that it is possible to develop general guidelines, although it may be difficult to develop comprehensive guidelines. In this study, I have shown that it is the use of *a/an* that attracts the presence of a modifier, not a modifier that attracts *a/an*. I have also shown that many, but not all, emotion nouns, mental activity nouns and state nouns acquire count readings when they refer to a cause, a viewpoint, and an event respectively. These findings may constitute part of the guidelines that I have been trying to develop for L2 learners.

Types of available count readings vary from noun to noun, and it is necessary to examine the C/NC distinction of abstract nouns one by one. I am at the starting point in search for the circumstances under which abstract nouns acquire count readings. I am planning to explore the types of count readings available for action nouns (e.g. *construction*, *destruction*) and some other types of nouns and to propose some revisions to the descriptions of the C/NC distinction of abstract nouns in learner's dictionaries.

I hope the findings in this study and in my future research will help L2 learners to gain a better understanding of the C/NC distinction of abstract nouns. I also hope that this study will raise awareness among EFL/ESL instructors about the complexity of the C/NC distinction of abstract nouns and encourage them to use corpus data to explore the conditions that motivate various count readings of abstract nouns and the use of *a/an* with abstract noncount nouns.

List of References

Allan, Keith (1980). Nouns and countability. *Language* 56:3, 541-567.

Amuzie, Grace Lee and Spinner, Patti (2012). Korean EFL Learners' Indefinite Article Use with Four Types of Abstract Nouns. *Applied Linguistics*, 34(4):415-434.

Apresjan, Jurij D. 1974. Regular polysemy. *Linguistics*, 142:5-32.

Bach, Emmon (1986). The Algebra of Events. *Linguistics and Philosophy* 9, 5-16. Reprinted in Paul Portner and Barbara H. Partee (eds.) (2002). *Formal Semantics: The Essential Readings*. Oxford: Blackwell Publishers, 324-333.

Baldwin, T. and F. Bond (2003). Learning the countability of English nouns from corpus data. In *Proceedings of the 41st Annual Meeting of the Association for Computational Linguistics*. http://aclweb.org/anthology/PS03-1059.

Bale, Alan and David Barner (2009). The Interpretation of Functional Heads: Using Comparatives to Explore the Mass/Count Distinction. *Journal of Semantics* 26: 217–252.

Bale, Alan and David Barner (2012). Semantic triggers, linguistic variation and the mass-count distinction. In Diane Massam (ed.), *Count and Mass Across Languages*, 238-260. Oxford: Oxford University Press.

Barner, David and Jesse Snedeker (2005). Quantity judgments and individuation: evidence that mass nouns count. *Cognition* 97, 41–66.

Barner, David and Jesse Snedeker (2006). Children's Early Understanding of Mass–Count Syntax: Individuation, Lexical Content, and the Number Asymmetry Hypothesis. *Language Learning and Development*, *2*(3), 163–194.

Barner, David, Thalwitz D, Wood J, Yang SJ. and Carey S. (2007). On the relation between the acquisition of singular-plural morpho-syntax and the conceptual distinction between one and more than one. *Developmental Science*. 2007 May;10(3):365-73.

Barner, David, Wagner, L. and Snedeker, J. (2008). Events and the ontology of individuals: Verbs as a source of individuating mass and count nouns. *Cognition*, 106, 805-832.

Barque, Lucie and Chaumartin, Francois-Regis. (2009). Regular Polysemy in WordNet.

JLCL. 24. 5-18.

Beaney, Michael (1997). *The Frege Reader*. Oxford: Blackwell.

Bergsnev, L. (1976). Variations in Article Usage with Abstract Nouns, Unpublished English 215 paper, UCLA, fall, 1976.

Berry, Roger (1993). *Collins COBUILD English Guides 3: Articles*. London: HarperCollins Publishers.

Berry, Roger (2021). *Doing English Grammar*. Cambridge: Cambridge University Press.

Biber, Douglas, Stig Johansson, Geoffrey Leech, Susan Conrad and Edward Finegan (1999). *Longman Grammar of Spoken and Written English*. Essex: Pearson Education Limited.

Bloom, P. (1996). Possible individuals in language and cognition. *Current Directions in Psychological Science*, 5(3), 90–94.

Bloom, P. (1999). Language capacities: Is grammar special? *Current Biology*, 9, R127-R128.

Bloom, P. (2001). Roots of word meaning. *Language acquisition and conceptual development*. In M. Bowerman and S. Levinson (eds.), Cambridge: Cambridge University Press. 159-181.

Bloom, P. and Kelemen, D. (1995). Syntactic cues in the acquisition of collective nouns. *Cognition*, 56, 1–30.

Bloomfield, Leonard (1961). *Language*. Chicago: University of Chicago Press.

Blutner, Reinhard (2000). Some Aspects of Optimality in Natural Language Interpretation. *Journal of Semantics* 17(3): 189-216.

Bocklisch, Franziska, Steffen F. Bocklisch and Josef F. Krems (2012). Sometimes, often, and always: Exploring the vague meanings of frequency expressions. *Behavior Research Methods*, 44:144–157.

Borer, Hagit (2005). *In Name Only*. Oxford: Oxford University Press.

Bradburn, Norman M. and Carrie Miles (1979). Vague Quantifiers. *Public Opinion Quarterly*, 43: 92–101.

Brinton, Laurel J. (2000). *The structure of modern English: a linguistic introduction*. John Benjamins.

Brown, Derek J. (2015). Approaching the grammatical count/mass distinction from a multimodal perspective. *TESOL Quarterly* 49 (3): pp. 601-608.

Butler, Y. G. (2002). Second language learners' theories on the use of English articles. *Studies in Second Language Acquisition (SSLA)*, 24, 451-480.

Burns, T. C. and Soja, N. C. (2000). Children's acquisition of NP-type nouns: Evidence for semantic constraints on productivity. *Language and Cognitive Processes*, 2000, *15* (1), 45–85.

Celce-Murcia, Marianne and Diane Larsen-Freeman (1999). *The Grammar Book*, 2nd Ed. Boston: Heinle and Heinle Publishers.

Cheng, Chung-Ying (1973). Response to Moravcsik. In Jaakko Hintikka (ed.), *Approaches to Natural Language*. D. Reidel Publishing. pp. 286-288.

Cheng, Lisa L.S., Jenny Doetjes, and Rint Sybesma (2008). How universal is the Universal Grinder. *Linguistics in the Netherlands* 2008: 50-62.

Chierchia, Gennaro (1998). Plurality of Mass Nouns and the Notion of 'Semantic Parameter'. In Susan Rothstein (ed.) *Events and Grammar*. Berlin: Springer (Kluwer). pp. 53-103.

Chierchia, Gennaro (2010a). Mass nouns, vagueness and semantic variation. *Synthese* 174: 99-149.

Chierchia, Gennaro (2010b). Language, thought and reality after Chomsky. In: *Chomsky Noteboook*. Edited by Bricmont and Franck. New York: Columbia University Press. 142-169.

Chierchia, Gennaro (2015). How universal is the mass/count distinction? Three grammars of counting. In Y. A. Li, A. Simpson, and W.D. Tsai (eds). *Chinese Syntax in a Cross-linguistic Perspective*. Oxford: Oxford University Press.

Chomsky, Noam (1957). *Syntactic Structures*. The Hague/Paris: Mouton.

Christophersen, Paul (1939). *The Articles*. London: Oxford University Press.

Clausner, T.C. and W. Croft (1999). Domains and image schemas. *Cognitive Linguistics* 10.1: 1-31.

Collins COBUILD English Usage (1992). London: HarperCollins Publishers.

Cook, Ann (2000). *American Accent Training*, 2nd Ed. New York: Barron's.

Copestake, Ann and Ted. Briscoe (1992). Lexical operations in a unification-based framework. *Lexical Semantics and Knowledge Representation, Proceedings of the First SIGLEX Workshop*, edited by J. Pustejovsky and S. Bergler. Berlin: Springer-Verlag. 101-119.

Corbett, Greville G (2000). *Number*. Cambridge: Cambridge University Press.

Corbett, Greville G. (2019). Pluralia tantum nouns and the theory of features: a typology of nouns with non-canonical number properties, *Morphology* 29. pp. 51-108.

Cowie, Anthony Paul (1999). *English Dictionaries for Foreign Learners: A History*. Oxford: Oxford University Press.

Croft, William (2001). *Radical Construction Grammar*. Oxford: Oxford University Press.

Croft, William and D. Alan Cruse (2004). *Cognitive Linguistics*. Cambridge: Cambridge University Press.

Cruse, Alan (2004). *Meaning in Language: An Introduction to Semantics and Pragmatics*, Oxford: Oxford University Press.

Cruse, Alan (2011). *Meaning in Language: An Introduction to Semantics and Pragmatics*, 3rd ed. Oxford: Oxford University Press.

Crystal, David (1995). *The Cambridge Encyclopedia of the English Language*. Cambridge: Cambridge University Press.

Crystal, David (2006). *A Dictionary of Linguistics and Phonetics*, 5th Ed. Oxford: Blackwell.

Crystal, David (2008). *A Dictionary of Linguistics and Phonetics*, 6th Ed. Oxford: Blackwell Publishing.

Crystal, David (2017). *Making sense: The glamorous story of English grammar*. Oxford: Oxford University Press.

De Saussure, Ferdinad (1956). *Course in General Linguistics*. New York: McGraw-Hill.

Dirven, René and Pörings, Ralf (eds.) (2003). *Metaphor and Metonymy in Comparison and Contrast*. Berlin: Mouton de Gruyter.

Doetjes, Jenny (1997). *Quantifiers and selection: On the distribution of quantifying expressions in French, Dutch and English*. Dissertation Leiden University, HAG, The Hague.

Downing, Angela and Phillip Locke (2002). *A University Course in English Grammar*, 2nd Ed. London: Routledge.

Dummett, Michael (1973). *FREGE Philosophy of Language*. New York: Harper and Row

Egawa, Taiichiro (1991). *A New Guide to English Grammar*, 3rd Ed. Tokyo: Kaneko-shobo.

Ellis, N. C. and Ferreira-Junior, F. (2009). Constructions and their acquisition: Islands

and the distinctiveness of their occupancy. *Annual Review of Cognitive Linguistics*, 7, 188-221.

Evans, Vyvyan and Melanie Green (2006). *Cognitive Linguistics: An Introduction*. Edinburgh: Edinburgh University Press.

Evans, Vyvyan (2007). *A Glossary of Cognitive Linguistics*. Edinburgh: Edinburgh University Press.

Falkum, Ingrid Lossius (2010). Systematic polysemy and the count-mass distinction. *UCL Working Papers in Linguistics* 22. London: Department of Phonetics and Linguistics, University College London.

Falkum, Ingrid Lossius (2009). A pragmatic solution to the polysemy paradox. *UCL Working Papers in Linguistics* 21. Department of Phonetics and Linguistics, University College London. London.

Fillmore, C. J. (1994). The Hard Road from Verbs to Nouns. In M. Y. Chen and O. J. L. Tzeng (eds). *In Honor of William S-Y. Wang: Interdisciplinary Studies on Language and Language Change*. Pyramid Press. pp. 105-129. (http://www.icsi.berkeley.edu/pubs/ai/thehard94.pdf)

Foley, William A. (1997). *Anthropological Linguistics: An Introduction*. Massachusetts: Blackwell Publishers.

Francis, Gill, Susan Hunston and Elizabeth Manning (eds.) (1998). *Collins COBUILD Grammar Patterns 2: Nouns and Adjectives*. London: HarperCollins.

Gallup. J. (1962). An approach to the theory of declension, *Canadian Journal of Linguistics*, Vol. 8, No. 1, pp.26-32.

Gardelle, Laure (2019). *Semantic Plurality: English Collective Nouns and Other Ways of Denoting Pluralities of Entities*. Amsterdam: John Benjamins.

Gentner, D. and Boroditsky, L. (2001). Individuation, relativity, and early word learning. In M. Bowerman and S. Levinson (eds.), *Language Acquisition and Conceptual Development*. Cambridge: Cambridge University Press. 215-256.

Gil, David (1987). Definiteness, Noun-Phrase Configurationality, and the Count-Mass Distinction. In Reuland, E. J. and ter Meulen, A. G. B. (eds.), *The Representation of (In)definiteness*, 254-269. Cambridge: MIT Press.

Gil, David (2013). Numeral Classifiers. In: Dryer, Matthew S. & Haspelmath, Martin (eds.) *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute

for Evolutionary Anthropology. (Available online at http://wals.info/chapter/55, Accessed on 2023-01-08.)

Gillon, Brendan S. (1992). Towards a common semantics for English count and mass nouns. *Linguistics and Philosophy* 15 (6):597 - 639.

Gillon, Brendan S. (1996). The Lexical Semantics of English Count and Mass Nouns. *Breadth and Depth of Semantic Lexicons*, 51-61.

Gillon, Brendan S., Eva Kehayia and Vanessa Taler (1999). The Mass/Count Distinction: Evidence from On-Line Psycholinguistic Performance. *Brain and Language*, 68(1-2), 205-211.

Giralt, N. and Bloom, P. (2000). How special are objects? Children's reasoning about objects, parts, and holes. *Psychological Science*, 11, 497-501.

Gleason, H.A. (1955). *An Introduction to Descriptive Linguistics*. New York: Henry Holt and Company.

Gleason, H.A. (1965). *Linguistics and English Grammar*. New York: Holt, Rinehart & Winston.

Goddard, Cliff (1998). *Semantic Analysis: A Practical Introduction*. Oxford: Oxford University Press.

Goddard, Cliff (2010). A piece of cheese, a grain of sand: the semantics of mass nouns and unitizers. In Francis Jeffry Pelletier (ed.), *Kinds, Things and Stuff*. New York: Oxford University Press, 132–165.

Gordon, Peter (1985). Evaluating the semantic categories hypothesis: The case of the count/mass distinction. *Cognition*, 20, 209-242.

Gordon, Peter (1988). Mass/count category acquisition: Distributional distinctions in children's speech. *Journal of Child Language*, 15*,* 109–128.

Gries, Stefan Th., Beate Hampe, and Doris Schönefeld (2005). Converging evidence: Bringing together experimental and corpus data on the associations of verbs and constructions. *Cognitive Linguistics* 16(4), 635–676.

Grimm, Scott (2014). Individuating the Abstract. In Urtzi Etxeberria, Anamaria Fălăuş, Aritz Irurtzun and Bryan Leferman (eds.), *Proceedings of Sinn und Bedeutung* 18. University of the Basque Country, Vitoria, Spain, 182–200.

Grimm, Scott (2018). Grammatical Number and the Scale of Individuation. *Language* 94: 527-574.

Han, N., Chodorow, M. and Leacock, C. (2006). Detecting errors in English article usage by non-native speakers. *Natural Language Engineering*, 12(2), 115-129.

Hands, Penny, et al. (eds.) (2017). *Collins COBUILD English Grammar*. 4th Ed. Glasgow: HarperCollins.

Haspelmath, Martin, Matthew S. Dryer, David Gil and Bernard Comrie (2005). *The World Atlas of Language Structures*. Oxford: Oxford University Press.

Hauser, M.D. (2000). What do animals think about numbers? *American Scientist*, March-April, 144-151.

Hayakawa, S. I. (1968). *Choose the Right Word*. New York: Harper & Row.

Hewson, John (1972). *Article and Noun in English*. The Hague: Mouton.

Higuchi, Masayuki (2003). *An Illustrative Guide to English Article Usage*. Tokyo: Taishukan.

Hiki, Mitsuru (1990). The judgment of noun countability by Japanese college students: Where is the difficulty? *JACET Bulletin*, 21, 19–38.

Hiki, Mitsuru (1991). *A study of learners' judgments of noun countability*. Unpublished doctoral dissertation, Indiana University, Bloomington.

Hirtle, Walter (1982). *Number and inner space: A study of grammatical number in English*. Quebec: Les Presses De L'universite Laval.

Hua, D. and Lee, T.H-t. (2005). Chinese ESL learners' understanding of the English count–mass distinction. In L. Dekydtspotter, R. A. Sprouse and A. Liljestrand (eds.), *Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA 2004)*, pp. 139– 149. Somerville, MA: Cascadilla Press.

Huddleston, Rodney (1984). *Introduction to the Grammar of English*. Cambridge: Cambridge University Press.

Huddleston, Rodney and Geoffrey Pullum (2002). *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Hunston, Susan Elizabeth, Manning and Gill Francis (1998). *Collins COBUILD Grammar Patterns 2: Nouns and Adjectives*. London: HarperCollins Publishers.

Hunston, Susan and Gill Francis (2000). *Pattern Grammar: A Corpus-Driven Approach to the Lexical Grammar of English*. Amsterdam: John Benjamins.

Ibbotson, Paul and Michael Tomasello (2016). Language in a New Key. *Scientific American* 315, 70-75.

Imai, Mutsumi (2000). Universal ontological knowledge and a bias toward language-specific categories in the construal of individuation. In S. Niemeier and R. Dirven (eds.), *Evidence for Linguistic Relativity*. Amsterdam: John Benjamins. pp.139-160.

Imai, M. and Gentner, D. (1997). A cross-linguistic study of early word meaning: universal ontology and linguistic influence. Cognition, 62, 169-200.

Imai, M. and Masuda, T. (2013). The role of language and culture in universality and diversity of human concepts. In M.Gelfand, CY. Chiu and Y. Hong (Eds.). *Advances in Culture and Psychology*, Vol. 3. Oxford University Press. pp. 1-61.

Inagaki, Shunji (2014). Syntax–semantics mappings as a source of difficulty in Japanese speakers' acquisition of the mass–count distinction in English. *Bilingualism: Language and Cognition*, 17 (3): 464-477.

Inagaki, Shunji and David Barner (2009). Countability in absence of count syntax: Evidence from Japanese quantity judgments. In M. Hirakawa, S. Inagaki, Y. Hirakawa, H. Sirai, S. Arita, H. Morikawa, M. Nakayama, and J. Tsubakita (eds.). *Studies in Language Sciences (8): Papers from the English Annual Conference of the Japanese Society for Language Sciences*. Tokyo: Kurosio. pp.111-125.

Izumi, E., Uchimoto, K., and Isahara, H. (2004). *The NICT JLE Corpus* (The National Institute of Information and Communications Technology Japanese Learner English Corpus). Tokyo: Alc.

Jackendoff, Ray (2002). *Foundations of Language*. Oxford: Oxford University Press.

Jespersen, Otto (1909-1949). *A Modern English Grammar on Historical Principles* I-VII. London: George Allen & Unwin.

Jespersen, Otto (1924). *The Philosophy of Grammar*. Chicago: University of Chicago Press.

Jespersen, Otto (1949). *A Modern English Grammar on Historical Principles, Part VII Syntax*. London: George Allen & Unwin.

Johnson, Mark (1987). *The Body in the Mind*. Chicago: University of Chicago Press.

Joosten, Frank. (2003). Accounts of the count-mass distinction: A critical survey. *Lingvisticæ Investigationes* 26.159–73. DOI: 10.1075/li.26.1.11joo.

Kaplan, Robert B. (1966). Cultural thought patterns in inter-cultural education. *Language Learning*, Volume16, Issue1-2, Pages 1-20.

Kilgarriff, Adam (2005). Language is never, ever, ever, random. *Corpus Linguistics and*

Linguistic Theory 1(2): 263–276.
Kiss, T., F. J. Pelletier, H. Husic, and J.M. Poppek (2017). Issues of Mass and Count: Dealing with "Dual Life" Nouns. In *Proceedings of the 6th Joint Conference on Lexical and Computational Semantics* (ACL-*Sem 2017). 189-198. Vancouver, Canada. August 3-4, 2017.

Klaus von Heusinger, Claudia Maienbor, and Paul Portne (2011). *Semantics: an International Handbook of Natural language Meaning,* Volume 2. Berlin: Mouton De Gruyter.

Kodera, Masahiro (2009). L1 acquisition of count mass distinctions in English and the interplay between ontology, semantics and syntax. *Bulletin of Seibo Jogakuin Junior College*, 38, 79-95.

Kodera, Masahiro (2010). A Preliminary Study on Count-to-Mass Shift of English Nouns and Bounding. *Bulletin of Hannan University, Humanities & Natural Science* 45(2) 43-54.

Kodera, Masahiro (2011). A Cross-linguistic Study of Mass-Count Distinctions. *Bulletin of Hannan University, Humanities & Natural Science* 46(2) 43-52.

Kodera, Masahiro (2014). Count/Noncount Distinctions and Grammar Labels in Learners' English Dictionaries (In Japanese) *Bulletin of Hannan University, Humanities & Natural Science* 49(2) 45-64.

Kodera, Masahiro (2015). Specific Indefinite Noun Phrases and Objective Reality: '*Noise*' in Physical, Type and Temporal Spaces. *Bulletin of Hannan University, Humanities & Natural Science* 50(2) 39-63.

Kodera, Masahiro (2016a). Countability of Abstract Nouns in English: '*Silence*' in Temporal, Quality, Type and Physical Spaces. *Bulletin of Hannan University, Humanities & Natural Science* 51(2) 49-69.

Kodera, Masahiro (2016b). Acceptability of Count-to-Mass Shifting of Concrete Count Nouns in English. *Bulletin of Hannan University, Humanities & Natural Science* 52(1) 15-35.

Kodera, Masahiro (2017). Modification and Acceptability of *a/an* with Abstract Nouns Referring to an Attribute of a Person. *Bulletin of Hannan University, Humanities & Natural Science* 52(2) 1-20.

Kodera, Masahiro (2018). Searching for a General Rule on Count/Noncount Distinction

of Abstract Nouns in English. *Bulletin of Hannan University, Humanities & Natural Science* 53(2) 1-26.

Kodera, Masahiro (2020). An Overview of the Count/Noncount Distinction of English Nouns. *Bulletin of Hannan University, Humanities & Natural Science* 55(2) 23-51.

Kodera, Masahiro (2021a). Countability of Emotion Nouns and State Nouns. *Bulletin of Hannan University, Humanities & Natural Science* 56(2) 1-25.

Kodera, Masahiro (2021b). Count-Noncount Distinction of Abstract Nouns Denoting Emotions, Mental Activities, Qualities and States. *Bulletin of Hannan University, Humanities & Natural Science* 57(1) 13-55.

Koizumi, Kenkichiro (1989). *Plural and Articles in English*. Tokyo: The Japan Times.

Kouider, S., Halberda, J., Wood, J. and Carey, S. (2006). Acquisition of English number marking: The singular plural distinction. *Language Learning and Development, 2 (1),* 1–25.

Kulkarni, R., S. Rothstein and A. Treves (2013). A statistical investigation into the cross-linguistic distribution of mass and count nouns: Morphosyntactic and semantic perspectives. *Biolinguistics* 7, 132–168.

Lakoff, George (1987). *Women, Fire, and Dangerous Things*. Chicago: University of Chicago Press.

Lakoff, G. and Johnson, M. (1980). *Metaphors We Live by*. Chicago: University of Chicago Press.

Lakoff, G. and Johnson, M. (1999). *Philosophy in the Flesh*. New York: Basic Books.

Langacker, Ronald W. (1987a). Nouns and Verbs. *Language*, Vol. 63, No. 1. pp. 53-94.

Langacker, Ronald W. (1987b). *Foundations of Cognitive Grammar* (Vol.1). Stanford: Stanford University Press.

Langacker, Ronald W. (1991a). *Concept, Image, and Symbol: The Cognitive Basis of Grammar*. Berlin: Mouton de Gruyter.

Langacker, Ronald W. (1991b). *Foundations of Cognitive Grammar* (Vol.2). Stanford: Stanford University Press.

Langacker, Ronald W. (1998). Conceptualization, symbolization and grammar. In M. Tomasello (ed.), *The new psychology of language: Cognitive and functional approaches to language* (pp. 1–39). Mahwah, NJ: Erlbaum.

Langacker, Ronald W. (1999). *Grammar and conceptualization*. Berlin, Germany: De

Gruyter.

Langacker, Ronald W. (2008). *Cognitive Grammar*: A Basic Introduction. Oxford University Press, Oxford.

Lasersohn, Peter (2011). Mass nouns and plurals, in Claudia Maienborn, Klaus von Heusinger, and Paul Portner (eds.), *Semantics: An International Handbook of Natural Language Meaning*, De Gruyter, Berlin, volume 2, 1131-1153.

Lee, David (2001). *Cognitive Linguistics: An Introduction*. Oxford: Oxford University Press.

Leech, Geoffrey (1981). *Semantics*, 2nd Ed. London: Penguin Books.

Leslie Spier, A. Irving Hallowell and Stanley S. Newman (1941). *Language, culture, and personality, essays in memory of Edward Sapir*. Menasha, Wisconsin: Sapir Memorial Publication Fund.

Levinson, S. C. (1998). Studying spatial conceptualization across cultures: Anthropology and cognitive science. *Ethos*, 26(1), 7-24.

Link, Godehard (1983). The logical analysis of plurals and mass terms: a lattice theoretical approach, in R. Bauerle, C. Schwarze, and A. von Stechow (eds.), *Meaning, Use and Interpretation of Language*. Berlin: De Gruyter, reprinted in Link (1998).

Link, Godehard (1998). *Algebraic Semantics in Language and Philosophy*. Stanford: CSLI Publications.

Lucy, John A. (1992). *Grammatical Categories and Cognition: A case study of the linguistic relativity hypothesis*. Cambridge: Cambridge University Press.

Lyons, John (1977). *Semantics,* 2 vols. Cambridge: Cambridge University Press.

Markman, E. M. (1985). Why superordinate category terms can be mass nouns. *Cognition*, 19, 31–53.

Master, Peter (1987). *A Cross-Linguistic Interlanguage Analysis of the Acquisition of the English Article System*. Unpublished doctoral dissertation, UCLA.

Master, Peter. (1988). Teaching the English article system, Parts I and II. *Forum Anthology: Volume IV (1984-1988)* (pp. 208-221). Washington DC: United States Information Agency.

Master, Peter (1992). The zero article in English. Paper presented at the CATESOL State Conference, Sacramento, California, USA, April 3, 1992.

Master, Peter (1995). *Systems in English Grammar: An Introduction for Language Teachers*. New York: Pearson.

Matthew S. Dryer. (2013). Indefinite Articles. In: Dryer, Matthew S. & Haspelmath, Martin (eds.) *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at http://wals.info/chapter/38, Accessed on 2023-01-08.)

Matthews, Peter H. (1997). *Oxford Concise Dictionary of Linguistics*. Oxford University Press. New York.

McArthur, Tom, Jacqueline Lam-McArthur and Lise Fontaine (eds.) (1996). *The Oxford Companion to the English Language*, Abridged Edition. Oxford: Oxford University Press.

McCawley, James D. (1975). Lexicography and the count-mass distinction. *Berkeley Linguistics Society, Proceedings* 1:314-321.

McEnery, T., Xiao, R., and Tono, Y. (2006). *Corpus-based language studies: An advanced resource book*. London: Routledge.

Middleton, E. L, Wisniewski, E. J., Trindel, K. A. and Imai, M. (2004). Separating the chaff from the oats: Evidence for a conceptual distinction between count noun and mass noun aggregates. *Journal of Memory and Language*, 50, 371-394.

Moore, Julie (2007). *Common Mistakes at IELTS Advanced*. Cambridge: Cambridge University Press.

Muromatsu, Keiko (2003). Classifiers and the Count-Mass Distinction. In *Functional Structure(s), Form and Interpretation: Perspectives from East Asian Languages*, Yen-hui Audrey Li and Andrew Simpson (eds). London: RoutledgCurzon, 65-96.

Murphy, M.L. (2010). *Lexical Meaning*. Cambridge: Cambridge University Press.

Nelson Laird, T. F., Korkmaz, A. and Chen, P. D. (2008). How often is “often” revisited: The meaning and linearity of vague quantifiers used on the National Survey of Student Engagement. Paper presented at the Annual Meeting of the American Educational Research Association. San Diego, CA.

Nicolas, David (2002). Is there anything characteristic about the meaning of a count noun? *Revue de la Lexicologie* 18- 19, 125-138.

Nicolas, David (2008). Mass nouns and plural logic. *Linguistics and Philosophy* 31 (2):211-244.

Nunberg, G. and A. Zaenen (1992). Systematic polysemy in lexicology and lexicography. In *Proceedings of Euralex II*, edited by H. Tommola, K. Varantola, T. Salmi-Tolonen and J. Schopp. Tampere: University of Tampere. 387-398.

Ogawa, M. (2008). The acquisition of English articles by advanced EFL Japanese learners: Analysis based on noun types. *Journal of Language and Culture Language and Information*. 3, 132-151.

Ojeda, Almerindo (2005). The paradox of mass plurals. In: S. S. Mufwene, E. J. Francis and R. S. Wheeler (eds.). *Polymorphous Linguistics: Jim McCawley's Legacy*. Cambridge, MA: The MIT Press, 389-410.

Palmer, Harold E. (1938). *A Grammar of English Words*. London: Longmans, Green and Co Ltd.

Palmer, Frank (1971). *Grammar*. Harmondsworth: Penguin Books, 34–35.

Payne, John and Rodney Huddleston (2002). Nouns and noun phrases. In R. Huddleston and G. Pullum (eds.), *Cambridge Grammar of the English Language,* pp. 323–524. Cambridge: Cambridge University Press.

Pelletier, Francis J. (1975). Non-singular reference: some preliminaries. *Philosophia* Vol. 5 No. 4, pp. 451–465.

Pelletier, Francis J. (1979). Non-singular Reference: Some Preliminaries. In Francis J Pelletier (ed.) *Mass Terms: Some Philosophical Problems*, pp. 1-14. Dordrecht: D. Reidel Publishing Company.

Pelletier, Francis J. (2012). Lexical nouns are both +MASS and +COUNT, but they are neither +MASS nor +COUNT. In Diane Massam (ed.), *Count and Mass across Languages*, Oxford: Oxford University Press, 9-26.

Pelletier, Francis J. and L.K. Schubert (2003). Mass Expressions. In D. Gabbay and F. Guenthner (eds.), *Handbook of Philosophical Logic*, Vol. 10, 2nd Ed., Reidel, Dortrecht, 265-350.

Pepper, S., and Prytulak, L. S. (1974). Sometimes frequently means seldom: Context effects in the interpretation of quantitative expressions. *Journal of Research in Personality*, 8, 95-101.

Pinker, Steven (1994). *The Language Instinct*. New York: HarperCollins.

Quine, W.V.O. (1960). *Word and Object*. Cambridge, MA: MIT Press.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech and Jan Svartvik (1985). *A*

Comprehensive Grammar of the English Language. Essex: Longman.

Radden, Günter and René Dirven (2007). *Cognitive English Grammar*. Amsterdam: John Benjamins.

Reid, Wallis (1991). *Verb and Noun Number in English*. Essex: Longman.

Roach, Peter (2000). *English Phonetics and Phonology*. Cambridge: Cambridge University Press.

Roach, Peter (2009). *English Phonetics and phonology Glossary: A Little Encyclopaedia of Phonetics*. Downloaded from: https://www.ff.umb.sk/app/cmsFile.php?disposition=a&ID=14179. Accessed 24th January 2023.

Rosch, Eleanor (1988). Principles of categorization. In Allan Collins and Edward E. Smith (eds.), *Readings in Cognitive Science, a Perspective From Psychology and Artificial Intelligence*. Morgan Kaufmann Publishers. pp. 312-22.

Rosch, Eleanor, Mervis, C. B., Gray, W. D., Johnson, D. M. and Boyes-Braem, P. (1976). Basic objects in natural categories. *Cognitive Psychology*, 8, 382-439. (a)

Rothstein, Susan (2010). Counting and the Mass/Count Distinction, *Journal of Semantics* 27 (3): 343-397.

Rothstein, Susan (2017). *Semantics for Counting and Measuring*. Cambridge: Cambridge University Press.

Rothstein, Susan, (to appear) Count vs. mass nouns. In: L.Matthewson, C.Meier, H.Rullman, and T.E. Zimmermann (eds.), *The Blackwell Companion to Semantics*. Malden and Oxford: Wiley/Blackwell:

Sapir, Edward (1921). *Language*. San Diego: Harcourt Brace Jovanovich.

Saussure, F. de. (1956). *Course in General Linguistics*. New York: McGraw-Hill.

Schmid, Hans-Jörg (2000). *English abstract nouns as conceptual shells*: *From corpus to cognition*, Berlin/New York: Mouton de Gruyter.

Schmid, Hans-Jörg and Helmut Küchenhoff (2013). Collostructional analysis and other ways of measuring lexicogrammatical attraction: Theoretical premises, practical problems and cognitive underpinnings. *Cognitive Linguistics* 24(3), 531–577

Schwarzschild, Roger (2011). Stubborn Distributivity, Multiparticipant Nouns and the Count/Mass Distinction, in Suzi Lima, Kevin Mullin and Brian Smith (eds.), *Proceedings of the 39th Meeting of the North East Linguistic Society (NELS 39)*,

Volume 2, Amherst, MA: GLSA, 661-678.

Sinclair, John (ed.) (1992). *Collins COBUILD English Usage*. London: HarperCollins Publishers.

Sinclair, John, et al. (eds.) (1990). *Collins COBUILD English Grammar*. London: Collins.

Soja, N. N. (1992). Inferences about the meanings of nouns: The relationship between perception and syntax. *Cognitive Development*, 7, 29–45.

Soja, N .N., Carey, S., and Spelke, E.S. (1991). Ontological categories guide young children's inductions of word meaning. Object terms and substance terms. *Cognition*, 38: 179-211.

Spelke, E. S. (1994). Initial knowledge: Six suggestions. *Cognition*, 50, 431-445.

Spelke, E. S., Breinlinger, K., Macomber, J. and Jacobson, K. (1992). Origins of knowledge. *Psychological Review*, 99, 605-632.

Stefanowitsch, Anatol, and Stefan Th. Gries (2003). Collostructions: Investigating the interaction of words and constructions. *International Journal of Corpus Linguistics* 8(2), 209–243.

Stern, S. (1977). Generic Use of Articles in English. Unpublished English 215 paper, University of California, Los Angeles, fall, 1977.

Strawson, P. F. (1959). *Individuals: An Essay in Descriptive Metaphysics*. Routledge.

Svensson, P. (1998). *Number and Countability in English Nouns*. Uppsala: Swedish Science Press.

Swan, Michael (1995). *Practical English Usage*, 2nd Ed. Oxford: Oxford University Press.

Swan, Michael (2005). *Practical English Usage*, 3rd Ed. Oxford: Oxford University Press.

Swan, Michael (2016). *Practical English Usage*, 4th Ed. Oxford: Oxford University Press.

Talmy, Leonard (2000). *Toward a Cognitive Semantics*. Volume 1: Concept Structuring Systems. Cambridge: MIT Press.

Taylor, John R. (1989). *Linguistic Categorization*. Oxford: Oxford University Press.

Taylor, John R. (2002). *Cognitive Grammar*. Oxford: Oxford University Press.

Tsang, Art (2017). Judgement of countability and plural marking in English by native and non-native English speakers. *Language Awareness*, Vol. 26 No. 4, 343-359.

Trask, Robert Lawrence (1993). *A Dictionary of Grammatical Terms in Linguistics*. New York: Routledge.

Uexkull, J. von (1957). A stroll through the worlds of animals and men. In Schiller, Claire H. (ed. and transl.), *Instinctive Behavior: The Development of a Modern Concept*. (Introduction by Karl S. Lashley.) New York: International Universities Press, 5-80. Also in *Semiotica* 89(4), 277-391. Uexküll T. (ed.) (1992). *Jakob von Uexküll's A Stroll through the Worlds of Animals and Men*. Berlin: Mouton de Gruyter.

Uexkull, J. von (1982). The theory of meaning. *Semiotica* 42(1), 25-82.

Wallsten, Thomas S., David V. Budescu, Amnon Rapoport, Rami Zwick, and Barbara Forsyth (1986). Measuring the Vague Meanings of Probability Terms. *Journal of Experimental Psychology*: General, Volume 115, Number 4, pages 348–365.

Ware, Robert X. (1975). Some bits and pieces. *Synthese* 31, 379–393. Also, in Francis J Pelletier (ed.) (1979) *Mass Terms: Some Philosophical Problems*, pp. 15-29. Dordrecht: D. Reidel Publishing Company.

Wechsler, Stephen (2015). *Word Meaning and Syntax: Approaches to the Interface*. Oxford: Oxford University Press.

Wen, Q, Wang, L. and Liang, M. (2005). *Spoken and Written English Corpus of Chinese Learners*. Beijing: Foreign Language Teaching and Research Press.

Whorf, Benjamin L. (1941). The Relation of Habitual Thought and Behavior to Language. In Leslie Spier, A. Irving Hallowell, Stanley S. Newman (ed.) *Language, culture, and personality, essays in memory of Edward Sapir*. Menasha, Wisconsin: Sapir Memorial Publication Fund. pp. 75-93.

Whorf, Benjamin L. (1956). *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf*, ed. John B. Carroll. MIT Press, Cambridge, Massachusetts.

Wickens, Mark A. (1992). *Grammatical number in English nouns an empirical and theoretical account*. Amsterdam: J. Benjamins.

Wierzbicka, Anna (1985). Oats and wheat: the fallacy of arbitrariness. In John Haiman (ed.), *Iconicity in Language*, 311-42. Amsterdam: Benjamins. Revised version in Wierzbicka (1988). 499-560.

Wierzbicka, Anna (1988). *The Semantics of Grammar*. Amsterdam: Benjamins.

Wierzbicka, Anna (1996). *Semantics: Primes and Universals*. Oxford: Oxford University Press.

Wierzbicka, Anna (1997). *Understanding Cultures Through Their Key Words*. Oxford: Oxford University Press.

Wiese, Heike. (2012). Collectives in the intersection of mass and count nouns: A cross-linguistic account. In Diane Massam (ed.), *Count and Mass Across Languages*, 54-74, Oxford: Oxford University Press.

Wisniewski, E.J. (2010). On Using Count Nouns, Mass Nouns, and Pluralia tantum: What Counts? In Francis Jeffry Pelletier (ed.) *Kinds, Things and Stuff: Mass Terms and Generics*. Oxford: Oxford University Press, 166-190.

Wisniewski, E. J., Imai, M. and Casey, L. (1996). On the equivalence of superordinate concepts. *Cognition*, 60, 269–298.

Winsiewski, E. J., Lamb, C. A. and Middleton, E. L. (2003). On the conceptual basis for the count and mass noun distinction. *Language and Cognitive Processes*, 18 (5-6), 583-624.

Wittgenstein, Ludwig (2001). *Philosophical Investigations*. Massachusetts: Blackwell Publishers.

Wynn, K. (1992). Addition and subtraction by human infants. *Nature* 358: 749-750.

Wynn, K., Bloom, P. and Chiang, W-C. (2002). Enumeration of collective entities by 5-month-old infants. *Cognition*, 83, B55-B62.

Yoon, Keumsil Kim (1993). Challenging prototype descriptions: perception of noun countability and indefinite vs. zero article use. *International Review of Applied Linguistics*, 31, 269-289.

Yoshida, H. and Smith, L. B. (2003). Correlation, concepts and cross-linguistic differences. *Developmental Science*, 6(1) 30-34.

Yoshida, H. and Smith, L. B. (2005). Linguistic cues enhance the learning of perceptual cues. *Psychological Science*, 16 (2) 90 – 95.

Xu, Fei (1991). Count nouns, sortal concepts and the nature of early words. In F.J. Pelletier (ed.). *Kinds, things, and stuff: Mass Terms and Generics* (New Directions in Cognitive Science: Volume 13). Oxford: Oxford University Press, pp. 191–206.

Xue, Mei (2010). Countable or Uncountable? That is the Question — Lexicographic Solutions to Nominal Countability in Learner's Dictionaries for Production Purposes. *Lexikos* 20: 540-558.

List of Learner's Dictionaries of English

CALD:	*Cambridge Advanced Learner's Dictionary*, 3rd Ed.
COBUILD:	*Collins COBUILD Advanced Learner's English Dictionary*, 5th Ed.
LAAD:	*Longman Advanced American Dictionary*, 2nd Ed.
LDOCE:	*Longman Dictionary of Contemporary English*, 5th Ed.
MALED:	*Meriam-Webster's Advanced Learner's English Dictionary*.
MEDAL:	*Macmillan English Dictionary for Advanced Learners*.
OALD:	*Oxford Advanced Learner's Dictionary*, 8th Ed.

In Table 2.8, there are two COBUILD dictionaries listed.

COBUILD Am: *COBUILD Advanced American English Dictionary*.

COBUILD Br: same as COBUILD in the list above.

Appendix

Pre-modifying adjectives and the use of *a/an* and ø

Tables E1 to S15 show the numbers of occurrences of NPs (adjective + noun) in the singular form with *a/an* and ø and in the plural form with all determiners including ø, *the*, possessives, etc. (abbreviated as 'All Det.'). The tables list only those NPs that have a total of 30 or more occurrences in the [ø or *a/an* + Adj + Noun (sing.)] construction and [all determiners + Adj + Noun (pl.)] construction combined in the Bank of English. NPs are arranged in descending order of the *a/an* percentage (of the total occurrences with both *a/an* and ø in the singular form combined).

Emotion Nouns (E1-E15)

Table E1. *Anger*

Adj. + *anger*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
deep anger	23.3%	7	23	30	0	30
growing anger	15.9%	13	69	82	0	82
intense anger	9.7%	3	28	31	0	31
great anger	9.1%	4	40	44	0	44
righteous anger	8.8%	6	62	68	0	68
real anger	7.1%	4	52	56	0	56
public anger	1.4%	3	209	212	0	212
widespread anger	0.0%	0	104	104	0	104
popular anger	0.0%	0	38	38	0	38
Arab anger	0.0%	0	37	37	0	37

Table E2. *Anxiety*

Adj. + *anxiety*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
growing anxiety	22.4%	11	38	49	5	54
social anxiety	3.3%	1	29	30	8	38
increased anxiety	3.1%	1	31	32	0	32
great anxiety	3.0%	2	64	66	3	69
acute anxiety	2.5%	1	39	40	0	40
public anxiety	1.3%	1	79	80	11	91
chronic anxiety	0.0%	0	35	35	0	35
high anxiety	0.0%	0	71	71	1	72
excessive anxiety	0.0%	0	58	58	1	59
considerable anxiety	0.0%	0	35	35	2	37

Table E3. *Comfort*

Adj. + *comfort*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
great comfort	40.0%	76	114	190	3	193
small comfort	9.8%	9	83	92	6	98
greater comfort	3.1%	1	31	32	2	34
cold comfort	0.5%	1	181	182	0	182
air-conditioned comfort	0.0%	0	33	33	0	33
maximum comfort	0.0%	0	33	33	0	33
relative comfort	0.0%	0	37	37	1	38
extra comfort	0.0%	0	40	40	3	43

Table E4. *Fear*

Adj. + *fear*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
well-founded fear	89.2%	33	4	37	4	41
growing fear	70.0%	42	18	60	174	234
terrible fear	68.9%	31	14	45	9	54
irrational fear	66.7%	42	21	63	56	119
new fear	63.4%	26	15	41	91	132
genuine fear	54.4%	31	26	57	24	81

real fear	52.8%	84	75	159	55	214
sudden fear	50.0%	16	16	32	1	33
great fear	50.0%	50	50	100	15	115
intense fear	43.8%	14	18	32	2	34
widespread fear	37.3%	19	32	51	49	100
high fear	16.7%	5	25	30	0	30
constant fear	7.8%	10	119	129	5	134
public fear	2.4%	1	40	41	112	153

Table E5. *Happiness*

Adj. + *happiness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
great happiness	7.8%	4	47	51	0	51
perfect happiness	1.0%	1	97	98	0	98
human happiness	0.0%	0	87	87	0	87
personal happiness	0.0%	0	73	73	0	73
true happiness	0.0%	0	67	67	0	67

Table E6. *Hatred*

Adj. + *hatred*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
deep hatred	86.7%	26	4	30	1	31
ethnic hatred	1.5%	1	64	65	28	93
religious hatred	1.1%	2	187	189	6	195
racial hatred	0.0%	0	307	307	4	311

Table E7. *Hope*

Adj. + *hope*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
forlorn hope	88.5%	54	7	61	5	66
slim hope	83.3%	30	6	36	63	99
vain hope	81.8%	36	8	44	6	50
faint hope	65.1%	41	22	63	50	113
real hope	16.5%	21	106	127	22	149

great hope	13.5%	21	134	155	166	321
false hope	12.5%	20	140	160	138	298
new hope	5.4%	23	406	429	50	479
fresh hope	1.9%	2	103	105	16	121
renewed hope	1.8%	2	109	111	18	129
local hope	0.0%	0	31	31	22	53

Table E8. *Joy*

Adj. + *joy*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
absolute joy	76.7%	33	10	43	0	43
real joy	58.1%	36	26	62	7	69
great joy	21.0%	52	196	248	43	291
sheer joy	11.5%	7	54	61	0	61
pure joy	4.6%	4	83	87	0	87

Table E9. *Love*

Adj. + *love*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
shared love	89.2%	33	4	37	0	37
life(-)*long love*	86.7%	65	10	75	1	76
deep love	76.5%	75	23	98	1	99
great love	65.4%	106	56	162	45	207
genuine love	56.9%	37	28	65	0	65
new love	42.5%	82	111	193	8	201
mutual love	36.4%	16	28	44	1	45
enduring love	34.4%	11	21	32	0	32
lost love	26.4%	34	95	129	22	151
real love	22.2%	36	126	162	3	165
pure love	20.0%	7	28	35	0	35
passionate love	18.9%	17	73	90	0	90
greater love	17.1%	6	29	35	0	35
obsessive love	13.3%	4	26	30	1	31
perfect love	10.8%	4	33	37	1	38
unrequited love	7.6%	12	145	157	4	161

sexual love	6.8%	5	68	73	0	73
undying love	5.6%	3	51	54	0	54
unconditional love	4.1%	8	189	197	0	197
courtly love	3.9%	2	49	51	0	51
true love	3.6%	22	582	604	9	613
physical love	2.8%	1	35	36	0	36
human love	2.4%	2	80	82	3	85
divine love	2.0%	1	50	51	0	51
tough love	1.6%	2	124	126	0	126
young love	1.1%	1	90	91	2	93
brotherly love	0.9%	1	113	114	0	114
romantic love	0.9%	2	230	232	0	232
free love	0.0%	0	135	135	0	135
parental love	0.0%	0	54	54	0	54
maternal love	0.0%	0	32	32	0	32

Table E10. *Pleasure*

Adj. + *pleasure*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
guilty pleasure	80.0%	76	19	95	57	152
real pleasure	70.6%	89	37	126	7	133
unexpected pleasure	64.5%	20	11	31	16	47
perverse pleasure	58.3%	21	15	36	4	40
special pleasure	52.9%	18	16	34	6	40
particular pleasure	34.0%	17	33	50	6	56
(*a*)*esthetic pleasure*	25.0%	8	24	32	0	32
great pleasure	24.5%	131	403	534	80	614
genuine pleasure	22.9%	8	27	35	0	35
greater pleasure	15.8%	9	48	57	7	64
physical pleasure	15.8%	6	32	38	8	46
intense pleasure	11.9%	5	37	42	4	46
sensual pleasure	11.8%	6	45	51	40	91
enormous pleasure	10.9%	5	41	46	0	46
sheer pleasure	8.7%	4	42	46	1	47
personal pleasure	4.7%	2	41	43	6	49
immense pleasure	3.3%	1	29	30	0	30
pure pleasure	2.8%	2	69	71	2	73
driving pleasure	0.0%	0	38	38	0	38

sexual pleasure	0.0%	0	234	234	21	255

Table E11. *Sadness*

Adj. + *sadness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
profound sadness	34.3%	12	23	35	0	35
deep sadness	26.6%	21	58	79	0	79
great sadness	15.7%	31	167	198	1	199

Table E12. *Sorrow*

Adj. + *sorrow*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
great sorrow	12.5%	7	49	56	5	61
deep sorrow	10.0%	5	45	50	3	53

Table E13. *Surprise*

Adj. + *surprise*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
welcome surprise	100.0%	38	0	38	6	44
wonderful surprise	100.0%	37	0	37	9	46
major surprise	98.8%	85	1	86	28	114
huge surprise	98.1%	105	2	107	4	111
pleasant surprise	98.1%	406	8	414	88	502
nasty surprise	97.4%	76	2	78	118	196
nice surprise	95.4%	103	5	108	12	120
unpleasant surprise	95.3%	41	2	43	64	107
real surprise	94.6%	87	5	92	53	145
big surprise	88.8%	348	44	392	52	444
great surprise	85.9%	122	20	142	21	163
complete surprise	84.0%	210	40	250	0	250
total surprise	79.4%	81	21	102	2	104
considerable surprise	50.0%	15	15	30	0	30
mild surprise	28.6%	14	35	49	3	52

Table E14. *Sympathy*

Adj. + *sympathy*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
deep sympathy	35.3%	12	22	34	3	37
human sympathy	9.7%	3	28	31	4	35
great sympathy	3.4%	3	85	88	0	88
public sympathy	2.4%	4	160	164	0	164
considerable sympathy	2.4%	1	41	42	0	42
international sympathy	0.0%	0	30	30	0	30

Table E15. *Worry*

Adj. + *worry*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
big worry	97.3%	73	2	75	14	89
major worry	96.7%	58	2	60	14	74
real worry	92.9%	52	4	56	24	80
serious worry	80.6%	25	6	31	25	56
constant worry	73.3%	33	12	45	4	49

Mental Activity Nouns (M1-M6)

Table M1. *Awareness*

Adj. + *awareness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
keen awareness	100.0%	31	0	31	0	31
acute awareness	94.3%	33	2	35	0	35
new awareness	90.6%	58	6	64	4	68
growing awareness	77.0%	124	37	161	0	161
heightened awareness	59.0%	59	41	100	0	100
greater awareness	53.6%	90	78	168	0	168
increasing awareness	44.6%	25	31	56	0	56
increased awareness	36.5%	38	66	104	0	104
political awareness	25.0%	11	33	44	0	44
conscious awareness	17.9%	10	46	56	0	56

environmental awareness	14.8%	8	46	54	0	54
public awareness	5.9%	31	492	523	0	523
spiritual awareness	3.0%	1	32	33	0	33

Table M2. *Consciousness*

Adj. + *consciousness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
political consciousness	36.7%	18	31	49	1	50
national consciousness	17.5%	10	47	57	0	57
social consciousness	17.1%	6	29	35	0	35
false consciousness	16.1%	5	26	31	0	31
human consciousness	2.3%	3	130	133	1	134
public consciousness	1.1%	1	90	91	0	91
full consciousness	0.0%	0	40	40	0	40
impaired consciousness	0.0%	0	38	38	0	38
popular consciousness	0.0%	0	33	33	0	33

Table M3. *Knowledge*

Adj. + *knowledge*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
working knowledge	91.0%	121	12	133	0	133
thorough knowledge	80.0%	48	12	60	0	60
encyclop(a)edic knowledge	76.6%	49	15	64	0	64
good knowledge	75.4%	92	30	122	0	122
deep knowledge	69.1%	38	17	55	0	55
great knowledge	52.6%	20	18	38	0	38
basic knowledge	46.7%	43	49	92	0	92
intimate knowledge	46.7%	77	88	165	0	165
in(-)depth knowledge	44.9%	22	27	49	0	49
greater knowledge	41.5%	27	38	65	1	66
considerable knowledge	35.5%	11	20	31	0	31
detailed knowledge	35.4%	46	84	130	0	130
real knowledge	32.4%	12	25	37	0	37
extensive knowledge	32.1%	25	53	78	0	78
limited knowledge	24.6%	16	49	65	0	65
special knowledge	18.8%	9	39	48	1	49

certain knowledge	18.8%	6	26	32	0	32
general knowledge	15.5%	20	109	129	0	129
perfect knowledge	14.3%	6	36	42	0	42
practical knowledge	13.3%	8	52	60	1	61
theoretical knowledge	12.9%	4	27	31	0	31
personal knowledge	10.1%	7	62	69	0	69
first(-)*hand knowledge*	9.3%	12	117	129	0	129
full knowledge	9.0%	8	81	89	0	89
professional knowledge	8.8%	3	31	34	0	34
inside knowledge	8.4%	7	76	83	0	83
sufficient knowledge	7.5%	3	37	40	0	40
useful knowledge	5.3%	2	36	38	0	38
technical knowledge	5.0%	5	96	101	0	101
specializ(*s*)*ed knowledge*	4.2%	3	68	71	1	72
direct knowledge	2.9%	2	66	68	0	68
prior knowledge	2.5%	4	153	157	0	157
local knowledge	2.5%	5	193	198	0	198
specific knowledge	2.4%	1	41	42	1	43
public knowledge	1.0%	3	312	315	0	315
medical knowledge	0.8%	1	120	121	0	121
scientific knowledge	0.6%	2	313	315	0	315
common knowledge	0.4%	2	462	464	0	464
new knowledge	0.0%	0	232	232	1	233
human knowledge	0.0%	0	114	114	0	114
advance knowledge	0.0%	0	62	62	0	62
procedural knowledge	0.0%	0	48	48	0	48
political knowledge	0.0%	0	35	35	0	35
traditional knowledge	0.0%	0	35	35	0	35
current knowledge	0.0%	0	32	32	0	32

Table M4. *Perception*

Adj. + *perception*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
growing perception	100.0%	45	0	45	3	48
widespread perception	100.0%	35	0	35	0	35
false perception	100.0%	17	0	17	13	30
negative perception	95.5%	21	1	22	34	56

different perception	91.7%	33	3	36	40	76
common perception	87.5%	28	4	32	11	43
general perception	83.8%	31	6	37	10	47
public perception	24.1%	51	161	212	147	359
popular perception	20.0%	8	32	40	18	58
distinct perception	6.1%	2	31	33	6	39
extra(-)*sensory perception*	2.2%	1	45	46	3	49
sensory perception	0.0%	0	17	17	17	34

Table M5. *Recognition*

Adj. + *recognition*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
clear recognition	80.6%	25	6	31	0	31
growing recognition	68.7%	57	26	83	0	83
belated recognition	42.9%	15	20	35	0	35
widespread recognition	22.9%	8	27	35	0	35
formal recognition	16.2%	16	83	99	0	99
public recognition	12.7%	13	89	102	0	102
wider recognition	9.1%	4	40	44	0	44
full recognition	7.8%	4	47	51	0	51
mutual recognition	7.6%	5	61	66	0	66
instant recognition	7.5%	3	37	40	0	40
greater recognition	6.8%	6	82	88	0	88
legal recognition	3.2%	4	121	125	0	125
proper recognition	2.9%	1	33	34	0	34
due recognition	2.4%	1	41	42	0	42
special recognition	1.9%	1	51	52	0	52
official recognition	1.4%	2	142	144	1	145
international recognition	1.1%	3	271	274	0	274
national recognition	1.1%	1	91	92	0	92
diplomatic recognition	0.5%	1	198	199	0	199
federal recognition	0.0%	0	30	30	0	30

Table M6. *Understanding*

Adj. + *understanding*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
different understanding	100.0%	35	0	35	20	55
thorough understanding	98.6%	68	1	69	0	69
clearer understanding	97.9%	93	2	95	0	95
keen understanding	97.5%	39	1	40	0	40
clear understanding	97.0%	296	9	305	0	305
good understanding	95.5%	276	13	289	0	289
fuller understanding	95.0%	38	2	40	0	40
profound understanding	91.7%	33	3	36	0	36
sophisticated understanding	91.7%	33	3	36	1	37
deeper understanding	91.3%	188	18	206	2	208
better understanding	90.9%	954	96	1050	5	1055
proper understanding	90.0%	36	4	40	0	40
basic understanding	89.8%	79	9	88	5	93
deep understanding	86.1%	99	16	115	0	115
limited understanding	83.7%	36	7	43	0	43
common understanding	83.3%	70	14	84	11	95
tacit understanding	83.3%	25	5	30	5	35
complete understanding	83.0%	73	15	88	0	88
general understanding	81.4%	35	8	43	2	45
intuitive understanding	81.3%	26	6	32	0	32
new understanding	79.6%	121	31	152	32	184
real understanding	79.2%	57	15	72	0	72
great understanding	73.8%	48	17	65	0	65
full understanding	73.6%	64	23	87	0	87
shared understanding	71.4%	25	10	35	7	42
greater understanding	66.1%	232	119	351	0	351
true understanding	59.7%	37	25	62	0	62
scientific understanding	25.4%	18	53	71	0	71
mutual understanding	24.9%	44	133	177	3	180
initial understanding	24.4%	10	31	41	2	43
public understanding	12.2%	11	79	90	0	90
international understanding	10.7%	3	25	28	2	30
conceptual understanding	8.7%	4	42	46	4	50
cultural understanding	7.5%	3	37	40	4	44
human understanding	1.5%	1	64	65	0	65

Quality Nouns (Q1-Q15)

Table Q1. *Courage*

Adj. + *courage*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
Dutch courage	2.6%	1	38	39	0	39
tremendous courage	2.2%	1	44	45	0	45
great courage	1.1%	2	183	185	0	185
political courage	0.0%	0	66	66	0	66
moral courage	0.0%	0	63	63	0	63
personal courage	0.0%	0	44	44	0	44
real courage	0.0%	0	35	35	0	35
extraordinary courage	0.0%	0	31	31	0	31
physical courage	0.0%	0	31	31	0	31

Table Q2. *Cruelty*

Adj. + *cruelty*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
mental cruelty	0.0%	0	41	41	0	41

Table Q3. *Curiosity*

Adj. + *curiosity*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
scientific curiosity	26.5%	9	25	34	2	36
intellectual curiosity	19.2%	10	42	52	1	53
public curiosity	6.5%	2	29	31	0	31
idle curiosity	2.6%	1	37	38	0	38

Table Q4. *Determination*

Adj. + *determination*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
new determination	86.1%	31	5	36	1	37
final determination	82.0%	41	9	50	10	60
real determination	75.0%	27	9	36	0	36

steely determination	63.0%	34	20	54	0	54
fierce determination	44.2%	19	24	43	0	43
grim determination	37.0%	20	34	54	0	54
dogged determination	22.4%	11	38	49	0	49
great determination	13.2%	9	59	68	0	68
sheer determination	0.0%	0	49	49	0	49

Table Q5. *Generosity*

Adj. + *generosity*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
great generosity	13.6%	3	19	22	0	22

Table Q6. *Honesty*

Adj. + *honesty*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
brutal honesty	12.1%	4	29	33	0	33

Table Q7. *Impatience*

Adj. + *impatience*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
growing impatience	23.7%	9	29	38	0	38

Table Q8. *Intelligence*

Adj. + *intelligence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
high intelligence	6.2%	4	61	65	0	65
raw intelligence	2.4%	1	40	41	0	41
low intelligence	2.1%	1	47	48	0	48
general intelligence	2.0%	1	49	50	0	50
emotional intelligence	1.6%	2	121	123	0	123
human intelligence	1.4%	3	215	218	0	218
good intelligence	0.8%	1	122	123	0	123
new intelligence	0.0%	0	75	75	0	75
secret intelligence	0.0%	0	41	41	0	41
prewar intelligence	0.0%	0	131	131	0	131
faulty intelligence	0.0%	0	77	77	0	77

better intelligence	0.0%	0	85	85	0	85
recent intelligence	0.0%	0	41	41	0	41
specific intelligence	0.0%	0	36	36	1	37
flawed intelligence	0.0%	0	47	47	0	47
credible intelligence	0.0%	0	45	45	0	45
actionable intelligence	0.0%	0	38	38	0	38
average intelligence	0.0%	0	47	47	0	47
useful intelligence	0.0%	0	30	30	0	30
great intelligence	0.0%	0	31	31	0	31
normal intelligence	0.0%	0	33	33	0	33

Table Q9. *Intolerance*

Adj. + *intolerance*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
racial intolerance	2.2%	1	44	45	0	45
religious intolerance	0.0%	0	67	67	0	67

Table Q10. *Kindness*

Adj. + *kindness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
human kindness	0.0%	0	73	73	0	73

Table Q11. *Patience*

Adj. + *patience*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
infinite patience	3.3%	1	29	30	0	30
great patience	0.0%	0	50	50	0	50

Table Q12. *Sensitivity*

Adj. + *sensitivity*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
heightened sensitivity	59.4%	19	13	32	0	32
food sensitivity	40.0%	8	12	20	31	51

greater sensitivity	31.9%	15	32	47	0	47
increased sensitivity	28.1%	9	23	32	4	36
high sensitivity	27.3%	9	24	33	0	33
great sensitivity	12.5%	6	42	48	1	49
cultural sensitivity	2.4%	1	40	41	23	64
political sensitivity	0.0%	0	24	24	32	56

Table Q13. *Shyness*

Adj. + *shyness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
extreme shyness	0.0%	0	12	12	0	12

Table Q14. *Sincerity*

Adj. + *sincerity*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
absolute sincerity	0.0%	0	8	8	0	8

Table Q15. *Tolerance*

Adj. + *tolerance*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
high tolerance	91.1%	41	4	45	0	45
low tolerance	80.5%	33	8	41	0	41
greater tolerance	16.7%	8	40	48	0	48
religious tolerance	1.4%	2	139	141	0	141
racial tolerance	0.0%	0	35	35	0	35

State Nouns (S1-S15)

Table S1. *Absence*

Adj. + *absence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
Numeral + *year,month, week,day* + *absence*	98.4%	562	9	571	2	573
complete absence	95.2%	60	3	63	0	63
long absence	94.1%	95	6	101	56	157
total absence	86.5%	45	7	52	0	52

Table S2. *Confusion*

Adj. + *confusion*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
great confusion	6.0%	3	47	50	0	50
further confusion	3.5%	2	55	57	0	57
utter confusion	3.2%	1	30	31	0	31
widespread confusion	2.8%	1	35	36	0	36
considerable confusion	2.1%	1	47	48	0	48
mass confusion	0.0%	0	32	32	0	32
mental confusion	0.0%	0	39	39	0	39
total confusion	0.0%	0	52	52	0	52

Table S3. *Dependence*

Adj. + *dependence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
growing dependence	62.5%	5	3	8	0	8
heavy dependence	42.9%	6	8	14	0	14
emotional dependence	40.0%	2	3	5	0	5
increasing dependence	30.8%	4	9	13	0	13
psychological dependence	16.0%	4	21	25	0	25
physical dependence	12.9%	4	27	31	0	31
financial dependence	6.3%	1	15	16	0	16
mutual dependence	0.0%	0	20	20	0	20
economic dependence	0.0%	0	19	19	0	19

total dependence	0.0%	0	6	6	0	6

Table S4. *Freedom*

Adj. + *freedom*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
new freedom	57.1%	40	30	70	78	148
great freedom	18.4%	7	31	38	7	45
real freedom	11.3%	6	47	53	3	56
relative freedom	6.5%	2	29	31	1	32
absolute freedom	5.6%	3	51	54	0	54
greater freedom	4.4%	13	281	294	28	322
creative freedom	3.6%	2	53	55	0	55
considerable freedom	3.2%	1	30	31	0	31
total freedom	2.6%	2	74	76	0	76
sexual freedom	1.7%	2	114	116	10	126
intellectual freedom	1.6%	1	61	62	0	62
complete freedom	1.4%	2	146	148	0	148
artistic freedom	1.3%	1	77	78	0	78
personal freedom	1.0%	2	196	198	74	272
political freedom	1.0%	2	203	205	73	278
human freedom	0.8%	1	125	126	15	141
economic freedom	0.6%	1	156	157	22	179
individual freedom	0.5%	1	204	205	66	271
true freedom	0.0%	0	33	33	0	33
academic freedom	0.0%	0	199	199	4	203
financial freedom	0.0%	0	35	35	2	37
reproductive freedom	0.0%	0	67	67	5	72
full freedom	0.0%	0	39	39	4	43
religious freedom	0.0%	0	545	545	57	602
American freedom	0.0%	0	40	40	12	52

Table S5. *Health*

Adj. + *health*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
robust health	3.1%	1	31	32	0	32
good health	0.1%	1	1920	1921	0	1921
public health	0.0%	1	2078	2079	0	2079
aboriginal health	0.0%	0	57	57	0	57

bad health	0.0%	0	79	79	0	79
better health	0.0%	0	293	293	0	293
declining health	0.0%	0	68	68	0	68
dental health	0.0%	0	56	56	0	56
economic health	0.0%	0	73	73	0	73
emotional health	0.0%	0	43	43	0	43
environmental health	0.0%	0	96	96	0	96
excellent health	0.0%	0	128	128	0	128
failing health	0.0%	0	94	94	0	94
frail health	0.0%	0	37	37	0	37
full health	0.0%	0	80	80	0	80
general health	0.0%	0	110	110	0	110
human health	0.0%	0	732	732	0	732
ill health	0.0%	0	917	917	0	917
improved health	0.0%	0	58	58	0	58
improving health	0.0%	0	50	50	0	50
mental health	0.0%	0	1021	1021	0	1021
occupational health	0.0%	0	114	114	0	114
oral health	0.0%	0	69	69	0	69
overall health	0.0%	0	61	61	0	61
perfect health	0.0%	0	114	114	0	114
personal health	0.0%	0	50	50	0	50
physical health	0.0%	0	241	241	0	241
poor health	0.0%	0	562	562	0	562
poorer health	0.0%	0	36	36	0	36
private health	0.0%	0	31	31	0	31
psychological health	0.0%	0	40	40	0	40
reproductive health	0.0%	0	92	92	0	92
rude health	0.0%	0	73	73	0	73
sexual health	0.0%	0	177	177	0	177

Table S6. *Illness*

Adj. + *illness*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
brief illness	100.0%	66	0	66	0	66
lengthy illness	100.0%	60	0	60	0	60
short illness	98.9%	93	1	94	0	94
long illness	97.4%	262	7	269	7	276
undisclosed illness	97.3%	36	1	37	0	37

brain-wasting illness	96.7%	29	1	30	0	30
mysterious illness	93.8%	45	3	48	6	54
viral illness	87.1%	27	4	31	19	50
fatal illness	81.6%	40	9	49	21	70
rare illness	78.8%	26	7	33	5	38
debilitating illness	78.3%	36	10	46	29	75
(*flu*, etc.)-*like illness*	71.7%	76	30	106	18	124
life-threatening illness	67.5%	83	40	123	79	202
terminal illness	64.3%	175	97	272	46	318
prolonged illness	60.5%	23	15	38	1	39
mild illness	48.4%	15	16	31	3	34
long-term illness	47.4%	27	30	57	17	74
respiratory illness	43.3%	71	93	164	95	259
acute illness	41.7%	15	21	36	21	57
serious illness	40.0%	192	288	480	129	609
chronic illness	39.8%	121	183	304	172	476
(*AIDS*, etc.)-*related illness*	36.8%	86	148	234	296	530
critical illness	36.6%	15	26	41	4	45
physical illness	29.1%	53	129	182	45	227
psychotic illness	29.0%	9	22	31	15	46
severe illness	27.6%	27	71	98	24	122
(*food*, etc.)-*borne illness*	26.0%	13	37	50	44	94
psychiatric illness	24.0%	23	73	96	38	134
mental illness	13.5%	296	1899	2195	254	2449
human illness	6.3%	2	30	32	8	40

Table S7. *Independence*

Adj. + *independence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
formal independence	1.8%	2	112	114	0	114
economic independence	1.6%	2	126	128	0	128
greater independence	0.8%	1	124	125	0	125
American independence	0.0%	0	59	59	0	59
Baltic independence	0.0%	0	37	37	0	37
complete independence	0.0%	0	92	92	0	92
de facto independence	0.0%	0	45	45	0	45
editorial independence	0.0%	0	32	32	0	32
financial independence	0.0%	0	124	124	0	124
full independence	0.0%	0	211	211	0	211

Indian independence	0.0%	0	30	30	0	30
judicial independence	0.0%	0	185	185	0	185
national independence	0.0%	0	91	91	0	91
outright independence	0.0%	0	43	43	0	43
personal independence	0.0%	0	37	37	0	37
political independence	0.0%	0	88	88	0	88
Scottish independence	0.0%	0	46	46	0	46
Taiwanese independence	0.0%	0	32	32	0	32
total independence	0.0%	0	41	41	0	41

Table S8. *Marriage*

Adj. + *marriage*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
bad marriage	98.4%	63	1	64	23	87
previous marriage	98.4%	244	4	248	65	313
long marriage	97.2%	35	1	36	6	42
loveless marriage	96.7%	58	2	60	7	67
good marriage	96.4%	134	5	139	26	165
broken marriage	95.1%	39	2	41	58	99
happy marriage	95.0%	248	13	261	30	291
failed marriage	94.4%	51	3	54	71	125
perfect marriage	91.2%	31	3	34	4	38
Numeral + *year,month,etc.* + *marriage*	90.4%	75	8	83	2	85
unhappy marriage	89.8%	88	10	98	29	127
successful marriage	87.7%	64	9	73	11	84
arranged marriage	81.9%	208	46	254	139	393
early marriage	44.4%	32	40	72	13	85
legal marriage	37.5%	12	20	32	5	37
forced marriage	33.9%	21	41	62	63	125
modern marriage	32.4%	12	25	37	11	48
civil marriage	20.3%	24	94	118	47	165
heterosexual marriage	19.1%	17	72	89	29	118
interracial marriage	12.1%	7	51	58	25	83
traditional marriage	7.5%	16	198	214	28	242
homosexual marriage	1.1%	1	87	88	40	128
same-sex marriage	1.0%	23	2249	2272	1172	3444
gay marriage	0.4%	10	2694	2704	626	3330

Table S9. *Peace*

Adj. + *peace*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
separate peace	100.0%	56	0	56	1	57
fragile peace	95.1%	39	2	41	0	41
uneasy peace	94.8%	55	3	58	0	58
negotiated peace	94.5%	52	3	55	0	55
comprehensive peace	86.2%	50	8	58	0	58
durable peace	67.4%	31	15	46	0	46
lasting peace	56.8%	254	193	447	0	447
permanent peace	42.1%	32	44	76	0	76
real peace	23.9%	22	70	92	0	92
inner peace	15.1%	25	141	166	0	166
regional peace	9.3%	4	39	43	0	43
perfect peace	7.5%	3	37	40	0	40
greater peace	4.2%	2	46	48	0	48
true peace	4.2%	2	46	48	0	48
global peace	3.8%	2	51	53	0	53
relative peace	2.4%	2	81	83	0	83
international peace	0.5%	1	220	221	0	221

Table S10. *Poverty*

Adj. + *poverty*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
relative poverty	2.5%	1	39	40	0	40
absolute poverty	1.5%	1	67	68	0	68
rural poverty	1.2%	1	84	85	0	85
abject poverty	0.6%	1	153	154	0	154
urban poverty	0.0%	0	213	213	0	213
extreme poverty	0.0%	0	188	188	0	188
global poverty	0.0%	0	138	138	0	138
dire poverty	0.0%	0	56	56	0	56
grinding poverty	0.0%	0	50	50	0	50
widespread poverty	0.0%	0	47	47	0	47

Table S11. *Presence*

Adj. + *presence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
permanent presence	100.0%	35	0	35	0	35
stronger presence	100.0%	31	0	31	0	31
large presence	100.0%	30	0	30	0	30
commanding presence	98.1%	51	1	52	0	52
major presence	98.0%	49	1	50	0	50
constant presence	97.9%	47	1	48	0	48
strong presence	97.7%	213	5	218	1	219
global presence	97.6%	40	1	41	0	41
visible presence	97.1%	34	1	35	0	35
significant presence	95.2%	79	4	83	1	84
powerful presence	95.1%	39	2	41	2	43
diplomatic presence	93.3%	28	2	30	1	31
big presence	92.1%	35	3	38	0	38
international presence	89.6%	69	8	77	0	77
American presence	88.9%	64	8	72	0	72
huge presence	87.1%	27	4	31	0	31
online presence	87.1%	27	4	31	1	32
military presence	85.4%	381	65	446	2	448
greater presence	84.6%	33	6	39	0	39
physical presence	72.0%	180	70	250	0	250
real presence	69.4%	25	11	36	1	37
human presence	59.7%	37	25	62	1	63
great presence	33.3%	19	38	57	0	57

Table S12. *Silence*

Adj. + *silence*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
long silence	95.2%	359	18	377	12	389
short silence	94.9%	56	3	59	0	59
Numeral + *year, minute, etc.* + *silence*	93.7%	119	8	127	4	131
brief silence	91.8%	56	5	61	0	61
dignified silence	86.7%	39	6	45	0	45
uneasy silence	84.2%	32	6	38	0	38
eerie silence	77.8%	63	18	81	0	81
uncomfortable silence	77.8%	42	12	54	3	57

awkward silence	76.0%	95	30	125	26	151
deafening silence	64.9%	37	20	57	0	57
embarrassed silence	60.0%	24	16	40	4	44
shocked silence	50.0%	20	20	40	0	40
tense silence	50.0%	15	15	30	2	32
respectful silence	48.8%	20	21	41	0	41
companionable silence	32.5%	13	27	40	3	43
stunned silence	32.1%	61	129	190	2	192
stony silence	30.4%	28	64	92	5	97
dead silence	20.9%	19	72	91	0	91
complete silence	6.1%	7	107	114	0	114
utter silence	5.3%	3	54	57	0	57
total silence	4.8%	7	140	147	0	147
absolute silence	1.5%	1	64	65	0	65

Table S13. *Sleep*

Adj. + *sleep*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
long sleep	90.2%	37	4	41	0	41
good sleep	71.4%	70	28	98	2	100
fitful sleep	68.6%	24	11	35	0	35
sound sleep	66.0%	31	16	47	1	48
dreamless sleep	62.3%	33	20	53	0	53
deep sleep	58.9%	182	127	309	0	309
restful sleep	41.2%	14	20	34	0	34
disturbed sleep	2.9%	1	33	34	0	34
poor sleep	0.0%	0	50	50	0	50
slow-wave sleep	0.0%	0	60	60	0	60

Table S14. *Unemployment*

Adj. + *unemployment*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
lower unemployment	2.4%	1	40	41	0	41
massive unemployment	1.9%	1	53	54	0	54
high unemployment	0.8%	4	492	496	0	496
low unemployment	0.0%	0	169	169	0	169
mass unemployment	0.0%	0	136	136	0	136
higher unemployment	0.0%	0	88	88	0	88

long-term unemployment	0.0%	0	68	68	0	68
widespread unemployment	0.0%	0	34	34	0	34
growing unemployment	0.0%	0	30	30	0	30

Table S15. *War*

Adj. + *war*	SINGULAR				PLURAL	TOTAL
	a/an %	*a/an*	Ø	Total	All Det.	
costly war	100.0%	30	0	30	14	44
great war	100.0%	36	0	36	36	72
unpopular war	100.0%	59	0	59	3	62
long war	97.9%	137	3	140	12	152
unjust war	97.7%	43	1	44	5	49
Numeral + *year, day, etc.* + *war*	97.0%	226	7	233	0	233
wider war	97.0%	32	1	33	0	33
short war	96.8%	61	2	63	3	66
good war	96.4%	53	2	55	3	58
unnecessary war	96.3%	52	2	54	13	67
effective war	95.7%	44	2	46	0	46
two(*multi*)*-front war*	95.2%	40	2	42	0	42
bitter war	93.9%	77	5	82	5	87
illegal war	93.8%	75	5	80	12	92
terrible war	93.3%	28	2	30	5	35
new war	93.2%	150	11	161	26	187
trade war	92.4%	375	31	406	0	406
bloody war	91.0%	101	10	111	25	136
different war	90.9%	30	3	33	18	51
prolonged war	90.9%	30	3	33	0	33
successful war	90.6%	29	3	32	5	37
protracted war	90.0%	27	3	30	4	34
ongoing war	89.2%	33	4	37	5	42
quick war	88.9%	32	4	36	0	36
cultural war	87.1%	27	4	31	16	47
just war	84.9%	124	22	146	9	155
phon(*e*)*y war*	83.9%	26	5	31	4	35
possible war	83.1%	291	59	350	2	352
potential war	81.7%	49	11	60	0	60
global war	81.3%	87	20	107	3	110
undeclared war	79.6%	39	10	49	1	50

religious war	70.7%	53	22	75	60	135
real war	70.1%	82	35	117	7	124
major war	61.6%	53	33	86	63	149
sectarian war	60.6%	20	13	33	2	35
ethnic war	60.0%	18	12	30	8	38
full-scale war	56.1%	69	54	123	9	132
conventional war	55.6%	50	40	90	14	104
economic war	48.6%	17	18	35	0	35
preventive war	43.4%	23	30	53	4	57
limited war	43.1%	31	41	72	17	89
general war	42.4%	14	19	33	0	33
pre(-)*emptive war*	41.4%	58	82	140	17	157
all-out war	38.9%	117	184	301	2	303
imminent war	38.2%	13	21	34	0	34
nuclear war	38.2%	268	434	702	5	707
open war	24.1%	13	41	54	0	54
modern war	23.3%	14	46	60	19	79
impending war	18.6%	8	35	43	1	44
total war	14.4%	28	166	194	2	196