



A CORPUS-BASED STUDY
OF LINKING ADVERBIALS OF RESULT *SO*,
THUS, *THEREFORE*, AND *HENCE*

BY

MR. PERARTHUS TECHARSATITWONG

AN INDEPENDENT STUDY PAPER SUBMITTED IN
PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN ENGLISH FOR CAREERS
LANGUAGE INSTITUTE
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ACADEMIC YEAR 2015
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Chairman

Pattama Sappapan

(Assistant Professor Pattama Sappapan, Ph.D.)

Member and Advisor

Supakorn Phoocharoensil

(Assistant Professor Supakorn Phoocharoensil, Ph.D.)

Dean

Pornsiri Singhapreecha

(Associate Professor Pornsiri Singhapreecha, Ph.D.)

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Author	Mr. Perarthus Techarsatitwong
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Independent Study Paper Advisor	Assistant Professor Supakorn Phoocharoensil, Ph.D.
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ABSTRACT

This study was aimed at investigating four single-word linking adverbials (LAs) of result, i.e., *thus, therefore, hence, and so*, in the Corpus of Contemporary American English (COCA), with an emphasis on written academic English. An exploration of the target LAs in 1,200 concordance lines showed that the most common LA was *thus*; the second and third most frequent were *therefore* and *hence* respectively, whereas *so* was the least common. As regards the patterns in which these LAs occurred, in contrast to previous studies that found *so* to be the most frequently occurring in spoken English in the initial position, over 90% of *so* in academic written English was found in the middle position. On the whole, the patterns of the other target LAs of result discovered in the corpus-informed data also outnumbered those presented in the surveyed traditional textbooks. As for the pedagogical implications, it is advisable that English instructors include more salient LA patterns based on authentic corpus-based data in their lessons in order to reinforce the textbook information.

Keywords: Linking Adverbial of Result, Academic Writing, American English, Corpus-Based Study, COCA

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TABLE OF CONTENTS

	Page
ABSTRACT	(1)
ACKNOWLEDGEMENTS	(2)
LIST OF TABLES	(6)
FIGURE	(7)
LIST OF ABBREVIATIONS	(8)
CHAPTER 1 INTRODUCTION	1
1.1 Background	1
1.2 Research questions	2
1.3 Objectives of the study	2
1.4 Hypotheses	3
1.5 Scope of the study	3
1.6 Limitations of the study	3
1.7 Definition of key terms	4
1.8 Significance of the study	5
1.9 Organization of the study	6
CHAPTER 2 REVIEW OF LITERATURE	7
2.1 Language corpora	7
2.1.1 Defining language corpora	7
2.1.2 Importance of corpus-based research	7
2.2 Linking adverbials	8

2.2.1 Definition of linking adverbials and other related terms	8
2.2.2 Linking adverbials of result	9
2.2.2.1 Linking adverbials of result in dictionaries	9
2.2.2.1.1 So	9
2.2.2.1.2 Thus	10
2.2.2.1.3 Therefore	10
2.2.2.1.4 Hence	10
2.2.2.2 Linking adverbials of result in traditional textbooks	10
2.3 Previous related studies	11
CHAPTER 3 RESEARCH METHODOLOGY	17
3.1 Target linking adverbials of result	17
3.2 Procedure	17
3.2.1 Research design	17
3.2.2 Data collection	17
3.3 Data analysis	19
CHAPTER 4 FINDINGS	21
4.1 The frequency of linking adverbials of result	21
4.2 The grammatical patterns of linking adverbials	22
4.2.1 Thus	22
4.2.2 Therefore	27
4.2.3 Hence	32
4.2.4 So	37
CHAPTER 5 DISCUSSION, CONCLUSION AND RECOMMENDATIONS	39
5.1 Discussion of the findings	39
5.1.1 Research question 1 & hypothesis 1	39
5.1.2 Research question 2 & hypothesis 2	40

5.2 Conclusion	43
5.3 Pedagogical implications	44
5.4 Recommendations for further research	45
5.4.1 The number of concordance lines	45
5.4.2 Linking adverbials of result	45
5.4.3 Spoken English/other genres in COCA corpus	46
5.4.4 Other native-speaker and learner Englishes	46
REFERENCES	47
APPENDICES	
APPENDIX A	50
APPENDIX B	52
APPENDIX C	54
APPENDIX D	56
BIOGRAPHY	58

LIST OF TABLES

Tables	Page
4.2 The frequency of grammatical patterns of <i>thus</i> in COCA	22
4.3 The frequency of grammatical patterns of <i>therefore</i> in COCA	28
4.4 The frequency of grammatical patterns of <i>hence</i> in COCA	33
4.5 The frequency of grammatical patterns of <i>so</i> in COCA	37



FIGURE

Figure

Page

4.1 The frequency of the target LAs of result

21



LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
ACAD	Academic
Adj.	Adjective
Adj.P	Adjective Phrase
BNC	British National Corpus
CEEAAUS	Corpus of English Essays Written by Asian University Students
COCA	Corpus of Contemporary American English
EAP	English for Academic Purposes
EFL	English as a Foreign Language
ELT	English Language Teaching
ESL	English as a Second Language
LA	Linking Adverbial of Result
LDOCE	Longman Dictionary of Contemporary English
LSWE	Longman Spoken and Written English corpus
NP	Noun Phrase
Obj.	Object
POS	Part of Speech
PP	Prepositional Phrase
RA	Research Article
S	Subject
V	Verb
V.3	Verb in the Past Participle Form
V.inf	Verb in the Infinitive Form
V.ing	Verb in the Present Participle Form

VP	Verb Phrase
WSC	Wellington Corpus of Spoken New Zealand English
WWS	Wellington Corpus of Written New Zealand English



CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

It is an undeniable fact that organized, coherent texts are of paramount importance in written academic English. One of the most crucial factors contributing to coherence in writing is linking adverbials (LAs), which “make explicit the relationship between two units of discourse” (Biber, Johansson, Leech, Conrad, and Finegan, 1999, p. 765). Of all the LAs, a very common type used in academic writing is LAs of result, such as *so, therefore, thus, hence, accordingly, consequently, as a result, as a consequence*, etc. (Carter and McCarthy, 2006).

Most of the empirical studies on LAs of result have employed a corpus-based approach, which collects data from a language corpus, defined as “a collection of texts, written or spoken, which is stored on a computer” (O’Keeffe, McCarthy, and Carter, 2007, p. 1). Corpus-based data has steadily gained popularity in vocabulary study since language corpora, e.g., British National Corpus (BNC) and Corpus of Contemporary American English (COCA), represent authentic English used by native speakers and provide comprehensive language data, some of which cannot be informed by native speaker intuition alone (Conrad, 1999).

Some previous research studies have investigated LAs of result using language corpora (e.g., Biber et al., 1999; Charles, 2011; Ishikawa, 2010; Liu, 2008; Peacock, 2010; Yin, 2015). For example, Charles (2011) explored adverbials found in native speakers’ theses in two different genres, i.e., politics and materials science. Ishikawa (2010), moreover, examined LAs in Japanese and Chinese learners’ English, in comparison with those used by native speakers. However, there seems to be little or no research that focused on LAs of result in written academic American English. It is for this reason that the present study concentrates on LAs of result, with an emphasis on American English based on data from COCA.

The present study is aimed at investigating English LAs of result, *thus, therefore, hence*, and *so*. These four adverbials have been chosen because they are among those occurring with the highest frequency in different genres, as shown in

previous studies (Biber et al., 1999; Charles, 2011). In addition, due to the fact that most of the existing corpus-based studies have placed an emphasis on British English, it should be interesting and worthwhile to look at how these LAs of result are used in American English. Furthermore, as the past studies have apparently not explored the use of these adverbials in written academic English with a focus on the authentic patterns of use of these LAs, this genre has therefore been selected to be the main focus of the study in the hope that the findings will benefit both English learners who want to improve their academic writing skill through corpus-based English and instructors who may need to prepare academic writing lessons based on authentic English. The data of the current study was derived from 300 concordance lines of each LA randomly selected from COCA. There were altogether 1,200 concordance lines. The patterns of LA use found in COCA were then compared with those from traditional academic writing coursebook series, namely *Writing to Communicate* (Boardman and Frydenberg, 2008), *Ready to Write* (Blanchard and Root, 2010), *Engaging Writing: Essential Skills for Academic Writing* (Fitzpatrick, 2011), and *Longman Academic Writing Series* (Oshima and Hogue, 2013), the details of which are presented in Chapter 3.

1.2 RESEARCH QUESTIONS

1.2.1 How do the English linking adverbials of result *so*, *thus*, *therefore* and *hence* occur in corpus-based written academic American English in terms of frequency?

1.2.2 What are the similarities and differences between the patterns of use of English linking adverbials of result in COCA and those in traditional textbooks?

1.3 OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1.3.1 To investigate the English linking adverbials of result *so*, *thus*, *therefore* and *hence* found in corpus-based written academic American English in terms of frequency and patterns of use.

1.3.2 To compare and contrast the patterns of use of English linking adverbials of result in COCA to those in traditional textbooks.

1.4 HYPOTHESES

1.4.1 The linking adverbial of result *thus* will be the most frequent, while *hence* will be the least common in written academic American English.

1.4.2 COCA will provide more comprehensive data, in terms of patterns of use, which represents more authentic English than traditional textbooks.

1.5 SCOPE OF THE STUDY

This study concentrates only on four common single-word LAs of result, i.e., *so*, *thus*, *therefore*, and *hence*. COCA was used as a tool to collect the data of LAs in American English. A total of 1,200 concordance lines of each LA of result were randomly selected from the specific genre ACAD (academic) from COCA. Additionally, the differences between these target LAs in terms of frequency and patterns of use were also taken into account.

1.6 LIMITATIONS OF THE STUDY

The present study has the following limitations. First of all, the data was drawn from COCA, which is one of the representatives of American English among others. The reason why COCA was chosen lies in the fact that COCA is a freely searchable 450-million word corpus of American English, the largest currently available, which represents data from a number of genres. Nevertheless, the data from COCA may not be generalizable to other varieties of native-speaker English, e.g., Australian English or New Zealand English.

The second limitation deals with the number of concordance lines. That is, this study used 300 concordance lines for each adverbial chosen at random for data analysis due to the time constraints. The data elicited may not entirely represent all the real uses of these LAs in American English. Put differently, other occurrences, e.g., unusual patterns of LA use or LA positions, which are not included in this limited corpus data probably exist in this or other varieties of English. The generalizability of the research findings would thus be enhanced if more data were collected in future studies.

Another principal limitation is pertinent to the four selected LAs, i.e., *so*, *thus*, *therefore*, and *hence*. As noted earlier in the previous studies, these LAs were chosen due to their high frequency, with other LAs being beyond the scope of the current study. It follows that the findings from this study will never constitute an exhaustive list of all possible uses of all LAs of result in English since other low-frequency LAs, e.g., *thereby*, or multi-word LAs, e.g., *as a result*, *as a consequence*, have been excluded from the study.

1.7 DEFINITIONS OF KEY TERMS

The key terms commonly used in this study are defined as follows:

1.7.1 *COCA* stands for Corpus of Contemporary American English, which has been developed by Mark Davies from Brigham Young University in the United State. This largest free online corpus is composed of more than 520-million words. The texts are derived from several sources, i.e., spoken, fiction, popular magazines, newspapers, academic journals, which truly represent natural and authentic American English.

1.7.2 *Corpus* (plural *Corpora*) is a large collection of texts comprising written or spoken language. It is widely used for language analyses and hypothesis testing. A set of texts for corpus construction is basically stored on a computer to which analysts can have easy access.

1.7.3 *Concordance lines* refer to an alphabetical list of texts, which are extracted from COCA for the purpose of language analyses, i.e., the frequency and patterns of use.

1.7.4 *Linking adverbial* refers to a type of explicit cohesive connectors that link two groups of discourse, e.g., phrases, clauses, sentences, paragraphs, ideas. These can be categorized according to the meaning, i.e., *Enumeration and addition*, *Summation*, *Apposition*, *Result/inference*, *Contrast/concession*, and *Transition* (Biber et al., 1999).

1.7.5 *Linking adverbial of result* refers to a connective marker that is used to emphasize cause and effect in a spoken discourse or written text. There are two main types of LAs of result, i.e., single-word adverbs (e.g., *so*, *thus*, *therefore*, and

hence), and prepositional phrases (e.g., *as a result*, *in a consequence/ as a consequence*).

1.8 SIGNIFICANCE OF THE STUDY

It is widely accepted that LAs of result are commonly used in spoken and written language in many genres and registers. Effective use of this cohesive tie, which makes explicit the relationship between two discourses (Biber et al., 1999), can, to a great extent, contribute to the English writing skill development of English users, e.g., English as a Foreign Language (EFL) teachers, learners, and researchers. Understanding LAs of result will facilitate EFL users in communicating their messages clearly and producing their academic writing appropriately. It is worth noting that the usage patterns of LAs of result will not only broaden English learners' lexico-grammatical knowledge but also improve their English competency. Thus, the present corpus-based study of LAs of result is of particular significance in several respects as follows:

1.8.1 The present study has a number of pedagogical implications. The outcome of the study will shed some light on the frequency and the usage patterns of LAs of result so that EAP (English for Academic Purposes) instructors who are teaching English academic writing can utilize the corpus-based data to improve their teaching materials and develop suitable pedagogical approaches aimed at introducing common, natural LAs of result as well as clearly distinguishing these LAs in terms of usage patterns based on the authentic corpus-informed findings.

1.8.2 To raise the awareness of language practitioners about the importance of LAs of result, the research findings will give suggestions on how to effectively use these kinds of LAs for academic purposes. The present study will explore the extensive use of LAs of result, which represents authentic use of American English. Additionally, the present study will compare the similarities and the differences between real corpus-based English and textbook information.

1.8.3 As for the type of writing investigated, this study examines LAs of results in written academic English, with an emphasis on their patterns of use, which seems to be a less explored area, as can be seen in the previous related studies. In addition, there has apparently been little or no research on LAs using language

corpora focusing on American English. The present study will therefore provide rich insights into this area of LA studies through corpus analysis.

1.9 ORGANIZATION OF THE STUDY

The present study consists of five chapters as follows.

1.9.1 Chapter one concerns the background of the study, research questions, objectives of the study, hypotheses, limitations of the study, operational definitions of key terms, i.e., COCA, corpus, concordance lines, linking adverbials and linking adverbials of result, and the organization of the study.

1.9.2 Chapter two reviews the literature, which relates to the definition of language corpora, the importance of corpus-based research, descriptions of linking adverbials of result, i.e., LAs of result in dictionaries and LAs of result in traditional textbooks, as well as previous related studies.

1.9.3 Chapter three deals with the research methodology, consisting of target linking adverbials of result, the procedure used in the collection and analysis of the data, and the framework of data analysis.

1.9.4 Chapter four reports the findings of the study in terms of frequency and the patterns of LAs of result.

1.9.5 Chapter five contains the discussion of the findings, the conclusion, pedagogical implications, and recommendations for further research.

CHAPTER 2

REVIEW OF LITERATURE

2.1 LANGUAGE CORPORA

2.1.1 Defining language corpora

According to O’Keeffe, McCarthy, and Carter (2007), a corpus is defined as “... a collection of texts, written or spoken, which is stored on computer.” (p. 1). Lindquist (2009) gives a definition of corpus as “a collection of texts which is stored on some kind of digital medium and used by linguists to retrieve linguistic items for research or by lexicographers for dictionary-making” (p. 3). Likewise, corpus is referred to by Cheng (2012) as “a collection of texts that has been compiled for a particular reason...A corpus...is a collection of texts based on a set of design criteria, one of which is that the corpus aims to be representative.” (p. 1). Language corpora can be divided into two main types: written and spoken corpora. It is apparently easier to compile a written corpus than a spoken one because the former can be built by scanning, typing, downloading from the internet or by using electronic files, whereas creating the latter is far more time-consuming since it takes researchers time to transcribe the recorded data. It is for this reason that the current study relies on corpus-based written data rather than spoken data.

2.1.2 Importance of corpus-based research

Corpus-based research is important in several ways (Conrad, 1999). The first crucial characteristic of corpus studies involves a principled collection of naturally-occurring text. The corpus size is of critical importance when it comes to representativeness. In other words, a corpus to be used in language study should be large enough to include representative samples of the linguistic item being studied. According to Biber (1990), 1,000-word samples with ten different texts can be reliable counts of common grammatical features. Nowadays, with advanced computer technology, many current language corpora used in language study are composed of tens of millions or hundreds of millions of words. The second significant characteristic of corpus-based studies is that computers are used for data analyses, which enhances the accuracy of language analysis and reduces human error that might

be caused by manual investigation. Finally, corpus-based studies concern "... quantitative analyses and functional interpretations of language use" (Conrad, 1999, p. 4). With corpus-based data, language researchers are able to identify major patterns that native speakers naturally use.

2.2 LINKING ADVERBIALS

2.2.1 Definition of linking adverbials and other related terms

There are a number of terms referring to linking devices. Liu (2008) divides these terms into two major types. The first type includes *connective adjuncts*, *connectives*, *linking adjuncts*, and *logical connectors*, all of which cover linking devices, which are adverbials, coordinating conjunctions, and subordinating conjunctions. The second group, which refers to only those devices functioning as adverbials, comprises the terms *conjunctive adverbials*, *conjuncts*, *connective adverbs*, and *linking adverbials*.

Although the aforementioned terms are similar in meaning to a certain extent, the present study, following Biber et al., (1999), uses *linking adverbial* (LA), whose function is "to make semantic connection between spans of discourse of varying length" (Biber et al., 1999, p. 558) because of two reasons. First, the word *linking*, as noted by Ha (2015), seems to be clearer and more familiar to readers in general, as opposed to the word *conjunct*. The second reason concerns the fact that the word *adverbial*, in comparison with *adverb*, is more inclusive as the former can also refer to multi-word linking devices, such as *on the contrary*, *by contrast*, *as a result*, etc.

Biber et al. (1999) divide LAs into six semantic categories, as follows:

1. Enumeration and addition (e.g., *first*, *second*, *third*, *also*)
2. Summation (e.g., *to conclude*, *in summary*, *in conclusion*)
3. Apposition (e.g., *for example*, *that is*)
4. Result/inference (e.g., *so*, *therefore*, *thus*)
5. Contrast/concession (e.g., *however*, *although*, *even though*)
6. Transition (e.g., *by the way*)

Since the focus of the current study is on LAs of result, e.g., *so*, *therefore*, *thus*, *hence*, each of the target LAs will be fully discussed in terms of meaning and usage in 2.2.2.

2.2.2 Linking Adverbials of Result

Several LAs of result are used in both written and spoken English, which contributes to making connections between two discourses (Biber et al., 1999). The syntactic forms of LAs of result can be separated into two types, i.e., single-word adverbs, and prepositional phrases, which can be found in both general English and specific registers, e.g., written news and broadcast news (Yin, 2015). Examples of single-word linking adverbs are *so*, *thus*, *therefore*, *hence*, *thereby*, *consequently*, *accordingly*, whereas instances of prepositional phrases are *as a result*, *in consequence*/*as a consequence*. However, the present study of LAs of result focuses on single-word or lexical adverbials *so*, *thus*, *therefore*, and *hence* (Sinclair, 2005), which occur with very high frequency in different genres (Biber et al., 1999; Charles, 2011). One of the reasons why LAs of result is the major focus of this present study is due to the fact that this type of adverbial is the most frequent in academic writing and is often used to indicate a writer's conclusion and link claims to supporting data (Biber et al., 1999).

2.2.2.1 Linking adverbials of result in dictionaries

In terms of the meaning and usage of each LA of result, not only does Longman Dictionary of Contemporary English or LDOCE (2014) provide the precise definitions of LAs of result such as *so*, *thus*, *therefore*, and *hence*, as in (a), (b), (c), and (d), but also it gives clear instances, as in (1), (2), (3), and (4) respectively, as shown below.

2.2.2.1.1 So

(a) is used to say that someone does something because of the reason just stated

(1) *I was feeling hungry, so I made myself a sandwich.*

(LDOCE, 2014, p. 1736)

2.2.2.1.2 Thus

- (b) means as a result of something that you have just mentioned
- (2) *Most of the evidence were destroyed in the fire. Thus, it would be almost impossible to prove him guilty.*

(LDOCE, 2014, p. 1918)

2.2.2.1.3 Therefore

- (c) means as a result of something that has just been mentioned
- (3) *Progress so far has been very good. We are, therefore, confident that the work will be completed on time.*

(LDOCE, 2014, p. 1902)

2.2.2.1.4 Hence

- (d) means for this reason
- (4) *The cost of transport is a major expense for an industry. Hence, factory location is an important consideration.*

(LDOCE, 2014, p. 861)

2.2.2.2 Linking adverbials of result in traditional textbooks

There are many traditional writing textbooks that contain grammatical knowledge about LAs of result when it comes to cause-and-effect paragraphs or essays. Even though most of them provide patterns of use, position of punctuations, and sample sentences, the information given in these textbooks is not comprehensive enough to represent the authentic use of LAs of result that native speakers commonly use in academic writing.

From a survey of four series of English academic writing textbooks, namely *Writing to Communicate* (Boardman and Frydenberg, 2008), *Ready to Write* (Blanchard and Root, 2010), *Engaging Writing: Essential Skills for Academic Writing* (Fitzpatrick, 2011), and *Longman Academic Writing Series* (Oshima and Hogue, 2013; Meyers, 2013), it was discovered that *so* and *therefore* are the most common LAs of result that all of them share. *Thus* was found in two series, i.e., *Ready to Write* and *Longman Academic Writing Series*, while *hence* only exists in the latter. It should

also be noted here that some other LAs of result, e.g., *as a result*, *consequently*, *as a consequence of*, *for this reason*, are included in the advanced level of some textbooks.

With regard to the patterns of use of these LAs, the selected textbooks give only certain possibilities. Most of the sample sentences of the illustrated LAs concern *so* and *therefore*, with *so* being a coordinating conjunction positioned after a comma, as in (5), and *therefore* having two principal patterns, i.e. *Therefore*, S + V and ; *therefore*, S + V, as in (6) and (7) respectively.

(5) The country's economy grew, so the people's lifestyle improved.
(Fitzpatrick, 2011), p. 107)

(6) There was a big snowstorm. Therefore, we couldn't go skiing.
(Boardman and Frydenberg, 2007, p. 108)

(7) It was raining; therefore, we canceled the soccer game.
(Blanchard and Root, 2010, p. 112)

In addition to the two aforementioned LAs, two patterns of *thus* are presented in two textbook series, namely *Thus*, S + V and ; *thus*, S + V, as in (8) and (9) respectively.

(8) Factories have fewer recyclables to convert into new products. Thus, I am improving air quality.
(Oshima and Hogue, 2013, p. 162)

(9) It was raining; thus, we canceled the soccer game.
(Blanchard and Root, 2010, p. 112)

Of the four target LAs, *hence* appears to be the least common, as it is mentioned in only one textbook series, i.e., Meyers (2013), without any pattern example.

2.3 PREVIOUS RELATED STUDIES

There are a good number of previous studies that have investigated English LAs of result, many of which were corpus-based.

One of the pioneer corpus-based research studies on LAs is Biber et al.

(1999)'s, which examined different kinds of linking adverbials, one of which is the linking adverbials of result, e.g. *consequently, therefore, thus, so, hence, as a result, in consequence*, etc. Biber et al. created a 40-million-word corpus known as the Longman Spoken and Written English Corpus (LSWE), comprising 37,244 texts, divided into four core registers, i.e., *conversation, fiction, news, and academic prose*. Each register consists of 5 million words from spoken English and the other 5 million words are from written English. Overall, the corpus data of the three registers were derived from British and American English, with the exception of *news*, the data of which was primarily based on British English.

The findings on LAs of result revealed that *so* is the most common adverbial of result in conversation, whereas in academic prose, *thus* occurs with slightly higher frequency than *therefore*. *Hence* is used with the lowest frequency. The adverbial *so* plays an important role in conversational discourse development. "[*so*] moves the story along, making clear how one event follows from another", indicated Biber et al., (1999, p. 886). On the other hand, in academic prose, the adverbials *thus, therefore, and hence* are distributed in different ways. For example, over 70% of occurrences of *hence* were found in academic texts, while *therefore* and *thus* were common in most academic texts. It is noteworthy that, semantically speaking, these three adverbials can be used interchangeably in most cases. Despite the comprehensive findings of Biber et al., (1999)'s research, the data were drawn from conversations and academic texts in general, with an emphasis on specific genres, i.e., newspapers and academic prose. There seems to be a research gap with respect to more thorough study on how these adverbials of result are used in other written genres.

Biber et al. (1999) also reported on the positions of LAs based on corpus findings. In general, LAs in conversation and academic prose occurred in the initial position with the highest frequency. The second most common position in conversation was the final position, whereas LAs rarely occurred in the medial position. In academic prose, the findings were opposite because the medial positions were found to be the second highest in frequency, while LAs in the final position were rare.

With regard to LAs of result, *so*, as one of the most common LAs in conversation, mainly occurred initially, as in (10).

- (10) I mean Strawberry's Hill's about--twenty five, twenty minutes, like the station, walk away. So it's easier to go to Witham.

(Biber et al., 1999, p. 891)

Two common LAs of result in academic prose, i.e., *therefore* and *thus*, have a tendency to be in medial positions, particularly immediately following the subject, as in (11) and (12).

- (11) Einstein, therefore, set to work to try to demolish the accepted version of quantum mechanics.

- (12) The support of Group Communication thus requires: the availability of quantum mechanics.

(Biber et al., 1999, p. 892)

Another medial position of *thus* is between an auxiliary *be* and an adjective phrase, as in (13).

- (13) It is *thus* necessary to generate a model in which the final design is achieved by iteration and tested against the major constraints of shape, function and manufacturing.

(Biber et al., 1999, p. 892)

Furthermore, the LA *therefore* in academic prose also occurs right after a modal, as in (14), and between a verb and a compliment clause, as in (15).

- (14) Scientific work to improve further agricultural production must therefore concentrate on the identification of constraints.

- (15) It would appear therefore that in this particular soil type a gravimetric moisture content of about 6.0% is required before water becomes generally available to the eggs.

(Biber et al., 1999, p. 892)

Liu (2008) analyzed LAs in five different registers, i.e., Spoken English, Academic Writing, Fiction, News Writing, and Other writings, in the British National Corpus (BNC). Following Biber et al. (1999), Liu categorized the LAs found in the

BNC into four types, namely Additive, Adversative, Causal/Resultative, and Sequential. With an emphasis on Causal/Resultative LAs, Speaking is the register in which this type of LAs occurred with the highest frequency, followed by Academic Writing. Overall, *so* was the most common LA, followed by *therefore*, *thus*, *as a result (of)*, *hence*, *naturally*, *accordingly*, *consequently*, and *as a consequence (of)*, respectively. Liu, in particular, divided LAs into three bands according to frequency. In Band 1, the Causal/Resultative LAs occurring with frequency of 50 and above per million words were *as a result (of)*, *so*, *therefore*, *thus*, *otherwise*, and *then*. In Band 2, those with a frequency of 10 through 49.99 per million words were *accordingly*, *consequently*, *hence*, and *naturally*. In Band 3, the LAs appearing under 10 per million words were *all things considered*, *as a consequence (of)*, *because of it/ this/ that*, *in consequence*, *in such a case/ cases*, and *in that case*.

With regard to specific genres, 2,685 out of 3,457 were the tokens of *so* in Speaking, whereas *therefore* (152 tokens) and *as a result (of)* (37 tokens) were ranked second and third in that order. It is noteworthy that *so* did not occur most frequently in Academic Writing since it is probably a prevalent feature of spoken rather than written English. Instead, it was *thus* (583 tokens) and *therefore* (551 tokens) that occurred with the highest frequency.

Peacock (2010) investigated LAs in a corpus of 320 published research articles (RAs) across eight disciplines, namely four sciences (i.e., Chemistry, Computer Science, Materials Science, and Neurosciences,) and four non-sciences (i.e., Economics, Language and Linguistics, Management, and Psychology). Forty LAs from each discipline were randomly selected. WordSmith Tools was used to analyze the form, frequency, function, and disciplinary variation of the LAs. The findings revealed that while LAs of result/inference was the most common in academic prose (43%), as indicated by Biber et al., (1999), this type of LAs occurred with the lowest frequency in Peacock's study (Non-science 20%, Science 21%). According to Peacock (2010), it is worth noting that different genres or registers can lead to differences in the form, frequency, and function that writers use.

Another corpus-based study was conducted by Charles (2011), who collected data from two corpora of native English speakers' theses. The first corpus consisted of 190,000 words in politics, which is a soft discipline, while the other was made up of

300,000 words in materials science, considered to be a hard discipline. The study revealed that *thus* was the most common adverbial of result in both disciplines, followed by *therefore*, which provides support for Biber et al. (1999). The third most frequent adverbial in politics was *then*, whereas it was *hence* that is ranked third in materials. The data also demonstrated that *consequence/as a consequence* occurred with the least frequency in both corpora. However, Charles evidently focused on only two distinct disciplines using corpus-based data from British English. In reality, there exist many other disciplines worth researchers' investigation.

Yin (2015) examined the use of LAs in news, aiming to investigate three aspects of the usage patterns of LA, i.e., the usage pattern of a form, meaning, and positions of LAs. The study compared the findings between two registers, i.e., broadcast news and written news from two corpora--the Wellington Corpora of Spoken and Written New Zealand English (WWS and WSC). In addition, the whole sub-corpus of radio broadcast news was collected (21,623 words), whereas the sub-register of written news reportage was randomly selected (21,001 words).

Pertaining to frequencies of LAs in news, the data demonstrated that spoken news used more explicit connections between two units of meaning than written news (170 vs. 98). As for the forms of LA in both registers, single-word adverbs (e.g., *however, thus, also, etc.*) were far more frequently used than prepositional phrases (e.g. *in contrast, as a result, as well, for instance, etc.*), which provides support for Biber et al. (1999, p. 884), who found more uses of single-word adverbs and prepositional phrases in conversation and academic writing. This is the reason why the present study concentrates on LAs in the form of single-word adverbs rather than prepositional phrases. Statistics showed that written news is significantly different from broadcast news in that single-word adverbs are more frequently used in the spoken news, while single-word adverbs in written news exhibit more variety (15 types), i.e., *however, then, also, but, thus, so, therefore, and, still, furthermore, rather, or, meanwhile, thereby, and anyway* than the spoken news does (8 types), i.e. *however, also, but, so, and, meanwhile, finally, and meantime*.

The study also found that the LAs in written news contained nine different meanings, namely *adversative, addition, result, condition, comparison, alternative, conclusion, logical, and opposite*, while the LAs in broadcast news carried eight

different meanings, i.e., *addition*, *adversative*, *formulaic ending*, *comparison*, *result*, *initiating a topic*, *listing*, and *signal of evidence*. Furthermore, four meanings of LA: *addition*, *adversative*, *result*, and *comparison*, were frequently discovered in both registers. It is apparent that not only do LAs explicitly occur in conversation and academic prose, but they are also used in news settings.

There have also been some studies on how English learners use linking adverbials. For instance, Ishikawa (2010) examined linking adverbials used by Chinese and Japanese learners of English through the Corpus of English Essays Written by Asian University Students (CEEAAUS), in comparison with native English speakers' use. The data demonstrated that Chinese learners used linking adverbials most frequently, whereas the numbers of linking adverbials used by Japanese learners and native speakers were similar. In terms of variety of linking adverbials, native speakers were found to use the most varied linking adverbials, followed by Japanese learners and Chinese learners, respectively. Of all the linking adverbials in the corpus, LAs of result occurred with the sixth-highest frequency. It can be clearly seen that this research study aimed to explore all kinds of LAs without any specific focus on adverbials of result. Thus, there is a research gap to be bridged in future research studies.

CHAPTER 3

RESEARCH METHODOLOGY

This section concerns: (1) target linking adverbials (LAs) of result, (2) the procedure used in the collection and analysis of the data, and (3) the framework of data analysis.

3.1 TARGET LINKING ADVERBIALS OF RESULT

First and foremost, frequency of LAs of result in native-speaker English is a major criterion for target word selection. According to Biber et al. (1999), the most frequent LAs of result in two main different genres of English, i.e., conversation, and academic prose, are *so*, *thus*, *therefore*, and *hence*. In particular, *so* appears to be the most common in spoken English, while *thus* is ranked first in academic prose, followed by *therefore* and *hence*, respectively. Consequently, these four frequent LAs of result were chosen as the target words of the present study.

3.2 PROCEDURE

This section illustrates the procedure for collecting data from the Corpus of Contemporary American English (COCA) and analyzing the selected LAs of result: *so*, *thus*, *therefore*, and *hence*

3.2.1 Research Design

The study is a corpus-based study. The first 300 concordance lines from COCA containing the authentic use of American English of LAs of result: *so*, *thus*, *therefore*, and *hence* in academic English were analyzed. A total 1,200 of concordance lines from each selected LAs of result were randomly selected from COCA.

3.2.2 Data Collection

As regards the data collection method, the present study focuses on the occurrences of *so*, *thus*, *therefore*, and *hence*, as shown in COCA, developed by Mark Davies from Brigham Young University in the United States. COCA provides language researchers with authentic spoken and written English stemming from a variety of disciplines. The corpus-based data from COCA informs users of the frequency of words, phrases, and collocations, representing how native speakers of American English actually speak and write.

The first 300 concordance lines, i.e., lines extracted from a corpus with some context on the left and right of the search word, of each selected adverbial of result, i.e., *so*, *therefore*, *thus*, and *hence*, were explored in COCA. A total of 1,200 concordance lines were collected from COCA. The target LAs were randomly searched from the written academic genres (ACAD). In this study, COCA allowed the researcher to investigate the frequency and patterns of use of these adverbials, which helps address the first research question. It, however, seems unlikely that all of the 300 concordance lines are suitable for analysis when it comes to the word *so*, since *so* can have different meanings. For this reason, the tokens of *so* that do not function as a LA of result, as in (16), (17), and (18), were excluded.

(16) I'm so glad to see you

(www.oxforddictionaries.com)

(17) She spoke so quickly! She sounded like an auctioneer.

(www.englishpage.com)

(18) I do love it so.

(www.oxforddictionaries.com)

It is evident that *so* in (16) and (17), which means *very*, is used as an intensifier to modify adjectives and adverbs, respectively, whereas the word *so* in (18) functions as an adverb to emphasize the degree of feeling. It is worth noting that in searching for the concordance lines of *so*, approximately 400 lines were targeted first so that only the first 300 lines of *so* used as conjunctions would be selected.

To distinguish the LA of result *so* from the other various possibilities, the present study used part-of-speech (POS) tagging to generate the data. First of all, the word *so* was placed in the WORD(S) field. After that, the tag [*cs**] was inserted at the end of the string in that field. Meanwhile, a period was also used between a search word and a POS tag so that the search word of *so* was retrieved as only a conjunction.

Nonetheless, the elicited data was not entirely accurate at this stage because some occurrences of the word *so* that appeared in the results were still beyond the scope of the study, e.g., *so that* and *so far*, as in (19) and (20). The researcher therefore manually selected the data of each concordance line to isolate irrelevant data and enhance the accuracy before undertaking data analysis.

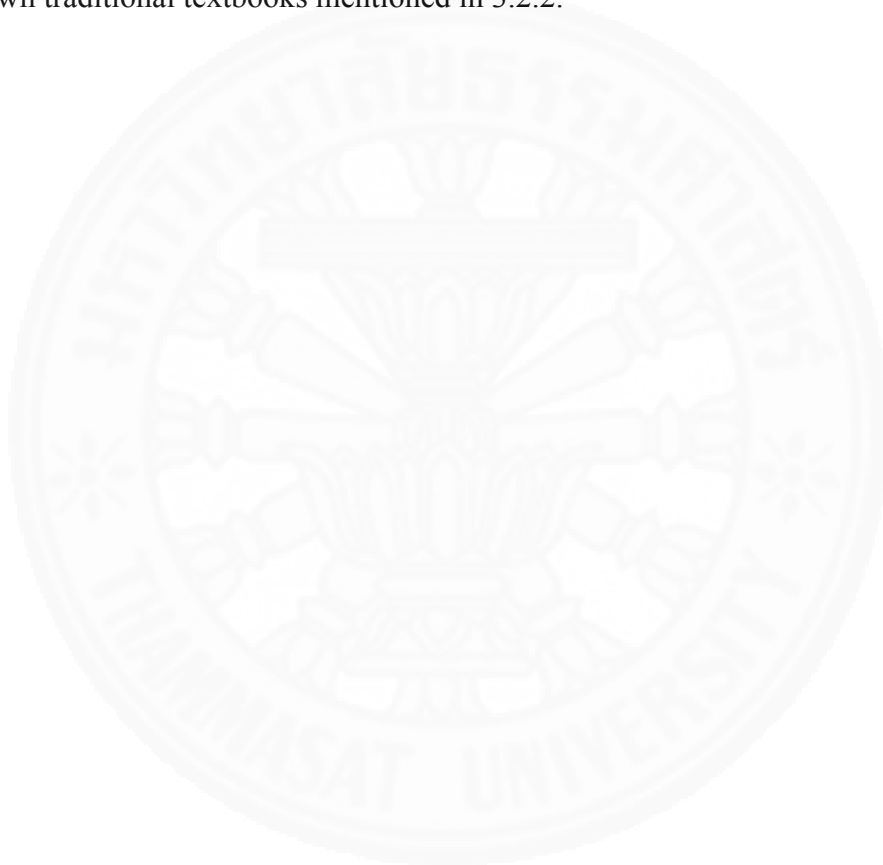
- (19) could flourish. The Germans were also valued for their farming skills and technologies, *so that* all over Eastern and Central Europe one finds German agricultural communities that may or... (line 33)
- (20) with conflict, Italians also admired the success of the Jews and emulated them in *so far* as you could. (line 25)

In addition, with regard to the patterns of use of target LAs, the corpus-based data was compared with that from four traditional academic writing textbook series widely used in Thai universities, namely *Writing to Communicate* (Boardman and Frydenberg, 2008), *Ready to Write* (Blanchard and Root, 2010), *Engaging Writing: Essential Skills for Academic Writing* (Fitzpatrick, 2011), and *Longman Academic Writing Series* (Oshima and Hogue, 2013). The findings help answer the second research question.

3.3 DATA ANALYSIS

As for data analysis, the four LAs of result were quantitatively and qualitatively analyzed in the following aspects. Firstly, the frequency of all the target words of 1,200 concordance lines was counted. In calculating the frequency of the LA *so*, it was necessary to make sure that the frequency obtained from COCA truly represented *so* as an LA rather than an adverb or an intensifier. Accordingly, POS tagging was used, as mentioned above, to exclude unsolicited tokens of *so*. Nevertheless, the screened tokens still included a number of the conjunction *so that*, which was beyond the scope of this study. In order to gain the exact frequency of the LA *so*, the researcher searched for the frequency of *so that* before subtracting this frequency from the total frequency of the tagged conjunction *so*.

Secondly, in case of intra-rater agreement, the researcher reconsidered the analysis of all the occurrences after a week to ensure that the data had been properly coded. As for inter-rater reliability, two evaluators, i.e., the researcher and the advisor, collaborated at this stage. That is, the advisor as the second coder cross-checked the researcher's evaluation of patterns of use of each adverbial in each concordance line to reach an inter-rater agreement. Finally, the patterns of use of these adverbials found in COCA were classified and then compared with the information from the well-known traditional textbooks mentioned in 3.2.2.



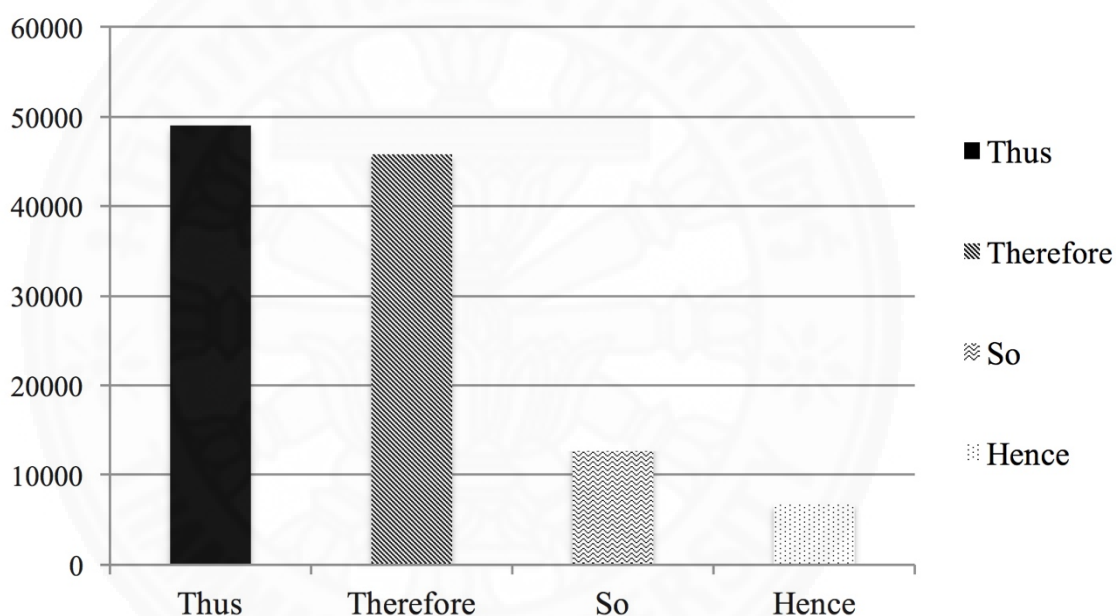
CHAPTER 4

FINDINGS

This chapter presents the main findings derived from the COCA data, focusing on the frequency and grammatical patterns of the LAs *thus*, *therefore*, *hence*, and *so*.

4.1 THE FREQUENCY OF LINKING ADVERBIALS OF RESULT

Figure 4.1: The frequency of the target LAs of result



As displayed in Figure 4.1, the LA of result discovered in academic American English, which occurred with the highest frequency is *thus* (48,991 tokens), slightly outnumbering *therefore* (45,755 tokens), ranked second in frequency. The third most frequent LA was *so* (10,590 tokens), whereas the least common found in the corpus data was *hence* (6,856 tokens).

4.2 THE GRAMMATICAL PATTERNS OF LINKING ADVERBIALS

4.2.1 *Thus*

Table 4.2: The frequency of grammatical patterns of *thus* in COCA

Rank	Grammatical pattern of <i>thus</i>	Frequency					
		Punctuation				Total	%
		Comma	%	Without comma	%		
1	Thus + (,) + S + V	123	41.00	36	12.00	159	53.00
2	2.1) (,) + and thus + (,) + VP	5	1.67	19	6.33	24	8.00
	2.2) (,) + and thus + (,) + NP	4	1.33	8	2.67	12	4.00
	2.3) (,) + and thus + (,) + Adj.P	1	0.33	3	1.00	4	1.33
	2.4) (,) + and thus + (,) + S + V	3	1.00	1	0.33	4	1.33
	2.5) (,) + and thus + (,) + V.3	1	0.33	2	0.67	3	1.00
	2.6) (,) + and thus + (,) + PP	2	0.67	1	0.33	3	1.00
	2.7) , + and thus + , + to V.inf	1	0.33	-	0.00	1	0.33
	Subtotal	17	5.67	34	11.33	51	17.00
3	3.1) S + thus + VP	-	0.00	22	7.33	22	7.33
	3.2) S + be + thus + V.3 + Adj.	-	0.00	7	2.33	7	2.33
	3.3) S + Modal + thus + V.inf	-	0.00	4	1.33	4	1.33
	3.4) S + have/has + thus + V.3	-	0.00	3	1.00	3	1.00
	3.5) S + be + thus + V.ing	-	0.00	2	0.67	2	0.67
	3.6) S + be + thus + PP	-	0.00	1	0.33	1	0.33
	3.7) S + be + thus + NP	-	0.00	1	0.33	1	0.33
	Subtotal	0	0.00	40	13.33	40	13.33
4	(,) + thus + V.ing	27	9.00	4	1.33	31	10.33
5	5.5) ; + thus + (,) + S + V	9	3.00	3	1.00	12	4.00
	5.2) , + thus + S + V	2	0.67	-	0.00	2	0.67
	Subtotal	11	3.67	3	1.00	14	4.67
6	6.1) , + thus + PP	1	0.33	-	0.00	1	0.33
	6.2) , + thus + V.3	1	0.33	-	0.00	1	0.33
	Subtotal	2	0.67	-	0.00	2	0.67
6	It is + (,) + thus + (,)	1	0.33	1	0.33	2	0.67
7	There + be + thus + NP	-	0.00	1	0.33	1	0.33
	Grand Total	181	60.33	119	39.67	300	100.00

Table 4.2 shows the frequency of the grammatical patterns of the LA *thus* found in the corpus data. The COCA data, based on American English, demonstrated that *thus* occurred in eight syntactic patterns, with *Thus (,) + S + V* being the highest frequent (53%). The second most common pattern was that consisting of *and thus* as the major component (17%), followed by the construction of *S + auxiliary/ modal + thus* (13.33%). The pattern with the fourth rank in frequency was *(,) + thus + V.ing* (10.33%), while the fifth one was *;/, + thus + (,) + S + V* (4.67%). It is worth noting that two grammatical patterns, i.e., *(,) thus + PP/ V.3* and *It is + (,) + thus + (,)*, shared the same frequency as they both ranked sixth (0.67%). The least common pattern seemed to be the existential construction *There + be + thus + NP* (0.33%).

Thus + (,) + S + V

To be more specific, the most common pattern was the use of *thus* at the beginning of a sentence (53%). It can be clearly seen that 41% of the time *thus* was followed by comma, as in (21), whereas in 12% of occurrences there was no comma, as in (22).

- (21) significant, indicating there was significant variance to explain (see Table 4). ***Thus***, conditional models were appropriate. The results of the analyses of the unconditional models (line 117)
- (22) after the existing stock of equipment is placed over a long period of time. ***Thus*** the curves conceal a very important temporal dimension. (line 268)

The *and thus* construction

The grammatical pattern occurring with the second highest frequency involved *and thus* (17%). It is evident that 11.33% of this structure was used without a comma, while 5.67% occurred with commas. More precisely, regardless of the presence of commas, 8% of the *and thus* construction occurred with a finite verb phrase, as in (23), and 4% was followed by a noun phrase, as in (24). The construction of *and thus* comprised an adjective phrase and a complete sentence, as in (25) and (26) respectively, with the same frequency (1.33%).

- (23) will cause EPA to insist upon submission of the SIP by the original deadline ***and thus*** trigger potential sanctions. (line 84)
- (24) were hospitalized at the time of review, enabling easier access to medical records, ***and thus*** a quicker review process. (line 19)
- (25) the short to medium term, security polities are important for the United States ***and thus*** important for New Zealand. (line 28)
- (26) ; Mihelich, 2005). College students are products of our culture, ***and thus***, their personal approach to education reflects these conflicting learning models. (line 153)

The two *and thus* structures ranked fourth in frequency co-occurred with a verb in the past participle form and that with a prepositional phrase (1%), as shown in (27) and (28), respectively. The lowest frequency subtype of the *and thus* construction preceded a verb in the infinitive form (0.33%), as in (29).

- (27) of mercury exposure are described. Introduction # Fluorescent lamps are an efficient, ***and thus*** commonly used, source of lighting in office buildings, retail establishments, and schools (line 25)
- (28) is rich with potential meaning and promise for the future of arts education ***and, thus***, for the advancement of our nation's culture. (line 197)
- (29) primary group norms and beliefs, to assume responsibilities that strengthen ingroup relationships, ***and thus*** to improve their status in the group. (line 159)

S + auxiliary/ modal + *thus*

With regard to the third most common structure of *thus*, i.e., *S + thus + VP*, was the most frequent subtype (7.33%), as in (30), whereas *S + be + thus + V.3/ Adj.*, as in (31) and (32), was second in terms of frequency (2.33%), followed by *S + modal + thus + V.inf*(1.33%), as in (33).

- (30) their inability to comfort the child and to take away their pain. The parent ***thus*** feels victimized. (line 53)

- (31) efforts to mask lies make detecting other lies harder. Distinguishing truth from deception is thus fudged. (line 110)
- (32) politics and armed groups. 259 # Differential access to and willingness to use power are thus necessary to help explain differences in access to food by different groups on and around (line 317)
- (33) of reimbursement will result in more money being available for salaries and training and will thus improve claim accuracy. (line 34)

The fourth and fifth subtypes were *S + has/ have + thus + V.3* (1%), as in (34), and *S + be + thus + V.ing* (0.67%), as in (35), respectively. The lowest-frequency subcategories concerned *S + be + thus + PP*, as in (36), and *S + be + thus + NP*, as in (37), both of which were discovered at 0.33%.

- (34) is primarily and historically an area of local concern. 55 # The Supreme Court has thus historically been mindful of delicate balance between the states and the federal government. (line 211)
- (35) and Peccia 2013; McLellan et al. 2010). Although these techniques are thus promising, interpretation of the massive amounts of data produced poses a series of challenges (line 146)
- (36) there were essentially locked into a situation of lifelong mutual dependence; and it was thus in the interest of all parties concerned to display cooperativity and reciprocity. (line 254)
- (37) settlements, loans, or pensions. # The restoration of these individual rights was thus clearly an important victory for women, although the law did demand that they contribute (line 306)

(,) + thus + V.ing

The next grammatical patterns of *thus* concerned *(,) + thus + V.ing* (10.33%). In particular, 9% occurred with a comma, as seen in (38), and in 1.33% a comma was absent, as in (39).

- (38) and allows the symptoms of possible stroke to be identified and acted upon swiftly, thus reducing the risk of death and disability. (line 3)

- (39) regulations could be relaxed, the jizya reduced to nominal amount with the Jews thus becoming an integral and respected part of Muslim society. (line 4)

; / , + *thus* + (,) + S + V

It is also apparent that the LA *thus* sometimes occurred medially between punctuations. To illustrate, approximately 4% of the time *thus* was flanked by a semi-colon (;) and comma (,), as in (40), while only 0.67% used the structure , + *thus* + S + V, as in (41).

- (40) the country. As for Iraq, almost two- thirds of the country is desert; thus, agricultural production is highly dependent upon the Tigris and Euphrates Rivers for irrigation water (line 6)
- (41) vocational school and 355 high school questionnaires) were administered and 997 were returned, thus the effective response rate was 76.69%. (line 77)

, + *thus* + PP/ V.3

Furthermore, , + *thus* + PP and , + *thus* + V.3 occurred with the same frequency (0.33%), ranked sixth in terms of frequency, as in (42) and (43) respectively.

- (42) by austerity measures. Lead to changes in the relative values of land resources, thus to conflicts. (line 71)
- (43) syllables per 100 words. This method was used because it is relatively simple, thus easily communicated to parents and teachers and corresponds well with more sophisticated readability approaches (line 314)

It is + (,) + *thus* + (,)

The other structure of *thus* with the sixth frequency (0.67%) pertained to *It is + (,) + thus + (,)*, as in (44).

- (44) protected area. 7 From perspective of poverty reduction and rural development, it is ***thus*** urgent to identify alternative conservation systems that respect the rights of forest dwellers and owners (line 18)

There + be + *thus* + NP

The *thus* construction with the lowest frequency was *There + be + thus + NP* (0.33%), as seen in (45)

- (45) 1.0, 2.0, 4.0, 8.0, and 16.0 kHz). There were ***thus*** six means for each of the octave frequencies, and repeated measure ANOVAs were calculated (line 191)

4.2.2 *Therefore*

Table 4.3 presents the frequency of the grammatical patterns of the LA *therefore* as represented in the corpus data. The COCA data indicated that *therefore* occurred in seven syntactic patterns, with *Therefore (,) + S + V* showing the highest frequency (33.33%). The second most common pattern was *S + V + therefore* as the principal component (21.67%), followed by the construction of *and therefore* (19.33%). The structure with the fourth rank in frequency was *S + be/ modal + therefore* (17.33%), whereas the fifth one was *;/ : + therefore + (,) + S + V* (6.33%). It is evident that the expletive constructions *It + be + Adj. + therefore + that + S + V* and *There + be + NP + therefore + that + S + V* were sixth in terms of frequency (1.33%), followed by the least frequent type (0.67%) *PP + therefore + S + V*.

Therefore (,) + S + V

As shown in the corpus data, the most frequent pattern was the use of *therefore* at the beginning of a sentence (33.33%). Meanwhile, in 30% of occurrences *therefore* was followed by a comma, as in (46), with only 3.33% used without commas, as in (47).

- (46) Neoplatonic terms that are a common language for Christianity, Islam, and Judaism. ***Therefore***, the argument might prove to be transferable to these other traditions. (line143)

Table 4.3: The frequency of grammatical patterns of *therefore* in COCA

Rank	Grammatical pattern of <i>therefore</i>	Frequency					
		Punctuation				Total	%
		Comma	%	Without comma	%		
1	Therefore (,) + S + V	90	30.00	10	3.33	100	33.33
2	2.1) S + (,) + therefore + (,) + VP	20	6.67	28	9.33	48	16.00
	2.2) S + V + , + therefore + , + Adj.P	5	1.67	-	0.00	5	1.67
	2.3) S + V + (,) + therefore + (,) + that + (,) + S + V	3	1.00	1	0.33	4	1.33
	2.4) S + V + (,) + therefore + (,) + PP	1	0.33	2	0.67	3	1.00
	2.5) S + V + , + therefore + , + Obj.	3	1.00	-	0.00	3	1.00
	2.6) S + V + (,) + therefore + V.ing	1	0.33	1	0.33	2	0.67
	Subtotal	33	11.00	32	10.66	65	21.67
3	3.1) (,) and therefore + VP	12	4.00	16	5.33	28	9.33
	3.2) (,) and therefore + S + V	5	1.67	6	2.00	11	3.67
	3.3) (,) and therefore + Adj.P	2	0.67	9	3.00	11	3.67
	3.4) (,) and therefore + NP	6	2.00	1	0.33	7	2.33
	3.5) and therefore + V.3	-	0.00	1	0.33	1	0.33
	Subtotal	25	8.33	33	11.00	58	19.33
4	4.1) S + Modal + (,) + therefore + (,) + VP	9	3.00	17	5.67	26	8.67
	4.2) S + be + (,) + therefore + (,) + V.3	1	0.33	12	4.00	13	4.33
	4.3) S + be + therefore + Adj.P	-	0.00	10	3.33	10	3.33
	4.4) S + be + (,) + therefore + (,) + NP	1	0.33	1	0.33	2	0.67
	4.5) S + be + , + therefore + , + PP	1	0.33	-	0.00	1	0.33
	Subtotal	12	4.00	40	13.33	52	17.33
5	5.1) ; + therefore + (,) + S + V	16	5.33	1	0.33	17	5.67
	5.2) therefore + S + V	-	0.00	1	0.33	1	0.33
	5.3) : + therefore + , + S + V	1	0.33	-	0.00	1	0.33
	Subtotal	17	5.67	2	0.67	19	6.33
6	It + ^{is} / _{was} + (not) + Adj. There + be + NP	3	1.00	1	0.33	4	1.33
7	PP + , + therefore + , + S + V	2	0.67	-	0.00	2	0.67
	Grand Total	182	60.67	118	39.33	300	100.00

- (47) appreciate that the performance of birthday celebrations is saturated with premises of taxonomic practice. ***Therefore*** this section begins with an abbreviation of one party. (line 114)

S + V + *therefore*

The second most common pattern of *therefore* concerned *S + V + therefore*. More precisely, *S + (,) + V + therefore + (,) + VP*, as in (48), was the most frequent (16%). It is noteworthy that the other five subtypes occurred only 5.67%. That is, *S + V + , + therefore + , + Adj.P*, as in (49), and *S + V + (,) + therefore + (,) + that + (,) + S + V*, as in (50), were ranked second (1.67%) and third (1.33%) respectively. Moreover, two patterns, ranked fourth in terms of frequency (1%), were *S + V + (,) + therefore + (,) + PP*, as in (51), and *S + V + , + therefore + , + Obj.*, as in (52). The least common structure (0.67%) was *S + V + (,) + therefore + V.ing*, as in (53).

- (48) the real cost of books astronomical. The public library, wherever it exists, ***therefore*** becomes much more crucial to democratizing information. (line 40)
- (49) or driven largely by its own material interest. An imperial is, ***therefore***, both unaffordable and unwise (line 94)
- (50) , Rubens had him in mind as the potential buyer. We may suppose, _____ ***therefore***, that the subject of the picture probably addressed specific interests of Albrecht and his (line 192)
- (51) process itself cost \$13/ton, with screening the major expense. The net savings were ***therefore*** about \$7/ton, or 11 percent of the \$63/ton transportation and disposal costs. (line 197)
- (52) , unpoliced by classic disciplinary modes of ownership and exclusion. One might re-think, ***therefore***, the critiques of ethnographic authority in the 1980s through this lens (line 121)
- (53) into existence and gives them sacred meaning. This plant thrives where light fades, ***therefore*** photographing it can be challenging. (line 273)

The *and therefore* construction

The grammatical pattern occurring with the third highest frequency involved *and therefore* (19.33%). It is clear that 11% of the time this structure was used without a comma, while 8.33% occurred with commas. To be more precise, irrespective of the presence of commas, 9.33% of the *and therefore* construction occurred with a finite verb phrase, as in (54). In addition, both *(,) + and therefore + S + V* and *(,) + and therefore + Adj.P* shared the same frequency (3.67%), as in (55) and (56), respectively. The last two least frequent patterns were *(,) + and therefore + NP*, as in (57), and *and therefore + V.3*, as in (58), occurring 2.33% and 0.33% of the time, respectively.

- (54) no doubt appears to endanger the wall of separation between church and state, ***and therefore*** warrants intense scrutiny. (line 266)
- (55) Women can mobilize precisely because their gender is not associated with political life, ***and therefore*** their supposedly nonpolitical identity disguises their political actions. (line 270)
- (56) is important to keep in mind that the vast majority of Afghans are illiterate ***and therefore*** largely impervious to the propagandistic effects of print. (line 72)
- (57) principle of counter-balanced forces. Pointed arches could support a much greater weight and, ***therefore***, a much larger structure than could horizontal beams placed upon columns or placed upon (line 139)
- (58) the estimates of model parameters that emerged from calibration were conditional on model structure and ***therefore*** not guaranteed to be accurate. (line 169)

S + be/ modal + *therefore*

There were five syntactic sub-patterns of *S + be/ modal + therefore*, as displayed by the COCA data. The most frequent one (8.67%) was *S + modal + (,) + therefore + (,) + VP*, as in (59), followed by *S + be + (,) + therefore + (,) + V.3* (4.33%), as in (60), *S + be + therefore + (,) + Adj.P* (3.33%), as in (61), and *S + be*

+ (,) + *therefore* + (,) + NP (0.67%), as in (62). The least common pattern was *S + be + , + therefore + , + PP*, as in (63), occurring 0.33% of the time.

- (59) of skiers. # Ski resorts, ski instructors, ski manufacturers and parents may ***therefore*** enhance ski safety by helping to transmit news about ski-related fatalities, especially targeting younger (line 294)
- (60) and climate. Here we are outside the areas of our primary research and are ***therefore*** bound by the norms of scientific argument without being able to rely on direct personal (line 124)
- (61) whole groups of persons. Bottom-up processing requires conscious attention to incoming information and is ***therefore*** likely to consume more working-memory capacity than top-down processing. (line 58)
- (62) (QPS, 2010). The one-on-one trainer-trainee (FTO-FYC) relationship is, ***therefore***, the most dominant and critical feature of an FYCs training period and many trainers (line 60)
- (63) vice beyond the control of European authorities. # The failure to segregate was, ***therefore***, of great significance to the life of Kenyan prisoners and detainees in this period (line 8)

; / : + *therefore* + (,) + S + V

The fifth grammatical pattern of *therefore* co-occurred with punctuations, namely semi-colon, colon, and comma. Of all the three sub-categories, ; + *therefore* + (,) + S + V, as in (64), appeared to be the most common (5.67%), whereas *therefore* + S + V, as in (65), which involved no use of a semi-colon, and : + *therefore* + , + S + V, as in (66), with the use of a colon, was found at 0.33%.

- (64) employment noted that travel and tourism professional are not highly regarded in many countries; ***therefore***, very little emphasis is placed on the travel and tourism education. (line 17)
- (65) . It should also be noted that not all students completed every assessment measure, ***therefore*** sample sizes within the demographics tables vary. (line 160)

- (66) either exhibited no symptoms or had symptoms that were not consistent with this outbreak: therefore, they were not included in the analysts.
(line 184)

It + be + Adj. + (,) + therefore + (,) + that + S + V

There + be + NP + , + therefore + , + that + S + V

These two less frequent expletive structures occurred at 1.33%, as shown in (67) and (68).

- (67) in favor of a more political, nonviolent campaign. It was not surprising, therefore, that Sinn Fin played little role in constructing and propagating the political rationale for (line 23)

- (68) monumental squares and colonnades “ (Bremner 2004:25). There is a danger, therefore, that Kliptown might be transformed into what Edensor describe as a ” purified space (line 18)

PP + , + therefore + , + S + V

This was the least common pattern with 0.67% frequency, as exemplified in (69).

- (69) , 1996; Kotze & du Plessis, 2003). In higher education, therefore, we need not fear the adoption of a student-customer paradigm, especially when we. (line 166)

4.2.3 Hence

According to Table 4.4, the frequency of the grammatical patterns of the LA *hence* was clearly demonstrated. The COCA data showed that *hence* was used in five different structures. More specifically, *Hence* (,) + *S* + *V* had the highest frequency (59%). The second most common pattern was that made up of *and hence* as the main constituent (25.33%), followed by the construction of ; + *hence* + (,) + *S* + *V* and that of , + *hence*, both of which occurred with the same frequency (7%). The pattern with the fourth rank in terms of frequency was *S* + (*V*) + *hence* (1%), while the fifth one was *be* + *hence* + *Adj./ V.3* (0.67%).

Hence + (,) + S + V

In particular, the most common pattern was the use of *hence* to start a sentence (59%). Obviously, 42.33% of *hence* was followed by comma, as in (70), whilst 16.67% was used with no comma, as in (71).

Table 4.4: The frequency of grammatical patterns of *hence* in COCA

Rank	Grammatical pattern of <i>hence</i>	Frequency					
		Punctuation				Total	%
		Comma	%	Without comma	%		
1	Hence + (,) + S + V	127	42.33	50	16.67	177	59.00
2	2.1) (,) + and hence + (,) + NP	21	7.00	17	5.67	38	12.67
	2.2) (,) + and hence + (,) + VP	9	3.00	9	3.00	18	6.00
	2.3) (,) + and hence + (,) + S + V	8	2.67	1	0.33	9	3.00
	2.4) (,) + and hence + (,) + PP	4	1.33	1	0.33	5	1.67
	2.5) and hence + V.ing	-	0.00	2	0.67	2	0.67
	2.6) (,) + and hence + (,) + V.3	1	0.33	1	0.33	2	0.67
	2.7) , + and hence + , + Adj.P	1	0.33	-	0.00	1	0.33
	2.8) , + and hence + , + V.inf	1	0.33	-	0.00	1	0.33
	Subtotal	45	15.00	31	10.33	76	25.33
3	; + hence (,) + S + V	10	3.33	11	3.67	21	7.00
3	3.1) , + hence + NP	10	3.33	-	0.00	10	3.33
	3.2) , + hence + S + V	7	2.33	-	0.00	7	2.33
	3.3) , + hence + V.ing	2	0.67	-	0.00	2	0.67
	3.4) , + hence + to + V.inf	1	0.33	-	0.00	1	0.33
	3.5) , + hence + Adj.P	1	0.33	-	0.00	1	0.33
	Subtotal	21	7.00	0	0.00	21	7.00
4	4.1) S + hence + (,) + VP	1	0.33	1	0.33	2	0.67
	4.2) S + V + , + hence + , + NP	1	0.33	-	0.00	1	0.33
	Subtotal	2	0.67	1	0.33	3	1.00
5	5.1) be + hence + Adj.	-	0.00	1	0.33	1	0.33
	5.2) be + hence + V.3	-	0.00	1	0.33	1	0.33
	Subtotal	0	0.00	2	0.67	2	0.67
	Grand Total	205	68.33	95	31.67	300	100.00

- (70) along a contour until this pairwise distance between two sets of points is minimized. **Hence**, all contours of a set can be aligned one after the other. (line 16)
- (71) development, the axles and the other parts of the assembly were made of wood. **Hence** very little has survived to study. (line 161)

The *and hence* construction

The grammatical pattern occurring with the second highest frequency involved *and hence* (25.33%). As can be seen in the data, 15% of this structure was used with a comma, whereas 10.33% occurred without commas. More precisely, regardless of the presence of commas, 12.67% of the *and hence* construction occurred with a noun phrase, as in (72), and 6% was followed by a verb phrase, as in (73). Additionally, 3% of this structure belonged to *(,) + and hence + (,) + S + V*, as in (74), followed by 1.67% of *(,) + and hence + (,) + PP*, as in (75). It is worth noting that two subtypes occurred 0.67% of the time, i.e., *and hence + V.ing* and *(,) + and hence + (,) + V.3*, as in (76) and (77), respectively. The least common subtypes of the *and hence* construction were *, + and hence + , + Adj.P* and *, + and hence + , + V.inf*, as in (78) and (79), respectively, with each accounting for 0.33% of occurrences.

- (72) between students who receive passing grades and those who do not receive passing grades **and hence** a low degree of success for the discriminant function. (line 45)
- (73) traditional American values provides a cover for the expression of deeply felt prejudice, **and hence** is evidence of racial hostility. (line 240)
- (74) For example, the response to the newspaper advertisements was relatively low, **and hence** we asked train passengers to participate in order to bolster our sample size. (line 31)
- (75) – differed markedly between sects, that would result in different personal experiences, **and hence** in diverging attitudes and behavior. (line 79)

- (76) portray themselves as the antithesis of marginal, fully part of the Bolivian nation ***and hence*** deserving of respect, a political voice, and development assistance. (line 136)
- (77) leadership qualities than through any other means. He felt equally strong about governance ***and hence*** funded the preparation of the Ibrahim Index in its first two years. (line 192)
- (78) of eo(k) samples from F1 from a set of eo(k) samples from F2, ***and hence*** impossible to return the component parameters to with ½ with any probability greater than 0.6 (line 7)
- (79) . It also complicated their ability to activate their rights to inherited property ***and, hence,*** to bequeath it to their daughters. (line 226)

; + hence + (,) + S + V

As indicated by the data, the LA *hence*, like *thus* and *therefore*, also occurred medially between punctuations, accounting for 7%. In a nutshell, approximately 3.33% of the time *hence* was placed between a semi-colon (;) and comma (,), as in (80), whereas 3.67% was used in a similar structure without a comma right after the LA, as in (81).

- (80) lifetime number of sexual partners variable evidenced outliers (0 to 100 partners); ***hence,*** the variable was standardized for the analyses. (line 199)
- (81) an exploration of a place that can be considered another kind of internal other; ***hence*** Chinatown may also be hobbled by its historical baggage. (line 85)

, + hence

Similar to ***; + hence + (,) + S + V*** in frequency, the pattern of ***, + hence*** also occurred with 7% frequency. To be more specific, ***, + hence + NP***, as in (82), occurred 3.33%, thus being considered the most common subtype, and 2.33% of ***, + hence + S + V***, as in (83), was found. Furthermore, the third most frequent type was ***, + hence + V.ing***, as in (84), accounting for 0.67%. There were two least frequent constructions

of this pattern, namely , + *hence* + *to* + *V.inf* and , + *hence* + *Adj.*, each of which appeared 0.33% of the time, as in (85) and (86), respectively.

(82) , they yield the position and width of facade of the old church, *hence*, the position and width of the old nave including its side walls. (line 108)

(83) adding Haldane's effect, we note that all species have their natural enemies, *hence* the phenomenological formulation becomes similar to the mechanistic formulation (figure 2b). (line 82)

(84) . The book is conceived as an itinerant presence identifiable perhaps with a monk, *hence* standing for learning. (line 261)

(85) by the university to observe and identify the overall level of student generic competency, *hence* to mitigate and does appropriate measures in producing holistic, confident and outstanding graduate students (line 257)

(86) (With so many options, the body almost certainly will do something unexpected, *hence* scary, such as showing blood at the lips.) (line 109)

S + (V) + *hence*

The structures of *hence* with the fourth frequency (1%) included *S + hence + (.) + VP* (0.67%) and *S + (V) + , + hence + , + NP* (0.33%), as in (87) and (88), respectively.

(87) until in addition to their respective national community. The diaspora and the nation-state, *hence*, do not oppose but in fact reinforce one another. (line 299)

(88) kl/hh/month, during the same period. (The price elasticity for water was, *hence*, a disturbing -0.55 – an extremely large impact for what should be a basic (line 51)

be + *hence* + Adj./ V.3

The *hence* constructions with the lowest frequency were *be + hence + Adj.* and *be + hence + V.3*, each accounting for 0.33%, as shown in (89) and (90), respectively.

- (89) by different theorists to designate different concepts or model objects. Our first task is ***hence*** methodological: to distinguish and elucidate the different current views or concepts of character and (line 46)
- (90) 14 children in the SLI group (57%) scored below this value and were ***hence*** categorized as poor responders. (line 185)

4.2.4 *So*

In Table 4.5, the frequency of the grammatical patterns of the LA *So* is illustrated. The COCA data revealed that *so* was used in four different structures. More precisely, *(,) + so + S + V* was ranked first in terms of frequency (94.33%). The second most common pattern consisted of *So + S + V* (3.33%), followed by the construction of *(,) + and + so + S + V* (2%) and that of *And + so + S + V* (0.33%).

Table 4.5: The frequency of grammatical patterns of *so* in COCA

Rank	Grammatical pattern of <i>so</i>	Frequency					
		Punctuation				Total	%
		Comma	%	Without comma	%		
1	<i>(,) + so + S + V</i>	211	70.33	72	24.00	283	94.33
2	<i>So + S + V</i>	-	0.00	10	3.33	10	3.33
3	<i>(,) + and + so + S + V</i>	4	1.33	2	0.67	6	2.00
4	<i>And + so + S + V</i>	-	0.00	1	0.33	1	0.33
	Grand Total	215	71.67	85	28.33	300	100.00

(,) + so + S + V

The most frequent pattern of *so* concerned its use to connect two sentences, accounting for 94.33%, as in (91). This construction considerably outnumbered the other three to be further presented.

- (91) Model organize complex ideal types ***so*** we can simplify and understand social phenomena. (line 278)

So + S + V

Second in terms of frequency was the pattern of *So + S + V*, as in (92), which occurs 3.33%.

(92) illness at an average age of 25, compared with 40 for the general population.1. So the South Asian community get diabetes more commonly and at an earlier age. (line 117)

(,) + and + so + S + V

The pattern of *so* that was ranked third in terms of frequency was *(,) + and + so + S + V*, accounting for 2%, as exemplified in (93).

(93) options for young people in terms of what they could do during the day and so they were out on the streets. (line 336)

And + so + S + V

The least frequent pattern of *so* (0.33%) was *And + so + S + V*, as in (94).

(94) of paternity uncertainty, and the two other grandparents are in the middle. And so you would expect the maternal grandmother to invest the most in her grandchildren, the (line 425)

This chapter dealt with the authentic patterns of use of the four LAs, i.e., *so*, *therefore*, *thus*, and *hence*, illustrated by corpus-based examples of American English. Moreover, the frequencies of these four LAs were also presented. Chapter 5 aims to discuss the findings, as well as highlight some pedagogical implications and make recommendations for further research.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion of the findings

This chapter is aimed at discussing the major findings presented in the previous chapter, in response to the two research questions in Chapter 1. Another main focus of this chapter concerns proving the two formulated hypotheses. Each of the research questions, together with the related hypotheses, will be addressed in a comprehensive manner.

5.1.1 Research question 1 & Hypothesis 1

Research question 1: How do the English linking adverbials of result *so*, *thus*, *therefore* and *hence* occur in corpus-based written academic American English in terms of frequency?

Hypothesis 1: The linking adverbial of result *thus* will be the most frequent, while *hence* will be the least common in written academic American English.

To recap the main findings with regard to the frequencies of the four target LAs, *thus* seemed to be the most common (48,991 tokens) in the corpus-based American-English data, immediately followed by *therefore* (45,755 tokens). The very common LA of result in spoken English, i.e., *so*, was found to occur less frequently (23,901 tokens). *Hence* appeared to be the least frequent LA (6,856 tokens).

The findings of the present study, by and large, provide support for a number of previous studies. In this study, the LA *thus* was the most common, whereas *therefore* was second to *thus* in terms of frequency in written academic English. This accords with Biber et al. (1999), who found *thus* to be the most frequent LA of result, with a slightly higher frequency than *therefore*, in academic prose. The fact that Biber et al. (1999) discovered far fewer occurrences of *hence* in academic texts gains support from the results of the current study. Additionally, as indicated in the COCA data, *so* seemed to be much less frequent, i.e., approximately half of the frequencies of *thus* and *therefore*. Such fewer occurrences of *so* in academic English corroborate

Biber et al. (1999) as well. It has been claimed that *so* is apparently characteristic of spoken English, especially in conversation.

The present study also lends support to Liu (2008). From an analysis of the variety of LAs in five different registers, i.e., Spoken English, Academic Writing, Fiction, News Writing, and Other writings, in the British National Corpus (BNC), LAs of result, referred to as Causal/Resultative in his study, were prevalent in spoken British English, with *so* being the most frequent LA of this type. The LAs in his research study were divided into three bands according to frequency. In particular, *thus* and *therefore* were included in Band 1, as they both were among those occurring with the highest frequency. To be more specific, *thus* (583 tokens) and *therefore* (551 tokens) were found with the highest frequency in Academic Writing, which the results of the present study support. Moreover, the finding that *hence* was less common than *thus* and *therefore* in academic writing is consistent with Liu (2008) in that *hence* was listed as a less frequent type, i.e., Band 2.

The preponderance of *thus* and *therefore* over other LAs of result, as revealed by the findings of the current study based on American English, also holds true in the genre-specific study of Charles (2011), whose focus was on LAs of result in written British English of two distinct disciplines, namely politics and materials science. The order of frequency presented in Charles' study was *thus*, *therefore*, and *hence*, which is in line with the present study.

5.1.2 Research question 2 & Hypothesis 2

Research question 2: What are the similarities and differences between the patterns of use of English linking adverbials of result in COCA and those in traditional textbooks?

Hypothesis 2: COCA will provide more comprehensive data, in terms of patterns of use, which represents more authentic English than traditional textbooks.

In response to the second research question, the textbook and corpus-based information was compared to explore the similar and different patterns in which each LA of result occurred. As can be seen in the four selected textbooks, while *so* was shown to occur after a comma, as in (95), *thus* and *therefore* can be used in two

patterns, i.e., *Thus/ Therefore, S + V*, as in (96) and (97), respectively, and ; *thus/ therefore, S + V*, as in (98).

(95) The country's economy grew, so the people's lifestyle improved.
(Fitzpatrick, 2011, p. 107)

(96) Factories have fewer recyclables to convert into new products. Thus, I am improving air quality.
(Oshima and Hogue, 2013, p. 162)

(97) There was a big snowstorm. Therefore, we couldn't go skiing.
(Boardman and Frydenberg, 2007, p. 108)

(98) It was raining; thus/ therefore, we canceled the soccer game.
(adapted from Blanchard and Root, 2010, p. 112)

Rarely was the LA *hence* mentioned in the surveyed textbooks, except in Meyers (2013), where *hence* is included in a table listing LAs of result. Unfortunately, no sentence example of *hence* was provided.

It is worth noting from the corpus data that there exist many other possible patterns in which the target LAs can occur in authentic American English. Aside from the patterns shown in the above examples derived from the four textbook series, the corpus data revealed more outstanding patterns, many of which occurred with very high frequency.

As regards the most common LA as confirmed by the findings of the present study, i.e., *thus*, the two patterns given in the textbooks covered only 57% in the COCA data, that is *Thus, S + V* (53%), and ; *thus, S + V* (4%). There appear to be other salient patterns that do not exist in the explored textbooks, e.g., the *and thus* construction (17%), *S + auxiliary/ modal + thus* (13.33%), and *thus + V.ing* (10.33%).

The second most frequent LA, i.e. *therefore*, took two different patterns, in parallel with those of *thus*, according to the textbooks, namely *Therefore, S + V* and ; *therefore, S + V*. These two patterns, however, occurred merely 39% of the time in the corpus data, in particular *Therefore, S + V* (33.33%) and ; *therefore, S + V* (5.67%).

Similar to *thus*, *therefore* can also be used in other possible common patterns, e.g., *S + V + (,) + therefore*, the *and therefore* construction, and *S + be/modal + therefore*.

Additionally, the LA *so*, as indicated in the textbooks, was placed after a comma to join two independent clauses. This pattern is consistent with that in the corpus data (94.33%). Still, other less frequent patterns were *So + S + V* (3.33%) and *(,) and so + S + V* (2%).

As for the patterns of use of the LA *hence*, no surveyed textbook series provided any sample sentences. However, in the COCA corpus, the data showed that the pattern *Hence + (,) + S + V* was the most frequent (59%). The second possible pattern of the LA *hence* was the *and hence* construction, which covered 25.33%, whereas the two patterns, namely *; + hence + (,) + S + V* and *, + hence* (7%) were both ranked third.

It is evident that most of the traditional textbooks widely used in Thai universities do not sufficiently explain the usage of the grammatical patterns of LAs of results. Moreover, these textbooks do not provide enough example sentences for the purpose of improving the academic writing skill of English learners. To make it worse, students' problems probably are due to the fact that they are provided with lists of non-equivalent LAs as equivalent alternatives often appearing in tables in academic writing textbooks. As seen in the findings of the present study, the target LAs were different in terms of patterns of use, and substituting one LA for another using the same pattern may lead to non-standard use (Park, 2013). Such a problem in LA teaching is also in line with Ha (2015), who remarked that "as many EFL teachers often provide their students with a semantically sorted long list of linking adverbials without detailed information on their individual usage. More importantly, they should be given advice on how to use the items in authentic context" (p. 12).

By contrast, language data from corpora, e.g., COCA, seems to be more informative than that in the textbooks. In other words, corpus-based information supplies learners with frequencies of LAs, enabling them to know which are commonly used in authentic academic English. More importantly, as can be seen in textbooks, many patterns of LAs of results shown in most textbooks do not cover all the possible common uses found in native-speaker corpora. This discovered fact

confirms the second hypothesis in that LA information as found in the textbooks is outdone by that from corpus-based data.

In comparison with the well-known corpus-based study by Biber et al. (1999), which explored different kinds of LAs in general, the findings of the present study suggest even more possible patterns or positions of the target LAs. That is, while Biber et al. found the uses of *therefore* and *thus* in the medial positions, e.g., right after a subject, after a modal, or between a verb and a complement clause, such sentence positions were confirmed by the current study. Additionally, the COCA data demonstrates further patterns of *thus* and *therefore* not reported by Biber et al. (1999), e.g., the *and thus/therefore* construction, and *thus + V.ing*. As regards *so*, which was most common in conversations and occurred in the initial position, as shown by Biber et al. (1999), this LA in academic written English, in contrast, mostly occurred medially in COCA.

Biber et al. (1999) did not explicitly mention the position of *hence*, alongside *so*, *thus*, and *therefore*, giving only some example sentences of *hence* in the initial position. Conversely, the findings from the current research are concerned with other positions of this LA, e.g., *the and hence construction*, and *; hence + (,) + S + V*. It is worth noting that the present study has revealed additional patterns not reported by Biber et al. (1999), probably because Biber et al. aimed to explore all types of LAs, not limiting their data presentation to LAs of result. Due to the limited space shared by different types of LAs, Biber et al. might not have been able to include all the possible patterns of LA of result, in contrast to the present study the focus of which was on only LAs of result.

5.2 CONCLUSION

The main focus of this corpus study was single-word LAs of results *thus*, *therefore*, *hence*, and *so*, found in COCA, a well-known American corpus. Drawn from academic written English, the data demonstrated unexpected results with respect to frequency and LA patterns of use. In terms of frequency, *thus* was the most common, followed by *therefore*, *hence*, and *so*, respectively. What is far more interesting is the authentic patterns of these LAs. Compared with the limited patterns included in the surveyed textbooks, more possible patterns that actually exist in

written American English were observed. Pedagogically speaking, some of these frequent patterns that the textbooks lack need to be added to lessons on LAs of result. To put it another way, English teachers should be encouraged to incorporate corpus-based information on common LA patterns into their instruction since having access to these patterns will allow learners to be exposed to the authentic use of these LAs and apply the real patterns and positions of the LAs in their own academic writing.

5.3 PEDAGOGICAL IMPLICATIONS

The findings of the present study have the following implications for English language teaching:

The study revealed that the patterns of LAs included in the surveyed textbooks do not represent all the common patterns that native speakers of English naturally use in academic writing. Out of the four textbooks, only one contained the LA *hence* without any examples of its usage; nevertheless, a number of patterns were found in the corpus consulted in which *hence* occurred in academic writing. Furthermore, the patterns of *thus* and *therefore* in these books concerned only *Thus/Therefore, S + V* and *; thus/therefore, S + V* despite the fact that there were up to three patterns of *thus, i.e.*, the *and thus* construction, *S + auxiliary/modal + thus*, and *thus + V.ing*, which were higher in frequency than *; thus, S + V*, i.e., one of the patterns presented in the textbooks. As regards *therefore*, three patterns in real American English, i.e. *S + V + (,) + therefore*, the *and therefore* construction, and *S + be/modal + therefore*, occurred more frequently than *; + therefore + (,) + S + V*. In addition to the three LAs, the information of *so* in the textbooks was slightly limited. Although COCA data showed a very high frequency of *(,) + so + S + V*, which was the only pattern the textbooks explored, three more patterns also existed in the corpus data.

The findings from the current study may benefit EFL/ESL teachers who need to prepare academic writing lessons on LAs of result, e.g., a lesson on cause-and-effect essays. Evidently the information in these common textbook series turns out to be relatively limited and not representative of what native English speakers actually use. In order to promote learners' use of such LAs in a way that native speakers perceive as naturally acceptable, ELT practitioners are encouraged to employ

authentic materials on LAs, regardless of whether they are simplified ones or not, based on language corpora. Put differently, frequent patterns of LA use, as found in COCA, that ELT coursebooks usually omit should be added to lessons so that students will be exposed to how these LAs are naturally used in authentic English.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

5.4.1 The number of concordance lines

Due to time limitations, although the present study randomly collected the data of each target LA of result from 300 concordance lines of COCA, the entire elicited data may not be completely generalizable to all occurrences of adverbials in American English. If time allows, further research should increase the number of concordance lines in order to enhance the generalizability of the findings.

5.4.2 Linking adverbials of result

The present study emphasized the first four most frequent single-word LAs of result in written American English, namely *thus*, *therefore*, *hence*, and *so*. However, the other less frequent single-word LAs, e.g., *consequently*, *accordingly*, *thereby*, which were beyond the scope of the present study, should also be taken into account in future studies.

Additionally, not only should LAs of result be considered, but it seems that few corpus-based studies have specifically investigated prepositional LAs of result, e.g., *as a result*, *as a consequence*, *in consequence*, especially with respect to their patterns of use. These multi-word LAs could also be the focus of further studies.

Ultimately, according to Biber et al. (1999), apart from the LAs of result, there are five remaining semantic categories with which the present study was not concerned, i.e., *Enumeration and addition* (e.g., *first*, *second*, *third*, *also*), *Summation* (e.g., *to conclude*, *in summary*, *in conclusion*), *Apposition* (e.g., *for example*, *for instance*, *that is*) *Contrast/ concession* (e.g., *however*, *although*, *even though*), and *Transition* (e.g., *by the way*). For this reason, future corpus-based research on LAs should aim to explore some or all of these LA groups to obtain a clearer picture of how most LAs naturally occur in written American English.

5.4.3 Spoken English/ other genres in COCA Corpus

With regard to the registers and genres in which LAs of result occur, it should be noted that LAs can differ in frequency and patterns of use from one genre to another. As the current study highlighted academic written American English, investigating these LAs in spoken English may also result in different and interesting findings. Moreover, LAs of result in other genres existing in COCA, e.g., newspapers, fiction, or magazines, are worth examining in further studies as well.

5.4.4 Other Native-speaker and Learner Englishes

The data of the current study were collected from COCA, which represents the authentic use of American English. It seems that LAs in other varieties of native-speaker English have been less explored, e.g., Australian English, Canadian English, New Zealand English. It would also be useful to take LAs in ESL Englishes, e.g. Singapore English, Indian English, and Malaysian English, into consideration. In addition, researchers wishing to conduct corpus-based research on LAs could find learner English, which usually reveals students' overuse, underuse, and misuse of LAs, pedagogically insightful too.

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APPENDICES

APPENDIX A
OCCURRENCES OF THE LA THUS IN COCA

CLICK FOR MORE CONTEXT				[?]
1	2003	ACAD	EnvironHealth	A B C along the electrical field lines and be deposited in and on people and objects. Thus , relatively few small particulates are returned to the ducts, and, as a
2	2011	ACAD	ForeignAffairs	A B C for the regimes to order their troops to take on such large groups. # Thus , it was a shift in the balance of power between the state and civil
3	2012	ACAD	PracticeNurse	A B C and allows the symptoms of possible stroke to be identified and acted upon swiftly, thus reducing the risk of death and disability. # IMMEDIATE ACTION # In cases of
4	2010	ACAD	HistoryToday	A B C regulations could be relaxed, the jizya reduced to a nominal amount with the Jews thus becoming an integral and respected part of Muslim society. This accommodation has a long
5	1994	ACAD	AnthropolQ	A B C undertaking. I became an extra pair of hands instead of an extra burden; thus my introduction to village life was much more as a participant than as an observer
6	1995	ACAD	IntIAffairs	A B C the country. As for Iraq, almost two-thirds of the country is desert; thus , agricultural production is highly dependent upon the Tigris and Euphrates Rivers for irrigation water
7	2009	ACAD	CommCollegeR	A B C enrolled on a full- or part-time basis. The course is required for graduation; thus all students must enroll and pay for it at some point in their college careers
8	2004	ACAD	SexResearch	A B C indicate a more complex relationship between depression and sexuality than between anxiety and sexuality. Thus , increased sexual interest when depressed can indicate increased desire for sex
9	1990	ACAD	SocialResrch	A B C myriad cultural discourses, both " high " or esoteric and ethnopsychological. (n3) Thus , subsequent psychoanalytic theorists have had a rich collection of discourses from which to (
10	1994	ACAD	HealthSocialW	A B C well. A more representative sample might have resulted in greater variability in support and thus led to different conclusions. Implications for Social Workers # Social workers trained in the
11	2002	ACAD	RoeperReview	A B C though they may encounter some difficulty, will lead to attainment of the goal. Thus , Participants #3 and #4 chose to make a difference within their unique communities;
12	1998	ACAD	PhysicalEduc	A B C would aid their likelihood of getting a good job or a place at university and thus , not as important as other subjects. Other studies (Carlson, 1995b);
13	2002	ACAD	CurrentPsych	A B C the dispersment of the extended family (Brown, 1996). It is, thus , of little surprise that young adults in both cultures -- who, as Coon
14	2008	ACAD	EarNoseThroat	A B C n1) multiple studies (n2-n4) have shown that its sensitivity exceeds 90%, thus establishing it as the most sensitive audiologic test for the detection of vestibular schwannomas.
15	2011	ACAD	JSpeechLanguage	A B C ; Kensingler, Shearer, Locascio, Growdon, & Corkin, 2003). Thus , we opted to use a reading task so that our participants would be able
16	2011	ACAD	ForeignAffairs	A B C colonial exploitation. Its economy was then bombed into oblivion during World War II; thus , its rapid postwar growth was to some extent a return to prewar levels.
17	1992	ACAD	InfoSystems	A B C indicate that there is no evidence that the data comes from a normal distribution. Thus , use of a normal distribution could result in misleading inferences. COMPUTER-INTENSIVE APPROACHES #
18	2004	ACAD	Environment	A B C protected areas. 7 From the perspective of poverty reduction and rural development, it is thus urgent to identify alternative conservation systems that respect the rights of forest dwellers and own
19	2013	ACAD	EmergingInfectious	A B C were hospitalized at the time of review, enabling easier access to medical records and thus a quicker review process. # If SPARCS had been the sole reporting source,
20	2004	ACAD	RoeperReview	A B C consensus, definitions and practices at the school district level should become less divergent, thus facilitating the transfer of students between the talent development programs of different school
21	1998	ACAD	HispanicRev	A B C and the preservation of the morpheme boundary was insured by the palatal obstruent /y/. Thus the regular development of the Latin plurals BOVES, GREGES, LEGES, and REGES
22	1992	ACAD	ArabStudies	A B C while only half of enrolled students reached the sixth year needed to achieve literacy. Thus , while from 1947 to 1967 literacy grew faster than population (289% compared to
23	2007	ACAD	OrthoNursing	A B C scale (VAS) by use of a touch screen; VAS pain scores can thus be electronically captured and time stamped. Paper tools that have been validated for self-administration
24	2000	ACAD	AmerStudies	A B C society and enabled them to be " the Model Minority " in postwar era. Thus , the war all combined to transform American attitudes from what Harold R. Isaacs has
25	2006	ACAD	EnvironHealth	A B C of mercury exposure are described. Introduction # Fluorescent lamps are an efficient, and thus commonly used, source of lighting in office buildings, retail establishments, and schools
26	1997	ACAD	AfricanArts	A B C are kept burnished, but close inspection shows they are only brass. The head thus covered affords support to a large tooth of ivory carved all over with jujus in
27	2012	ACAD	CollegeStud	A B C to control one's problematic gambling behavior (May et al., 2003). Thus , GSEQ composite scores (1-1600) positively correlate with participants' perceived self-efficacy to
28	2003	ACAD	AsianAffairs	A B C the short to medium term, security policies are important for the United States and thus important for New Zealand. For the longer term, New Zealand is more concerned
29	1991	ACAD	ArabStudies	A B C 1952, Israel turned down successive proposals made by Arab states.... " 19 Thus , when asked by Jean Lacouture in 1955 if he was ready to recognize and
30	2011	ACAD	StudiesInEducation	A B C particular group (academics, community members, service providers) as partial, and thus seeks to involve all interested stakeholders as equal partners in conducting research (Israel et
31	2015	ACAD	LangSpeechHearing	A B C). During Phase 2, he was prompted to reengage in the task and thus did not meet criterion (b). A black triangle (negative teaching example
32	1996	ACAD	RehabResrch	A B C or sides of the body are used to determine if a problem is present. Thus , any method incapable of detecting asymmetries with sufficient accuracy to permit determining abnormalities is
34	2002	ACAD	HospitalTopic	A B C of reimbursement will result in more money being available for salaries and training and will thus improve claim accuracy. Improvement of claim accuracy will reduce the resources required for cl
35	2015	ACAD	LangSpeechHearing	A B C scaffold and proceed with intervention for those students who may require focused language intervention. Thus , the present study further explores the feasibility of using a dynamic assessment of
36	1990	ACAD	TheologStud	A B C be to make God powerless to act as our savior (in history). Thus , e.g., replying to a question indicating that Balthasar and others had criticized him
38	2013	ACAD	SchoolPsych	A B C processes involved in completing their constituent subtests than do IQs that measure global ability. Thus , interpretation of part scores seems to provide a more logical link between test scores
39	2003	ACAD	Lancet	A B C no haemopoietic cells in this tissue (NLS case 2, table 3). Thus , the number of maternal cells in the heart expressing CD45 accounts for only a
40	2003	ACAD	TheologStud	A B C the emergence of a persistent desire to conform one's actions to objective morality. Thus the morally good person, Fuchs writes, will exhibit a consistent drive toward what
41	1999	ACAD	LatinAmResRev	A B C become excessively politicized (usually the case with the newly declared independent unions). Thus when the war ended, these unions were in a better position to focus on
42	1991	ACAD	Ethnology	A B C racism because I pointed out the political implications of everyday discourses deemed apolitical, and thus was accused of having an unhealthy interest in the subject-matter. People also felt that
43	2010	ACAD	20thCentLit	A B C , " nothing in Ireland is ever over " (Collected Impressions 173). Thus , in the political commentaries, book reviews, and literary essays she produced from
44	1992	ACAD	EnvirAffairs	A B C the court held that the liberty was an ordinary rather than a fundamental right. 226 Thus , because the right to smoke is not fundamental, any plaintiff claiming that a
45	1995	ACAD	ArabStudies	A B C because it offers an alternative to taxation as a means of tackling budget deficits. Thus , a number of Gulf rulers have made pro-privatization statements and their governments have declared
46	2011	ACAD	GeogRev	A B C to inauspicious geomantic landscape of the swordshaped hills on both sides of the village. Thus , to restrain the landscape tension, people constructed a big humanbuilt hill between the
47	1998	ACAD	Monist	A B C that the concept of logical dependence is a linguistic rather than a metaphysical category. Thus when finite substances are described as creatures and God as a creator, then a
48	1997	ACAD	WorldAffairs	A B C of social conflict and the ability to form and sustain a social contract, and thus a civil society. Alford's interpretation of Kleinian object relations focuses on the self
49	1999	ACAD	AnthropolQ	A B C specialists, and oral historians; they can pronounce what Tuareg nobles can not. Thus smiths' verbal art and informal conversation contain much social commentary and criticism, accompanied
50	2001	ACAD	EnergyJournal	A B C production; namely, the cost of exercising the options rather than preserving them. Thus an increase in volatility increases the opportunity cost of current production, which shifts the
51	2013	ACAD	InstrPsych	A B C Kevin's bilateral physical preservation increased by another minute to 9 minutes in duration. Thus , there was an upward trend for two data collection points (Figure 2)
52	2004	ACAD	PhysicsToday	A B C from its prescribed range, the resulting mechanical stresses can severely damage power-system equipment. Thus the electric grid requires a protective overlay to minimize damage and to ensure

53	2002	ACAD	OrthoNursing	A B C	their inability to comfort the child and to take away their pain. The parent thus feels victimized. # It is not uncommon for children to be verbally hostile toward
54	1991	ACAD	CATOJournal	A B C	I would say the misfortunes are not caused by mistakes in some specific design (thus , they can not be mended by another design) but by the very approach
55	1996	ACAD	RehabResrch	A B C	to ensuring that the device did not slip (shear) along the skin, thus falsely recording viscoelasticity. Dry friction, between the skin and a boundary wall,
56	2009	ACAD	AfricanArts	A B C	Osogbo case, the postcolonial discourse affected also the realm of global heritage politics. Thus , together with the postmodern wave of deconstructivism, the postcolonial critique of power gave
57	2005	ACAD	AfricanHist	A B C	, it was cast as unintended, unfortunate, but necessary consequences of progress. Thus Lisbon claimed that a relatively small number of people were affected compared to other dam
58	1994	ACAD	ReVision	A B C	human and probably earlier evolutionary life that have enabled mankind to survive and flourish. Thus , with increasing sympathetic stimulation, there is an enhancement of these archetypal surv
59	1995	ACAD	Education	A B C	that the school curriculum should be relatively stable in terms of subject matter taught. Thus , a continuously changing curriculum should not be in evidence once essential content has been
60	1993	ACAD	MusicEduc	A B C	music reading skills in which students see and immediately hear what they are reading, thus replacing pencil-and-paper theory lessons. Visual, aural, and kinesthetic learning. # The
61	2011	ACAD	MechanicalEng	A B C	integral " design -- most major reactor components are inside the reactor pressure vessel, thus significantly reducing the threat of a major loss-of-coolant accident. Light-water SMR designs hav
62	1999	ACAD	HispanicRev	A B C	that their presence adds value (" lustre ") to their native countries, thus justifying their supposed pride. More importantly, however, these instances of past female
63	1991	ACAD	Mercury	A B C	expected from the most favored models, about one third of a solar radius. Thus the observations help to confirm the assumptions that are needed to describe the convection.
64	2013	ACAD	AmJPubHealth	A B C	8.64). There were 49 611 infections owing to workplace transmission among employees. Thus , a 1 flu day policy resulted in 16 833 fewer infections owing to workplace
65	2010	ACAD	Bioscience	A B C	linear regressions in combination indicated that the response-based model had the lowest AIC, and thus the best performance, confirming our previous analysis (table 3). In sum
66	2000	ACAD	InfoSystems	A B C	's platform to local and wide area networks to client servers to mainframe computers. Thus , management requires increased quality, functionality, and ease of use, decreased delivery
67	2013	ACAD	ArtBulletin	A B C	connotations for Walpole and his circle. 74 # The broader, interdisciplinary perspective sketched out thus far illuminates the ethical and aesthetic agenda behind Walpole's " revival " of the
68	2005	ACAD	IndepSchool	A B C	one yuan per bag), but few have enough for American university tuition. Thus they are turning to UK and even more so to Canadian universities, not just
69	2010	ACAD	Bioscience	A B C	of random interactions, must also be maintained (Ellis 2001). The cell thus has a considerable problem to overcome to create just the right conditions for these spontaneous
70	2001	ACAD	AnthropolQ	A B C	dynamics that structure the ways in which the work of journalism is done and which thus contribute to the reproduction of social formations. At the same time, journalism makes
71	2001	ACAD	AnthropolQ	A B C	by austerity measures, lead to changes in the relative values of land resources, thus to conflicts. For instance, in Mexico the PRI's neoliberalismo policies, following
72	2003	ACAD	Bioscience	A B C	have a large effect on plant species abundance and ecosystem services such as productivity. Thus , the top-down chain from carnivores through herbivores to plants may be an important condu
73	1999	ACAD	InstrPsych	A B C	attitudinal objectives. # The mathematics teacher should stress meeting esteem needs of pupils. Thus , there is recognition for pupils individually as well as in groups who are achieving
74	1999	ACAD	AmerIndianQ	A B C	and negative) can be molded, reshaped, or solidified in later years. Thus , while adequate and accurate coverage of the role of Native Americans in the American
75	2006	ACAD	SocSciRev	A B C	become even more important to many of the Scots, their church. 43 The Scots thus walked a thin line between two strong forces during the mid-sixteenth century in their desire
76	2000	ACAD	Raritan	A B C	the service of the Red Rag, to the craft of the sea" Thus , while Lord Jim sweeps aside the familiar form of traditional community in favor of
77	2012	ACAD	Education	A B C	vocational school and 355 high school questionnaires) were administered and 997 were returned, thus the effective response rate was 76.69%. # The questionnaires were created and administ
78	1991	ACAD	HealthSocialW	A B C	of stress and support is opposite for white subjects than for black subjects. Thus , although increased levels of stress are associated with more depressive symptoms in both white
79	1992	ACAD	ArmedForces	A B C	amount of violence employed and the goals to be obtained. Limiting means and ways thus became a central focus of this theory, and rightly so, for as Jomini
80	1998	ACAD	WaterEngin	A B C	removing hazardous coatings such as lead from steel, concrete, brick or wood. Thus , the cleanliness of shrouded power tools bypasses the need for both protective containment structures
81	2012	ACAD	JournalAmerican	A B C	themselves, LGBT number among the " bad things " to be forgotten. # Thus , in 2006, the teenage strip Zits introduced a gay character named Billy,
82	1995	ACAD	Mercury	A B C	the Challenger explosion and the Chernobyl nuclear accident, eugenics, and so on. Thus there is a disjunction between the reality of science (it can lead to either
83	1994	ACAD	Style	A B C	the grammatical form (the morphosyntactic features) of you from its deictic functions. Thus you refers to O'Brien's narrator-protagonist by a process of what Uri Margolin ("
84	1996	ACAD	EnvirAffairs	A B C	will cause EPA to insist upon submission of the SIP by the original deadline and thus trigger potential sanctions. 392 EPA officials have noted that the main reason for the
85	2004	ACAD	ForeignAffairs	A B C	were recognized as useful to the protection of the U.S. homeland from WMD attack. Thus , by September 11, DOD was recognized as the lead agency in the federal
86	1991	ACAD	Monist	A B C	all everything, such a soul will be involved in knowing itself as well. Thus in DK B 101 Heraclitus pays his respects to the Delphic oracle by declaring "
87	2005	ACAD	ChurchHistory	A B C	only after the woman and her husband have paid their visit to the shrine and thus fulfilled their vow to the saint, in the Mary-versions the woman is saved from
88	1991	ACAD	Symposium	A B C	as long as the evidence circulates. The circuitous itinerary of Lorrain's own narrative thus supplies an authorial alibi, as the story, presented as factual account, is
89	2012	ACAD	ReadingImprovement	A B C	the family literacy were only asked in the first and the third wave surveys, thus for the purpose of this study, data were drawn from the Core Panel of
90	2011	ACAD	SchoolPsych	A B C	current study. The preparation and initiation scales focus on precursors to implementation, and thus there tends to be less variability in these scales, attributable to most schools achieving
91	1997	ACAD	Humanist	A B C	new-borns of mothers who smoked during pregnancy have adult nicotine levels in their bodies and thus need to be treated as ex-smokers. # As an Air Force physician during the
92	2001	ACAD	EmotBehavDis	A B C	absenteeism, disciplinary referrals, and subject failures, to supplement the instrument information and thus provide a comprehensive empirical database for their annual IEP deliberation. Such a
93	2011	ACAD	CommCollegeR	A B C	community colleges the stature and credibility necessary to award baccalaureate degrees on their own. Thus , a university that fears the competition that could result from a community college o
94	2014	ACAD	SchoolPsych	A B C	end of data collection (Jenkins, Graff, & Miglioretti, 2009). Thus , the pre-post slope represents the best estimate of a student's true reading trend
95	2001	ACAD	PhysicalEduc	A B C	necessary to sacrifice valuable class time in order to teach fitness and wellness concepts. Thus , the ability to incorporate fitness and wellness take-home lessons into physical education activity c
96	2008	ACAD	Education	A B C	Carpenter, 1974; Sternberg & Nigro, 1980; Piaget, 2001). Thus , only a few studies have investigated analogical reasoning in younger children (Goswami,
97	1997	ACAD	Style	A B C	, concepts, that will be illustrated by the narrative accounts that follow them; thus , the narrators prepare the audience to understand the specific cases to follow by illuminating
98	2007	ACAD	SportBehavior	A B C	experience. In addition, both males and females were included in the study. Thus , the effects of running experience and gender were examined for each MOMS scale.
99	2001	ACAD	AmerEthnicHis	A B C	and were therefore less likely to apply for citizenship later. 28 The Federal gatekeepers could thus use immigration law to indirectly discourage naturalization of certain immigrant groups. But th
100	2009	ACAD	CommCollegeR	A B C	two groups. Black and White students already had strong and weak intraracial ties and thus had little reason to form weak ties with each other. However, because they
101	1994	ACAD	AfricaToday	A B C	as a thread joining different entities, different artistic forms and genres with human beings thus creating the fabric of culture. From a folklore perspective, exhibitions are like narratives
102	1990	ACAD	ReVision	A B C	" metacommunication, " the nonverbal context in which the explicit message is conveyed (thus the mother who says to her child with hostile eyes and a rigid body,

APPENDIX B
OCCURRENCES OF THE LA THEREFORE IN COCA

CLICK FOR MORE CONTEXT				[?]
1	2004	ACAD	DrugIssues	A B C dichotomous factors of marital status and of employment, are standardized (Z-scores); therefore , one unit is one standard deviation (SD). Standardized scores place the
2	1994	ACAD	NaturalHist	A B C the Leiden blaauwbock one of the plurimas pelles of Pallas's original description, and therefore the type of the species as the only identifiable specimen from the original lot.
3	1999	ACAD	Ethnology	A B C events in Eastern Europe unfortunately show, process surely does not always mean progress. Therefore , the Zulu case demonstrates the need for a dynamic perspective of state formation and
4	1995	ACAD	BioCycle	A B C of analytical data from odor panel testing as an aid in estimating emissions rates and therefore is always interested in odor testing results and odor evaluation studies not previously reported in
5	1992	ACAD	TheologStud	A B C , in the unity of the Holy Spirit. The Christian life on earth is therefore rightly understood as the continuation of Christ's life, and the participation of humanity
6	2010	ACAD	AmJPubHealth	A B C account for these null findings, but underdetection may also be a contributing factor; therefore , this finding should be further examined using clinical measures. Lifetime reports of asthma
7	1990	ACAD	ArmedForces	A B C association with Qaddafi and Rawlings, and his bold efforts to restructure domestic politics were therefore aberrant. This accounted for the efforts of the conformist states to bring him into
8	2005	ACAD	AfricanHist	A B C vice beyond the control of European authorities. # The failure to segregate was, therefore , of great significance to the life of Kenyan prisoners and detainees in this period
9	1996	ACAD	ArabStudies	A B C the Jewish woman could not consider a mosque as part of the public domain; therefore , Muslim authorities were impelled to allow her house to coexist aside the mosque.
10	1992	ACAD	MarineFish	A B C ability to catch (not land) a billfish would likely meet strong opposition. Therefore , if further regulation of the recreational fishery becomes necessary, decisionmakers might consider a
11	2013	ACAD	CollegeStud	A B C particular institution the majority of education majors are women are the education faculty. Therefore , this finding could tie to assumptions based on female students' perceptions of their
12	1993	ACAD	EnvironHealth	A B C their children to play as much as 10 hours per day in the yard; therefore , they were anxious to regain use of their back yard. # The back
13	1992	ACAD	RoeperReview	A B C a general system linking metacognitive and problem solving measures that is less developed, and therefore the majority of processes related to this system are uniformly low when compared to gifted
14	2003	ACAD	InstrPsych	A B C the 1980s created externalities, which resulted in practices that discriminated against European Americans and therefore were both morally wrong and unconstitutional. This legal shift away from Brown continues.
15	1997	ACAD	AfricanArts	A B C case, for several members teach at the Institut National des Arts in Bamako; therefore , many of the artists now using bogolan are their former students or apprentices. (
16	2003	ACAD	Lancet	A B C # - Undiagnosed HIV infection in pregnant and breast-feeding women can give children HIV/AIDS # Therefore Learn your HIV status Disclose your HIV status to your partner before you have sex
17	1994	ACAD	CommCollegeR	A B C employment noted that travel and tourism professionals are not highly regarded in many countries; therefore , very little emphasis is placed on travel and tourism education. Where travel professionals
18	2004	ACAD	AfricanArts	A B C monumental squares and colonnades " (Bremner 2004:25). There is a danger, therefore , that Klipptown might be transformed into what Edensor describes as a " purified space
19	2011	ACAD	Education	A B C may reduce the amount of Oxygen they are supposed to acquire through breathing and, therefore , badly affect the respiration system. # No doubt that deep respiration practices may
20	1997	ACAD	IntAffairs	A B C developments, others suspect that Iran wants such projects to go through Iranian territory and therefore might want continued instability in Afghanistan. At least for now the Iranians appear focused
21	2005	ACAD	Adolescence	A B C suggested that teens are limited in their ability to realistically appraise their idealized views and therefore see their problems solely from their own point of view (Elkind, 1981)
22	2002	ACAD	Psychology	A B C rather than in the realm of static recall of images such as animal tracks. Therefore , we suggest that the expected superiority of track recall over that of other stimuli
23	2000	ACAD	ArmedForces	A B C in favor of a more political, nonviolent campaign. It was not surprising, therefore , that Sinn Fin played little role in constructing and propagating the political rationale for
24	2013	ACAD	JournalEcumenical	A B C purpose and meaning in it, but this universe is not real, and, therefore , " there is no meaning or purpose in the real universe. " 16
25	1994	ACAD	ReVision	A B C symbol is not merely a representation of the spirit but actually is the spirit. Therefore , the use of the word symbol is somewhat of a misnomer when reference is
26	1996	ACAD	PhysicalEduc	A B C for each of these positions called for coaching in a distinct sport or activity. Therefore , this category could easily be subdivided into distinct teaching/ coaching responsibilities, thereby significantly
27	2003	ACAD	HospitalTopic	A B C be so costly that the employer's profitability greatly suffers from providing these benefits. Therefore , an employer's goal is to develop ties with providers that deliver high-quality,
28	2000	ACAD	AmerIndianQ	A B C Age was a national movement whose membership and participation was largely defined by consumption. Therefore , the usual ethnography conducted among a sociocultural group of people in a given area
29	2014	ACAD	PoliticsLifeSciences	A B C whether I approved replenishment of Israeli stocks around August of 1985. My answer, therefore , and the simple truth is, " I don't remember--period. " 90 #
31	1992	ACAD	IntAffairs	A B C an abundance of precious metals that they take straight from nature. All civilized peoples therefore are in a position to trade with them to their advantage. They can get
32	2010	ACAD	TeachLibrar	A B C conference, planning strategically means finding out what matters most to teachers and administrators. Therefore , the teacher-librarian in collaboration with a teacher looked at the subject area standards,
33	1996	ACAD	AmerStudies	A B C both share a robust interdisciplinary approach to their respective areas of inquiry, and are therefore able to integrate a healthy variety of theoretical and practical approaches to the study of
34	2014	ACAD	QuartRevDistanceEd	A B C of distance education (Crawford-Ferre & Wiest, 2012; Major, 2010). Therefore , if distance education is to maintain its relevance in today's higher education landscape
35	1998	ACAD	LatAmPopScult	A B C Solange's mental health and Carlos's mental illness. She is a woman and therefore essentially deceitful. # What I have attempted to argue is that Solange's agency
36	2008	ACAD	Bioscience	A B C may lead to a reduction in the number of days when soils are anoxic and therefore may increase the rates of some aerobic ecosystem processes (figure 5; Jensen et
37	2004	ACAD	Style	A B C indirect statements about negated whether-knowledge for artistic purposes. # Joseph would have found, therefore , very likely, the passage free, had he not.. (77
38	1996	ACAD	Re:View	A B C with the exercises was not effective for the children with low cluster scale scores. Therefore , there were no data to determine if the length of the intervention was sufficient
39	1995	ACAD	MarineFish	A B C (Eschmeyer et al., 1983). These three species are also small and therefore are often thrown back. Species occurring infrequently (<2%) and not listed in
40	2007	ACAD	TeachLibrar	A B C the real cost of books astronomical. The public library, wherever it exists, therefore becomes much more crucial to democratizing information. # Since the United States tends to
41	1995	ACAD	ReVision	A B C seems to be asserted is the inadequacy of our ordinary individual selves. Connection, therefore , is basic. The Judeo-Christian tradition has tended to personify this force, but
42	1999	ACAD	InterAmStud	A B C 1999, 444,450; Agosin and Ffrench-Davis 1998, 141). The Frei government therefore raised the fiscal incentives for small firms by enacting legal changes (SENCE 1998,
43	2015	ACAD	ExceptionalChildren	A B C patterns and teaching patterns and morphemes that had immediate utility for reading long words. Therefore , our decoding strategy taught students to identify word patterns and morphemes across multisyllabic wo
44	2001	ACAD	PerspPolSci	A B C constitution. " (n30) # The purpose of the separation of powers, therefore , was to ensure that government itself would not become the embodiment of arbitrary power
45	1997	ACAD	LawPublicPol	A B C 100 law-related journals and over 1,000 social-science journals. Unlike JLR data, SSCI data therefore indicate how often articles published in law-related journals receive recognition in the general academic literat
46	1999	ACAD	ArtBulletin	A B C , owing to their ignorance, will be found guilty of this error, and therefore should not be openly accused of heresy but treated " -- the Malleus's own
47	2005	ACAD	Style	A B C Othello is not simply following cues but, like Iago, speaking strategically. Othello therefore asks Iago about Cassio's honesty: " Is he not honest? " This
48	1995	ACAD	ArtsEduc	A B C is that the specific subject in a school curriculum is precise and well defined. Therefore , we can move to the next stage, the actual integrating process. #
49	1999	ACAD	SportBehavior	A B C design effective interventions for remediating psychological skill deficits in specific situations with individual athletes. Therefore , in the evaluation of such a checklist for a sport, it is important
51	2008	ACAD	SocialWork	A B C helper and antisocial client. The following points regarding the design of negotiation interventions should therefore be carefully kept in mind.Client Resources As indicated in the preceding paragraphs, in casual
52	1994	ACAD	PhysicsToday	A B C created the potential for unprecedented anthropogenic disruption of the biosphere. Protection of the biosphere therefore becomes a priority. But we can not protect what we do not understand.

53	1993	ACAD	CrossCurrents	A	B	C	private as in a hell that is both torture chamber and asylum. It should therefore not surprise us that despair is marked by forms of golem sickness much more acute
54	1994	ACAD	PerspPolSci	A	B	C	, it is certainly powerful -- and persistent and ubiquitous. We do well, therefore , in rejecting institutions that attempt to suppress it. Instead, designs that channel
55	2014	ACAD	InstrPsych	A	B	C	and middle-class (Nieto, 2000; Milner, 2005). EPS courses are therefore designed to prepare White, middle-class PSTs to become more culturally responsive (Gay,
56	2014	ACAD	ArtJournal	A	B	C	to focus his or her attention on a single element within the work, which therefore does not form a synthesis but only produces the permanent openness of a " process
57	2002	ACAD	Adolescence	A	B	C	poor in the United States are children (Corbett, 1993). It is therefore important to understand how people explain poverty. The objectives of this paper are to
58	2001	ACAD	Style	A	B	C	whole groups of persons. Bottom-up processing requires conscious attention to incoming information and is therefore likely to consume more working-memory capacity than top-down processi
59	2004	ACAD	HispanicRev	A	B	C	comunicaciones de sus distintos pueblos " (1: 804). To Castile, therefore , Ortega ascribes a collective enterprise as described by Natorp: " La' Espaa
60	2014	ACAD	StudiesInEducation	A	B	C	(QPS, 2010). The one-on-one trainer-trainee (FTO-FYC) relationship is, therefore , the most dominant and critical feature of an FYCs training period and many trainers
61	1996	ACAD	AnthropIQ	A	B	C	as the cause of most illness, death is generally the result of witchcraft. Therefore , collection of witchcraft material, in Aw terms, puts the research subject at
62	2010	ACAD	CollegeStud	A	B	C	17 criteria have been observed as unsafe condition i.e. building plan and safety policy. Therefore , its still require attention from the college authority to take appropriate action to ensure
63	2014	ACAD	LearningDisability	A	B	C	, stability of identification criteria at the state or district level is potentially questionable. Therefore , a hybrid approach that incorporates other symptoms in addition to RTI, such as
64	2005	ACAD	InstrPsych	A	B	C	Axline's principles with Mexican-American children has not been addressed systematically in the literature. Therefore , the purpose of this article is to discuss Axline's eight play therapy principl
65	2000	ACAD	EnvironEd	A	B	C	, 27, 30, 31, 37 and 38 are all negative statements; therefore , responses were scored 1 for strongly agree, 2 for agree, 3 for
66	1993	ACAD	EnvironHealth	A	B	C	, were originally designed to be operated without walls on all four sides and were therefore built without ventilation fans. Both arenas have been partially or completely enclosed subsequently,
67	1991	ACAD	Lancet	A	B	C	between six months and two years later. Family members with normal biopsy specimens have therefore been followed clinically for three years. # Serum IgA reticulin antibodies, together with
68	2009	ACAD	Writer	A	B	C	but faced two major obstacles: how to make the material unfamiliar again, and therefore find my footing in the opening chapters. The story is built around my narrator
69	1998	ACAD	CATOJournal	A	B	C	ethnic groups may be best suited to provide some " local " public goods and therefore ethnicity could be used to define local jurisdictions in a federal system. The paper
70	1997	ACAD	Re:View	A	B	C	such as big companies and Medicare beneficiaries -- choose among plans. Measuring results, therefore , is becoming a more important and exacting science in the managed care field,
71	2007	ACAD	Adolescence	A	B	C	gaining the respect of the student leads to the teacher's designation as significant and therefore respected, being held in higher regard, and eventual development of a significant other
72	1995	ACAD	AnthropIQ	A	B	C	is important to keep in mind that the vast majority of Afghans are illiterate and therefore largely impervious to the propagandistic effects of print. In the absence of words photographs
73	2013	ACAD	EmergingInfectious	A	B	C	, specificity values could not be calculated because there was no standard for comparison; therefore , Cohen's. coefficient was used to assess the reliability of the data.
75	1997	ACAD	CATOJournal	A	B	C	wage and employment data. Carrying out the empirical investigations suggested by this paper, therefore , appears to be a worthwhile endeavor. # Cato Journal, Vol. 16,
76	1990	ACAD	Re:View	A	B	C	marked lack of cooperation, which was probably caused by unfamiliarity with dental procedures. Therefore , the sample included 35 students. # Table 2 contains summary data on the
77	1991	ACAD	CrossCurrents	A	B	C	into existence all of reality as a reflection of his goodness. Human beings, therefore , are nothing less than the work of God himself; and in the complementarity
78	2006	ACAD	Humanist	A	B	C	is more likely to sneak into the process the more passionately it is conducted. Therefore , we need to restore to our courts the social objectivity the Greeks attained,
79	1990	ACAD	Environment	A	B	C	brings to an early end the age of fossil fuels. The coal industry, therefore , will have to meet the environmental challenge. The principal questions are technological and
80	2011	ACAD	PhysicalEduc	A	B	C	. It is driven primarily by the number of students requiring APE services, and therefore is not dependent on the number of funded APE teacher positions (Satter & Satter
81	1995	ACAD	IntIAffairs	A	B	C	is a powerful form of interaction that shapes identity. 50 Wendt argues that it is therefore particularly important to avoid the two-step procedure, where interests are specified (either from
82	2011	ACAD	SocialWork	A	B	C	one individual noted, " As there are a vast number of tribes, and therefore tribal beliefs, I believe that the more inclusive the language, the better the
83	1994	ACAD	PerspPolSci	A	B	C	United States; and public choice is the newest, most technical, and, therefore , least understood. The literature of marxism is by far the most voluminous,
85	1991	ACAD	EnergyJournal	A	B	C	any significant changes in the political and economic system of the centralized state. They therefore attempted to achieve their goals at the republic and regional levels. On the whole
87	1994	ACAD	PerspPolSci	A	B	C	the maintenance of a balance in the bipolar world -- has vanished, and they therefore can be expected to confront each other. The United States, as the sole
88	1992	ACAD	PhysicsToday	A	B	C	typical scene reflectivity to get acceptable images from an electronic still or video system. Therefore the pixel must be designed to hold at least 1600 electrons. That's the
89	1990	ACAD	Ethnology	A	B	C	level, as in tribal wars and raids, usually follows institutionalized forms, and therefore is more patterned. Unlike internal violence, it does not threaten the cohesiveness of
90	1998	ACAD	Symposium	A	B	C	recommendations for a fool, he has lost a friend. Again and again, therefore , the narrator has watched the progressive devaluation of his words as they circulate through
91	2004	ACAD	VisualImpair	A	B	C	as an inconvenience, rather than as a disability (Schein, 1988). Therefore , people with monocular vision are unlikely to be referred for rehabilitation services and thus
92	2004	ACAD	MusicEduc	A	B	C	random. Also, popular songs tend to have a steady, dominant beat; therefore , beat-based activities can easily be engaged in with the recording playing. Dancing and
93	2014	ACAD	ReadingTeacher	A	B	C	also consider the best way to convey their message to the intended audience. Genre therefore plays an important role at all levels. In grades 2-5, however, the
94	2007	ACAD	ForeignAffairs	A	B	C	, or driven largely by its own material interests. An imperial role is, therefore , both unaffordable and unwise. The fact that Washington does not presently have the
95	2012	ACAD	EmergingInfectious	A	B	C	post-implementation period) were either not typeable or typed as a rough strain and, therefore , could not be classified as 7-valent pneumococcal conjugate vaccine (PCV7) or non-PCV7
96	1992	ACAD	AmerIndianQ	A	B	C	the woods. " (n43) Any reversion to the traditional hunting economy was therefore looked upon as a probable pagan regression. # The total rejection of Indian tradition
97	2010	ACAD	AmJPubHealth	A	B	C	have entered health care settings; the most useful characterization of MRSA infection source may therefore rely less on health care risk factors and more on presentation of infections, suscep
98	1993	ACAD	Mercury	A	B	C	are solar cousins that are more than 35 degrees below the celestial equator, and therefore invisible to the radio telescopes of the U.S. or Puerto Rico. # Like the
99	1990	ACAD	EnergyJournal	A	B	C	and contract terms can be renegotiated at time of contract renewal. There is, therefore , no guarantee that contracting parties will be dealing with each other over the long
100	1993	ACAD	AnthropIQ	A	B	C	belief, with its implicit faith in feminist ethnography's superior ability to safeguard and therefore represent the interests of informants: # the irony I now perceive is that feminist
101	1999	ACAD	Lancet	A	B	C	for VTE. We included only women with no known risk factors for VTE and therefore selection bias for oestrogen use is kept to a minimum. # An important finding
102	1993	ACAD	NaturalHist	A	B	C	terminal bore the name Esoteriki -- for esoteric things are strange and obscure and should therefore mark, or so I supposed, the entrance point for foreigners at the international
103	1999	ACAD	Lancet	A	B	C	and shared acceptance of the selected further action or treatment. The doctor must, therefore , move towards the patient's own unscientific view. # The final task is
104	1998	ACAD	SchoolPsych	A	B	C	may fail to incorporate relevant information about others or about long-term consequences and may, therefore , react in ways that are at odds with social expectations. # Indeed,
105	1998	ACAD	PerspPolSci	A	B	C	, since without organizational support, elite decisions may prove impossible to implement and could therefore be inconsequential. Popular organizations are not merely resource bases that dete

APPENDIX C
OCCURRENCES OF THE LA HENCE IN COCA

CLICK FOR MORE CONTEXT				[?]
1	2005	ACAD	AnthropolQ	A B C nomadism toward a more sedentary lifestyle, since " herding has no future. " Hence the need for all kinds of work. " So, " she said,
2	2004	ACAD	SportBehavior	A B C cognitive functions such as decision making and problem solving (Isen, 1999). Hence, the finding that positive affect dropped substantially for the losing competitors may have important
3	2005	ACAD	TheologStud	A B C symbolically constructed and mediated and can only be appreciated " from the inside. " Hence it tends to adopt a phenomenological methodology. Lonergan describes this approach to the social
4	1993	ACAD	SocialPsych	A B C organizational behavior, employee turnover among Hispanics, has received virtually no research attention. Hence, it is difficult to compare rates of job turnover in various occupational categories for
5	1990	ACAD	ReVision	A B C two levels of reality, the physical and psychic, intersect at such places. Hence, it is argued, they are especially rich in folklore and legend -- witness
6	1992	ACAD	RehabResrch	A B C this caused the controller to lose position, rendering all subsequent contours inaccurate, and hence, the resulting socket to be useless. It was also discovered that carving in
7	2012	ACAD	Communications	A B C of eo(k) samples from F1 from a set of eo(k) samples from F2, and hence impossible to return the component parameters to within 1/2 with any probability greater than 0.6
8	1996	ACAD	ArabStudies	A B C , and military power and the threat or actuality of its use. " 10 Hence an analysis of what the New World Order means would require an evaluation of America
9	2000	ACAD	Symposium	A B C are present simultaneously; there is no naive writing without a devious one, and hence the reading subject is split, hence his " effroi. " Yet in this
10	1992	ACAD	EnergyJournal	A B C There exist an infinite number of possible continuous paths passing through these two years. Hence, the estimate of (DELTA Epdn) 0, T is affected by the
11	1997	ACAD	AnthropolQ	A B C of their own existence, most effectively, by giving them a window onto, hence, a way to experience, the personal, singular dimensions of some event or
12	2000	ACAD	EnergyJournal	A B C conductors as between the old conductors. In this case, the inductive reactance, hence the admittance, remains the same. # Resulting constraints Using the power flow equation
13	1992	ACAD	SchoolPsych	A B C various types of contexts (Dunn, Beaudry, & Klavas, 1988). Hence, adapting instructional contexts to be more responsive to afrocultural factors during the early grades
14	2000	ACAD	October	A B C placed on it, a certain resistance or pressure exerted against its weightless fluidity, hence the report of another critic who ends by quoting him: " Kentridge is wary
15	1998	ACAD	LatAmPopSculpt	A B C themselves or be read as women in precisely the same ways all the time. Hence, the individual is constantly creating an (unstable) identity with each reading and
16	2011	ACAD	JSpeechLanguage	A B C along a contour until this pairwise distance between two sets of points is minimized. Hence, all contours of a set can be aligned one after the other. The
17	2010	ACAD	Commentary	A B C gestures for peace. And in exchange, it got not peace but war. Hence many Israelis reached an unsettling conclusion: groups like Hezbollah and Hamas are not in
19	2004	ACAD	HispanicRev	A B C most likely affected by Unamuno, attributes to Castile the project of Spanish unity. Hence, in En torno al casticismo, Unamuno has written, " en Espaa lleve
20	1993	ACAD	CrossCurrents	A B C appropriate for studying minorities so that they could examine other, more acceptable groups. 7 Hence the vision of the secular university as the vanguard of an inclusive universalism championed by
21	2009	ACAD	InstrPsych	A B C concerns about their classroom learning at North American universities have not been closely examined. Hence, the purpose of this study was to mirror the reality of Chinese graduate students
22	1990	ACAD	Monist	A B C are valuable -- for whom those ends provide goal-oriented reasons of value for action. Hence, from E's being valuable with regard to Alice, from Alice's having
23	1997	ACAD	VisualImpair	A B C 2.9 and 2.11 years, the 2 year olds could not be analyzed separately and hence were grouped with the 3 year olds. # DIFFERENCES IN PLAY SETTINGS The Play
24	2006	ACAD	NaturalHist	A B C competition are driven out of the female hem and the familiar home range, and hence exposed to greater danger. So the longer adolescent males look and act like females
25	2015	ACAD	JIssuesNursing	A B C lacking because nurses are not perceived as healthcare system decision makers or revenue generators. Hence, their input may be dismissed without due consideration. This major concern needs to
26	2002	ACAD	AmerEthnicHis	A B C NYU are often motivated by an interest in colonialism rather than heritage or curiosity; hence the roster will include students who are Greek, Indian or Palestinian as well as
27	2013	ACAD	AmJPubHealth	A B C , respectively. # Conclusions. PSDs reduce influenza transmission owing to presentism and, hence, the burden of influenza illness in workplaces. (Am J Public Health.
28	2013	ACAD	JSpeechLangHearingRes	A B C the teeth as consistently as adults, leading to an inefficient friction source and, hence, a lower AmpDM-LMin value. Further study is needed to determine whether the relatively
29	2002	ACAD	CommCollegeR	A B C a specified attribute contributes to its inclusion in or exclusion from the peer group; hence, those are dichotomous variables without magnitude. On the other hand, ranges of
30	2001	ACAD	MichLawReview	A B C of opportunism can convert legal rules designed to deter opportunism into instruments of opportunism. Hence, on competitive markets, it is appropriate for legal rules to attempt to mirror
31	2005	ACAD	DrugIssues	A B C . For example, the response to the newspaper advertisements was relatively low, and hence we asked train passengers to participate in order to bolster our sample size. The
33	2003	ACAD	PublicInterest	A B C must find a way to do so that avoids the wrath of the authorities. Hence the necessity for exoteric writing. # The prominence Strauss accords " persecution " in
35	2009	ACAD	EnvironHealth	A B C remaining 1.7% are classified as being only slightly limited (USDA, 1982). Hence, the issue of most concern to county health officials is failure of these systems
36	2014	ACAD	EnvironmentalHealth	A B C . The AIC is a relative measure of information lost when fitting the model; hence, smaller AIC values suggest better fitting models. AIC values differed by > 2
37	1991	ACAD	Style	A B C and often abstruse polemics, have so far failed to define the term satisfactorily. Hence, to reduce an extremely complex debate to one paragraph is simplistic but, for
38	2005	ACAD	Bioscience	A B C unprecedented in recent times, and with it the services natural systems provide us. Hence it is natural to ask which macroscopic features of ecological systems are of most importance
39	2000	ACAD	EnergyJournal	A B C not later. In such cases, delaying an investment does not reduce risk; hence the incentive is to invest now if the expected rate of return exceeds the cost
40	1993	ACAD	CrossCurrents	A B C the nature of persons constrains moral theory if anything does " (58). Hence, he proposes a doctrine of " minimal persons. " As a minimum,
41	1996	ACAD	RehabResrch	A B C addressed the question of whether the real ear aided response (REAR), and hence the coupler gain, should contain a peak around 3 kHz to compensate for the
42	2012	ACAD	ExceptionalChildren	A B C bend in change over time) fit the data significantly better than linear models; hence we retained quadratic models for our observation analyses, and allowed both growth parameters to
43	1992	ACAD	RehabResrch	A B C sockets, thereby ensuring that all modifications were performed using the CASD system and, hence, were entered into the computerized records of each patient and into the AFMA database
45	1991	ACAD	CommCollegeR	A B C between students who receive passing grades and those who do not receive passing grades and hence a low degree of success for the discriminant function. The canonical correlation of.21
46	1990	ACAD	Style	A B C by different theorists to designate different concepts or model objects. our first task is hence methodological: to distinguish and elucidate the different current views or concepts of character and
47	1997	ACAD	IBMR&D	A B C 1 and size n j + 1 + 1 at level j + 1. Hence, Alpha j + 1 = 2 Alpha j + Beta j and Beta j
48	2006	ACAD	Style	A B C , that is, represents the need for de se interpretation that Chierchia claimed and hence the need for the denotation of sentient creatures. # I should point out a
49	1996	ACAD	PhysicalEduc	A B C A consequence of this shift in emphasis from the profession to disciplinary study, and hence the increased demand for courses in non-teaching areas of physical education, has been a
50	2003	ACAD	PhysicalEduc	A B C , the KTCA provides immunity for prescribed activities or governmental areas with noted exceptions. Hence, even if the appellate court held that the defendant's behavior was discretionary in
51	2006	ACAD	IntlAffairs	A B C kl/hh/month, during the same period. (The price elasticity for water was, hence, a disturbing -0.55 -- an extremely large impact for what should be a basic
53	1991	ACAD	SportBehavior	A B C of.41 was not significant (z = 2.20, p > .05). Hence, the two groups did not exercise for statistically similar reasons. The priorities of
54	1999	ACAD	Environment	A B C in Arco's budget, including funds spent on local development and community relations. Hence, Arco had to walk a fine line, conciliating Petroecuador and meeting indigenous leaders
55	2010	ACAD	MeasureControl	A B C stabilization mechanisms, which might require further investigation and enhanced computational algorithms. # 559 Hence, the necessary and sufficient character and the efficiency of the ray-gridding graph-bas

56	1995	ACAD	Style	A	B	C	, is " the vision of the female body as the signifier of castration and hence disunity " (Doane 140), but for the marquis the repressed returns in
58	2009	ACAD	EnvironHealth	A	B	C	person-to-person spread likely extends the duration of an outbreak (CDC, 2001). Hence , efforts to prevent both the initial contamination of the implicated vehicle and subsequent person-to-person
59	2007	ACAD	DrugIssues	A	B	C	at a distance? Even virtual networks where people never meet entail some trust. Hence , trust is not undifferentiated and may exist in different forms -- for example,
60	2003	ACAD	ArmedForces	A	B	C	form of secularization, they do not repudiate economic and technological modernization. (n11) Hence , the simplistic denotation of " backward Islamism " versus " modernist secularism " serves
61	1991	ACAD	Mercury	A	B	C	, you can captivate him or her in the way that television best offers. Hence an essential part of " The Astronomers, " as I have described above,
62	1992	ACAD	Ethnology	A	B	C	Italy and northwestern Iberia are anomalies for their inhabitants' longstanding appreciation of corn. Hence the contrast between these areas and others can help to explain why corn has been
63	2007	ACAD	AnthropolQ	A	B	C), in more recent times the breast-feeding of the children of others, and hence milk kinship, has become relatively uncommon due to, among other factors, the
64	1996	ACAD	Symposium	A	B	C	, prolongs itself indefinitely, is limitless, that is, has no dimension and hence corresponds with the point or primordial principle of all geometrical figures (Man and His
65	2012	ACAD	EducTreatmenChildren	A	B	C	of the researcher's presence as part of her duties as a university supervisor; hence , she was not seen as a stranger. Participant observation was an appropriate choice
66	2000	ACAD	WorldAffairs	A	B	C	agreement, fully informed on new initiatives, or yet " on board. " Hence at all levels, but particularly at the very top, there is neither full
67	1990	ACAD	Style	A	B	C	of death insofar as the two are " originally " unified in the unconscious; hence Portia's leaden casket. This leads Freud to then formulate a convincing theory of
68	2007	ACAD	Epidemiology	A	B	C	of all the efforts under NMEP, malaria continues to pose a serious threat. Hence , there is a need for an alternate technology for efficient targeting of malaria in
69	1996	ACAD	ArabStudies	A	B	C	opportunity to give its rule a hegemonic legitimacy through control of the educational apparatus; hence the efforts of the South African state to institute Afrikaans as the official language of
70	2006	ACAD	SexResearch	A	B	C	contextual features of risk scenarios may bias their perceptions of risk and safety, and hence , their application of risk-prevention knowledge to their encounters. # Note. This research
71	2001	ACAD	MichLawReview	A	B	C	and other advances made by the current generation benefit future generations as well, and hence impoverishment of the current generation would inevitably harm those who will come later. (n317
72	1992	ACAD	TheologStud	A	B	C	this faith, the Israelites implicitly grasped the entire revealed mystery of God, and hence , could be seen to have already had essentially the same faith as (later
73	1993	ACAD	CrossCurrents	A	B	C	we might define despair in this context as the collapse of the golem project. Hence the typical general symptom of despair: the disintegration of the " I " amidst
74	1995	ACAD	ArabStudies	A	B	C	's victory in terms of a " recolonization of the Arab world ". 8 Hence , # The justification for the Gulf war was self-evident to most Americans and Britons
75	1994	ACAD	EnvirAffairs	A	B	C	off with the exception of a time element which they must now abide by. Hence , the interpretation most in line with the Clean Air Act states that the waiver
76	2014	ACAD	JAnimalPlantSci	A	B	C	in the double-row planting pattern was higher than that in the single-row planting pattern. Hence , the double-row planting pattern improved the photosynthetic capacity of winter wheat under water stress
77	2000	ACAD	Mercury	A	B	C	wavelength modes of zero-point radiation are suppressed as the gap between the plates narrows, hence more overpressure appears from the outside. Plates are not infinitely smooth, but rather
79	1999	ACAD	ArabStudies	A	B	C	-- differed markedly between sects, that would result in different personal experiences, and hence in diverging attitudes and behavior. In order to measure socio-economic status, a scale
81	2003	ACAD	Symposium	A	B	C	impersonal, as purely contemplative, as it is possible for man to attain. Hence also the free intellect will value more the abstract and universal knowledge into which the
82	2006	ACAD	Bioscience	A	B	C	adding Haldane's effect, we note that all species have their natural enemies, hence the phenomenological formulation becomes similar to the mechanistic formulation (figure 2b). Thus
83	1990	ACAD	EnergyJournal	A	B	C	: 10 it lowers the adjusted R 2 and increases the standard error. # Hence , equation #2-1 is what we shall use for projections below. The vehicle-mile elasticity
84	2004	ACAD	PhysicalEduc	A	B	C	that it is impossible for schools to teach all aspects of every subject and, hence , it is vital that pupils acquire the skills that will enable them to learn
85	2003	ACAD	GeographRev	A	B	C	an exploration of a place that can be considered another kind of internal other; hence Chinatown may also be hobbled by its historical baggage. Kay Anderson (1991)
86	2000	ACAD	Ethnology	A	B	C	the angle can range from just over 90 degrees to just under 180 degrees. Hence , in an unpublished follow-up study, I asked a small sample of informants to
87	2007	ACAD	Epidemiology	A	B	C	weapon to reduce transmission with direct consequences in lowering the incidence of malaria cases. Hence , the months that are clustered in this group are high priority months for control
88	1997	ACAD	ForeignAffairs	A	B	C	are two issues here. One is whether, in benefits three or four generations hence , the return for investing directly in public health, education, water resources,
89	2000	ACAD	WorldAffairs	A	B	C	" (n22) Measured in those terms, UNSCOM has been a success. Hence French Foreign Minister Hubert Vedrine's view that " it's time to move on
90	2004	ACAD	ArabStudies	A	B	C	the first home of the Palestinians and the first direction of worship in Islam and hence the first city. # Aside from Harb's The Other Side of the Promised
91	2001	ACAD	Monist	A	B	C	A fascinating question concerns the various mechanisms at work in their selection for reproduction, hence what kinds of functions they can have, and what relation these functions may or
93	2009	ACAD	HealthSocialW	A	B	C	Most participants felt that Western doctors gave too much attention to the mind and, hence , gave too many medications to alter the mind. Participants considered these interventions incomplete
94	2001	ACAD	TheologStud	A	B	C	his anthropology and his ecclesiology. Human persons exist in a being-toward one another and hence the personal indwelling of the Holy Spirit is a necessarily interpersonal and ecclesial mystery.
95	2005	ACAD	SportBehavior	A	B	C	itself, regardless of outcome, does not produce a decrease in positive affect. Hence , the decrease in positive affect in the losing athletes is more likely due to
96	1997	ACAD	CanadaLaw	A	B	C	apply to Chapter 20 panels, whose operations parallel those of Chapter 19. # Hence , unlike an appellate court, there is no institutional longevity in any meaningful sense
97	1998	ACAD	EnvirAffairs	A	B	C	monitoring issues, accounting issues, oversight, and methodologies for estimating environmental benefits. 199 Hence , important issues about the scope and nature of trading remain open after Kyoto. 200
98	2002	ACAD	WorldAffairs	A	B	C	his government since neither law, patronage, nor convention sufficed to do so. Hence Yeltsin's government lacked both executive discipline and collective responsibility. By the mid 1990s
99	2015	ACAD	JAnimalPlantSci	A	B	C) in Pakistan may suggest a recent contraction in distribution range of this species and hence , an eminent decline in its population during the last century (Abbas, 2006
100	2014	ACAD	ExceptionalChildren	A	B	C	specific math language is often found in mathematical assessments, interventions, and curricula. Hence , the aforementioned studies proposed this specific math language to be a mediating factor in
102	2006	ACAD	SportBehavior	A	B	C	to during and after exercise affect and anxiety values in the higher intensity condition. Hence , no one psychological or physiological reason stands out that would explain why the index
103	2004	ACAD	WorldAffairs	A	B	C	ways is more vulnerable than Turkey or Uzbekistan and is remote from formidable neighbors; hence , it may turn out that these powers (and the United States) may
104	2001	ACAD	RehabResrch	A	B	C	the interaction between the limb tissues and the socket or shell was not analyzed. Hence , it was not known whether all the rate-dependent responses observed in these studies were
105	2010	ACAD	DrugIssues	A	B	C	better understanding of the growth trajectories, as well as classifications within each group. Hence , when the combined data is formally analyzed, one will not be overwhelmed by
106	2015	ACAD	JournalEcumenical	A	B	C	families and communities -- a tension that can even spill over into physical retribution. Hence , several of our participants remained elusive and secretive to their families about the purpose
107	2006	ACAD	EnvironHealth	A	B	C	# Dengue incidence is becoming endemic in regions where outbreaks used to be sporadic. Hence , control of dengue requires an understanding of the mechanisms and factors that facilitate the
108	2015	ACAD	ArtBulletin	A	B	C	, they yield the position and width of the facade of the old church, hence , the position and width of the old nave including its side walls. Reinforcing
109	1990	ACAD	NaturalHist	A	B	C	(With so many options, the body almost certainly will do something unexpected, hence scary, such as showing blood at the lips.) Our natural bias,
110	2011	ACAD	MiddleEastQ	A	B	C	agencies are reported to have had knowledge about those who attacked Mumbai before they struck.38 Hence , given the high costs of staying the course in Afghanistan and the likelihood that

APPENDIX D
OCCURRENCES OF THE LA SO IN COCA

CLICK FOR MORE CONTEXT				[?]
1	2004	ACAD	PhysicsToday	A B C ongoing research issues. # The sound speed in water is about 1500 m/s, <u>so</u> wavelengths of interest are on the order of a few meters. In shallow water
9	2009	ACAD	Writer	A B C has moved from the floor to her lap. Basically, I ended the story <u>so</u> I wouldn't have to move it forward. I didn't know else what
12	1991	ACAD	Mercury	A B C different at high resolution.) # Venus is the Roman goddess of love, <u>so</u> we've chosen our particular names from the ranks of famous females. Most of
13	2005	ACAD	IndepSchool	A B C it can't put on the brakes. And sometimes it needs special motor oil <u>so</u> it won't overheat and break down. But with the right motor oil and
16	2010	ACAD	Commentary	A B C his actors spoke. " At times he would put his fingers in his ears <u>so</u> he wouldn't be able to hear what the actors were saying and just look
17	2010	ACAD	SchoolPsych	A B C remediation to prevent later problems in mathematics. In addition, formative evaluation is important <u>so</u> children's progress can be evaluated to determine whether these critical skills are improving.
18	2005	ACAD	Style	A B C ? The most prominent formal feature of The Faerie Queene is the Spenserian stanza, <u>so</u> one might naturally search the Calender's varied forms for a stanza that looks similar
19	2008	ACAD	Writer	A B C then I get my latest proposals to my immediate editor several days ahead of time <u>so</u> he or she has time to contemplate it before taking it to the meeting.
21	2000	ACAD	AmerStudies	A B C the Department of English, University of Lodz. Access to theory was scarce, <u>so</u> I had to rely on what was easily available: a handful of women's
22	2012	ACAD	ExceptionalChildren	A B C . Further, fall data were not collected until several weeks into the year, <u>so</u> students would have had the opportunity to benefit from some reading instruction. Finally,
24	1999	ACAD	ABAJournal	A B C my cases largely medical malpractice, the individuals are always going to be testifying, <u>so</u> I've got to prepare them. If I did a good job preparing them
27	2011	ACAD	MusicEduc	A B C , stated, " Last year, our books had the CDs in them, <u>so</u> you could listen to the line and get it in your head. " #
28	2001	ACAD	AcademicQs	A B C came to resent the weight of the cultural tradition he was duty-bound to uphold, <u>so</u> the liberal academy had tired of its burden, and was perhaps only too conscious
29	2001	ACAD	MusicEduc	A B C long ago that mothers and children often forgot just how I wanted it done, <u>so</u> I make them repeat new problems again and again in the lesson. " 5
31	2009	ACAD	Bioscience	A B C 1). The Thaoge is currently inactive (Porter and Muzila 1989), <u>so</u> the Jao and Nqoga remain the main source of water for much of the delta
34	1996	ACAD	AfricanArts	A B C If successful, young masquerades may be incorporated wholesale into the men's group, <u>so</u> they are one of the ways in which it changes and grows. For Kalabari
35	2005	ACAD	DrugIssues	A B C nothing really soft, there's like concrete and like fucked up kids everywhere, <u>so</u> it can be a little disconcerting when you're at a rave.. House parties
41	1992	ACAD	AfricaToday	A B C , of the post-independence communal villages. 25 Labor was needed, regardless of gender, <u>so</u> women were integrated into the movement as porters and guerrillas, presaging the post-independence political
42	1998	ACAD	ABAJournal	A B C don't have the facility of writing or they don't have the time... <u>so</u> they delegate it to the law clerks and the result is a rather predictable,
45	2009	ACAD	AfricanArts	A B C they like what we like. Protestants only believe in the life of Jesus, <u>so</u> I tell my painters to make icons with only Jesus & People from Israel don
49	2007	ACAD	NaturalHist	A B C the species Dictyostelium discoideum had been collected before. Dictyostelium amoebas feed on bacteria, <u>so</u> we asked ourselves where bacteria might be most abundant. And sure enough, we
51	2002	ACAD	Mercury	A B C to test my ability to judge the precise moment when the occultation was complete, <u>so</u> I stopped looking at my watch. I knew it was several minutes before the
52	1994	ACAD	CrossCurrents	A B C garb. (Some of them I hadn't met since I became General Secretary <u>so</u> I was grateful to the president for a command performance that brought them all out
53	2009	MAG	SatEvenPost	A B C that demand outpaced production. Eventually, there was too much work in Martinsville, <u>so</u> they began to outsource some of the manufacturing duties. Harman acquired a factory in
55	2006	ACAD	Archaeology	A B C a feast and invited the farmers to dance. The Basques wore long socks, <u>so</u> the legend goes, and as they danced seeds from the farmers fell on the
57	2006	ACAD	FeministStud	A B C truly hers. No one wanted to marry a prostitute with a bunch of kids <u>so</u> she had to sacrifice some of them in order to save the others. She
61	2015	ACAD	JAdolAdultLiteracy	A B C I knew what the scenario for the mystery was before I had any characters, <u>so</u> it then became a matter of how to plant clues, develop red herrings,
63	2008	ACAD	VisualImpair	A B C it was too difficult simply to use her fingers to pull the knot apart, <u>so</u> she learned how to use needle-nose pliers to remove stubborn knots (she continues to
65	2006	ACAD	DrugIssues	A B C , " you have nothing, no house, no job, no family, <u>so</u> you might as well get high! " DISCUSSION # Participants who were a part
67	2000	ACAD	Raritan	A B C The late NYCB managing director Betty Cage also noted that # the ballets changed, <u>so</u> there's no definitive version. Somebody will look at one company's version of
70	2012	ACAD	TeachLibrar	A B C five of these schools, children could check out only one book per week, <u>so</u> they would have this one book for two weeks or even longer, depending on
71	2007	ACAD	HealthSocialW	A B C ask these added questions. I was unable to recontact two of the youths, <u>so</u> there is no information about their sexual behaviors. Data Analysis # Coding of Data
83	2002	ACAD	Humanist	A B C educate your daughter, shut into a house where the windows must be painted black <u>so</u> no man can accidentally see you, forced to cover yourself from head to foot
84	1999	ACAD	EarNoseThroat	A B C overemphasized that most of evaluation and treatment of obstructive sleep apnea is not urgent, <u>so</u> the physician must take the time to interact with the insurance carrier before embarking on
89	2013	ACAD	TeachLibrar	A B C the learning commons has to offer. Clinton Schools is a Google apps district, <u>so</u> it was not a difficult decision to turn our virtual learning commons into a Google
90	2008	ACAD	MiddleEastQ	A B C relaxed and the arts of defending oneself and of attacking the enemy are forgotten, <u>so</u> they are no match for conquering nomads. (n10) Ibn Khaldun's observations were
91	1998	ACAD	BioCycle	A B C pulverizer before they reach the compost site. The pulverizer squeezes out some liquid, <u>so</u> the material comes in at about 80 percent moisture. At 280 tons/year, food
95	2003	ACAD	AfricanArts	A B C Ijo ritual. # This particular opu ikiyan represents a canoe bearing a corpse, <u>so</u> drums beat funerary rhythms at each of three stops it makes on its journey through
107	2008	ACAD	PhysicalEduc	A B C stated, " I use a video camera to video tape students performing certain skills <u>so</u> they can see what they are doing right or wrong. " The physical education
108	1991	ACAD	SocialStudies	A B C into the apartments at times when the tenants are not likely to be home, <u>so</u> he can inspect the dwellings for cleanliness, upkeep, and other matters related to
113	1998	ACAD	Environment	A B C regulated; some countries that belong to the commission fish under flags from noncommission countries <u>so</u> they elude the regulations; the fishery is pelagic and global, making enforcement of
115	2012	ACAD	ReadingTeacher	A B C . Paul: They were getting whipped. They were chaining up the black man <u>so</u> he could whip him.30. Teacher: Keep going. What do you notice about
117	2012	ACAD	PracticeNurse	A B C illness at an average age of 25, compared with 40 for the general population.1 <u>So</u> the South Asian community get diabetes more commonly and at an earlier age. #
119	1994	ACAD	Style	A B C not to be disturbed. But you also don't want to be rude, <u>so</u> you just say " OK " and " studying second-person narration. " The voice
123	2011	ACAD	MechanicalEng	A B C " But he knew what he didn't know, " Phillippi said, " <u>so</u> he reached out to Bob Lutz and made him vice chairman in charge of product
126	2015	ACAD	AmericanSecondary	A B C , I dropped it, but he teacher said my name is still there, <u>so</u> he's still giving me an F. I'm like all right? I've
131	1998	ACAD	GeographRev	A B C of both roads and roadsides are interrelated. One provides context for the other, <u>so</u> neither can be defined, described, or understood in isolation. # The road
132	2008	ACAD	Archaeology	A B C that lived near Wood's house. Two sisters resided there until the 1980s, <u>so</u> it is possible the dog pit could have been their work. Today a relative
133	1997	ACAD	PublicInterest	A B C siblings got one. # Occupations. The amount of education constrains occupational choices, <u>so</u> the overall occupational outcomes for the siblings are not surprising. Only 2 percent of
140	1997	ACAD	AgricResrch	A B C Cohen. " This family of insects is known to feed exclusively on prey, <u>so</u> they can do no damage to crop plants. Since C. carnea is well-known and

142	1995	ACAD	Mercury	A	B	C	's, because " they don't think of me as a real woman, so it's not so weird that I can do science. " # Although many
146	2014	ACAD	ExceptionalChildren	A	B	C	to eat dinner, trying to hear the different conversations and it's really hard so I know she is not involved as much as she should be. Another parent focused on
149	2010	ACAD	ForeignPolicy	A	B	C	we work with are products of the war.... They are social outcasts, so we seek to show the nation that disabled people are not useless " Leonel da
152	1999	ACAD	PSAJournal	A	B	C	Additionally, many of us loan our stereo cards to those visiting far away places so they can make T & N sets. I have helped create T & N
154	2009	ACAD	Archaeology	A	B	C	blocks of stones up a narrow ramp can't easily turn a 90-degree corner, so Houdin suggests that the ramp had openings at each corner where a simple wooden hoist
158	2012	ACAD	PracticeNurse	A	B	C	into cells and its storage as glycogen, and promotes storage of protein and fat6 so weight gain is a common side effect of insulin therapy. # Weight gain can
162	2006	ACAD	CollegeStud	A	B	C	made me sensitive. I think bad stuff's easy to believe about yourself and so you sort of focus on' Oh, okay, I'm brown -- whatever
163	2009	ACAD	PSAJournal	A	B	C	folder you specify. You need to know how to copy and paste text, so you can change the text on the web pages. Most people already know how
164	2001	ACAD	EnergyJournal	A	B	C	EVOLUTION # As we will see, commodity price volatility changes considerably over time, so it is important to understand its behavior. As we have seen, changes in
171	2008	FIC	LiteraryRev	A	B	C	of those tree-lined canals that ring the inner city. It began to rain harder so I opened my umbrella and was about to return to the hotel when, several
172	2010	ACAD	MechanicalEng	A	B	C	found was interesting. The software revealed several environmental shortcomings in those products. " So we gained valuable insights for future design decisions, " said James Rudolph, an
174	2004	ACAD	MechanicalEng	A	B	C	planet in the solar system. Its proximity to Earth permits relatively rapid access, so it has served as a natural laboratory for understanding the process of planetary evolution.
176	1993	ACAD	MusicEduc	A	B	C	toward what she had already been doing for years. I'm that teacher, so I can speak with authority: If you need a new lease on teaching,
178	2008	ACAD	Bioscience	A	B	C	relationship between province area and species richness, endemism, or threat, however, so we used the original indices. Kendall's rank linear or partial correlations were used
180	2001	ACAD	Mercury	A	B	C	they are in deep space. Very little terrestrial dust gets lofted this high, so scientists search there, knowing the chances are good (but not 100%) that
184	2007	ACAD	CriticNursing	A	B	C	Ryan could have ingested 500 mg of elemental iron. Ryan weighs 10 kg, so we divide the ingested amount by his weight and calculate that his potential exposure was
188	2005	ACAD	AmerScholar	A	B	C	in occupied Belgium was very hard. I had never heard him discuss this, so I would try to find out. I had a long list of questions and
189	2015	ACAD	EnvironmentalHealth	A	B	C	rice flour and syrup are used in many processed foods, including baby foods, so exposures aren't limited to people eating the grain itself. It's estimated that
190	2001	ACAD	BioCycle	A	B	C	acceptable, however, there is still resistance around where to site the projects, so you really need to prove the odors can be controlled. " In addition,
192	2007	ACAD	AnthropolQ	A	B	C	Massakoundu and Sembakounya camps. My wife died while I was in Massakoundu camp, so I had to replace her. " # A good friend also became engaged and
195	2012	ACAD	TeachingExceptional	A	B	C	. # a IDEA provisions terminate at high school graduation or at age 22, so students with disabilities can not claim rights under this provision when in higher education.
199	2012	ACAD	PhysicalEduc	A	B	C	. In such cases, the dominant brain does not control the dominant senses, so the athlete is unable to function at optimum efficiency. Dominant inefficiency can be understood
200	2014	ACAD	StudiesInEducation	A	B	C	Each characteristic raises issues over where the precise boundaries of volunteering begin and end, so the latter remains ambiguous conceptually, which makes survey data even more open to question
201	1998	ACAD	HospitalTopic	A	B	C	insure. " That prepayment will have to include emergency room visits and hospitalizations, so it will behoove insurers to do everything to prevent this, " Rush adds.
206	2014	ACAD	ReadingTeacher	A	B	C	knows that soil has been discussed many times in preceding books in the unit, so he eliminates it. Additionally, after rereading the chapters, Alex decides that bellies
208	1992	ACAD	MusicEduc	A	B	C	from the market. None of the compact-disc players has any sort of bar-code capability so they have the same limitations as laser-disc players in terms of cumbersome use. #
210	2004	ACAD	OrthoNursing	A	B	C	the interviewees advised that healthcare providers should believe their patients, take their concerns seriously so they don't have to exaggerate, and be willing to use alternative and complementary
213	2004	ACAD	AmerScholar	A	B	C	moral imperative Be square. Now I support myself by working as a journalist, so I must speak the truth. # Living as an American abroad gives me a
217	2005	ACAD	InstrPsych	A	B	C	Working memory can be thought of as activating the appropriate codes to process new information so it can be stored efficiently. For example, when hearing a list of words
218	2007	ACAD	HealthSocialW	A	B	C	for change. One participant reported that " we all tried to adapt to that so it's kind of like evolving and adapting to a changing situation and changing information
219	2001	ACAD	AmerIndianQ	A	B	C	animals, and the needs of life, " he continued, mockingly, " so it is to these things that all their worship is limited. " His words
220	2014	ACAD	CollegeStud	A	B	C	hadn't gone home since, like, then until fall break kind of, so it had been over a month. So, right after that, I miss
221	2012	ACAD	ReadingTeacher	A	B	C	color and used curvy lines because the butterfly is good. The frog is bad so he is black with red eyes and a red tongue and some points. I
224	2004	ACAD	Education	A	B	C	were promised honorable treatment and full citizenship by the Romans from that time on, so they negotiated peace with their countrymen for the Romans. From that time on the
227	2002	ACAD	HospitalTopic	A	B	C	the employee has the opportunity to rationalize that everyone has good and bad points, so she or he can still have a positive relationship with the healthcare organization's management
230	2008	ACAD	SouthwestRev	A	B	C	after her silicone implants ruptured, installed valves to pump saline solution in and out so she can vary the size of her breasts as the occasion warrants; or,
232	2012	ACAD	ReadingTeacher	A	B	C	, as well as value the individualized attention they receive toward reaching their goals, so the rounds take on a certain sacred quality. # The secret to independence is
235	1999	ACAD	AmerScholar	A	B	C	of electrical disturbance whatsoever. My friend found this reassuring -- and bewildering. " So we're talking about demonic possession, " I said to the neurologist with a
238	1992	ACAD	WorldAffairs	A	B	C	the Confucian concept of the ideal government was an extension of the ideal family, so the prime tasks of government were the same as those of the family: to
239	2000	ACAD	HealthSocialW	A	B	C	available amounts of time to commit to AAGN. This is a volunteer organization, so members' work demands sometimes take precedence over the goals of the group. However
240	1999	ACAD	Ethnology	A	B	C	of history. In any case, things are terribly confused during apocalyptic junctures, so it only makes sense to sort out sequences when the new steady state is achieved
243	2010	ACAD	ScholScope	A	B	C	to Percy) You must be Percy. You dropped your shield in Nashville, so I brought it back. GROVER: You never do anything for anyone but yourself
245	2008	ACAD	RoeperReview	A	B	C	and research. Social scientists and educators have access to literature on critical theory, so it isn't a large step to make it available to bright young people.
246	2000	ACAD	Mercury	A	B	C	the lightcurve in real time... # Brightness is changing' Not very fast, so the period will be longer. I can interrupt the photometric measurements for some 15
247	2008	ACAD	GeographRev	A	B	C	the quarries is a hazard (Baroni, Bruschi, and Ribolini 2000), so its removal is desirable. Blocks of cuttable marble cost about 200-600 per ton,
251	2009	ACAD	Bioscience	A	B	C	what they are. It's nice if people agree on the meanings of words so you know what you're talking about. But I don't think there will
252	2002	ACAD	NaturalHist	A	B	C	Eakins as well as popular illustrators. (Eakins's sister even took spinning lessons so she could model for him. In 1881 he featured her in two watercolors,
253	2014	ACAD	JPopularCulture	A	B	C	he is nearly killed several times. He runs the New Jersey crime rackets, so he profits from drugs, illegal gambling, and other vices, and he uses
256	2009	ACAD	OutdoorLife	A	B	C	n't rattle the Goodwins too much. All three were experienced winter scuba divers, so they knew what cold water felt like. Another plus? Mental attitude. #
260	2010	ACAD	BlackScholar	A	B	C	the seats of power to demand redress. It must enter the K-12 schools, so it is not, itself, an elite pursuit, but instead an instrument that

BIOGRAPHY

Name	Mr. Perarthus Techarsatitwong
Date of Birth	April 5, 1986
Educational Attainment	2008: Bachelor of Fine Arts (Product Design), Srinakharinwirot University
Work Position	Senior Supervisor Office - Packaging Designer King Power International Co., Ltd.
Scholarship	-
Publications	-
Work Experience	2013 - Present: Section Manager King Power International Co., Ltd. 2012 - 2013: Visual Merchandising Manager, J&P Fragrances Co., Ltd. (BsaB) 2011: Senior Visual Merchandiser, Palama-lapa Co., Ltd. (Erb) 2008-2010: Senior Graphic Designer, S.C Artistry Co., Ltd. (LOLANE) 2008: Product and Packaging Designer, Nucleus ONE Co., Ltd.